Summary of Comments on Serial Attached SCSI Standard 📝

Page: i

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
> Global
> Replace "Enable Disable SAS Link (Enable)" with "Enable Disable Link Layer (SAS Enable)".

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
> Global
> Replace "Enable Disable SAS Link (Disable)" with "Enable Disable Link Layer (Disable)".

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
> Global
> Replace "indicate" and all of its forms by the correct form of "specify" when the value or action originates with the initiator.

Sequence number: 4
Author: ADPT
Date: 1/6/2003 6:04:29 PM
Type: Note
> 1.0 References to ATA through-out the draft need to be reviewed and
> changed
> to SATA where necessary. The interface protocol that SAS implements is SATA.
> SATA specification in turn references ATA as the upper layer protocol.

Page: ii

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> ACCEPT - DONE
> Points of Contact
> George Penokie's email address is gop@us.ibm.com

Sequence number: 2
Author: INTC
Date: 12/30/2002 10:44:33 AM
Type: Highlight
> ACCEPT - DONE
> Front matter
> HIS s/b IHS

Page: iii

Sequence number: 1

Author: LSI John Lohmeyer
Date: 1/7/2003 11:08:51 AM
Type: Note
        REVIEW ALL WG
        ACCEPT - DONE (contents merged with IBM comment)
        Abstract
        The abstract is incomplete. SAS also defines a physical layer and a management protocol (SMP). Consider replacing the existing
        abstract with:
        This standard specifies the functional requirements for the Serial Attached SCSI (SAS) physical interconnect, which is compatible
        with the Serial ATA physical interconnect. It also specifies three transport protocols, one to transport SCSI commands, another to
        transport Serial ATA commands to multiple target devices, and a third to support interface management.

Sequence number: 2
Author: IBM
Date: 1/7/2003 11:08:43 AM
Type: Highlight
        REVIEW ALL WG
        ACCEPT - DONE (contents merged with LSI comment)
        Abstract
        This abstract is inaccurate and should be rewritten to the following:
        This standard defines mechanical, electrical, timing requirements, command, and task management delivery protocol requirements
        to transfer commands and data between SCSI devices attached to a SCSI
        serial interface. This standard is intended to be used in conjunction with the SCSI command sets. The resulting interface facilitates
        the interconnection of computers and intelligent peripherals and thus provides a common interface standard for both system
        integrators and suppliers of intelligent peripherals.

Sequence number: 3
Author: INTC
Date: 1/7/2003 11:09:04 AM
Type: Highlight
        ACCEPT - DONE (see IBM and LSI comments)
        Abstract
        "Serial ATA compatible physical layer": partly true, but overly
        limited. Implies that SATA is used as-is, across the board.
        Expand/clarify.

Page: iv

Sequence number: 1
Author: INTC
Date: 1/7/2003 11:13:31 AM
Type: Highlight
        ACCEPT - DONE (changed to 2003)
        ANSI stuff
        2002 s/b 2003 or 200x

Page: v

Sequence number: 1
Author: ENDL
Date: 12/30/2002 10:42:32 AM
Type: Note
        Remove revision history before delivering the dpANS to Public Review.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
        Revision Information
        This needs to be removed before public review.

Page: ix

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:43:31 AM
Type: Highlight
    ACCEPT - DONE
    1.19 Revision sas-r02d
    This should be sas-r03 not sas-r02d.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:43:24 AM
Type: Highlight
    ACCEPT - DONE
    1.19 Revision Information
    sas-r02c in 1.19 should be sas-r03, but all of the revision history needs to be removed for public review anyway.

Sequence number: 3
Author: SEG Coomesj
Date: 12/30/2002 10:42:45 AM
Type: Highlight
    ACCEPT - DONE
    1.19 Revision sas-r02c (21 November 2002)
    "sas-r02c"
    s.b.
    "sas-r03"

Sequence number: 4
Author: FUJ
Date: 1/7/2003 11:13:52 AM
Type: Note
    ACCEPT - DONE
    FUJITSU-1
    PDF page : ix
    Section : 1.19 Revision sas-r02c
    Figure/Table
    Paragraph/sentense/row/colum
    Comment : 1.19 Revision sas-03

Page: x

Sequence number: 1
Author: MXO Mark Evans
Date: 1/7/2003 1:51:30 PM
Type: Note
    ACCEPT - see IBM comment
    Table of contents, 4.3.3.4 Signals between link layer, port layer, and management application layer for all protocols
    Align the page number properly.

Sequence number: 2
Author: IBM
Date: 1/7/2003 1:51:12 PM
Type: Circle
    REFER EDITORS WG (some of the headers are so long that even no ident still causes wrap problems. If the header ends right at
    the end, the page number goes to the next line alone. If the header ends further right, the tab wraps too. Probably need to just
    shorten or lengthen some of the problematic state names.)
    Contents
    Indents only go one deep. So ,for example, everything under clause 4 should be intended to the same level no matter how many
    sub-sections there are. This will happen at either ANSI or ISO any way.
    Also, when the indents are more that four deep there is a readability issue with long section titles.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
Contents
The term 'Page' needs to be move so the 'e' aligns with the LSD of the page number.

Sequence number: 4
Author: PostLB
Date: 1/7/2003 12:58:15 PM
Type: Highlight
ACCEPT - DONE
Global
Move top right header to the right margin (the text containing 21 November 2002)
it's 0.2 inches too far to the left

Page: xvi

Sequence number: 1
Author: MXO Mark Evans
Date: 1/7/2003 1:51:40 PM
Type: Note
ACCEPT - see IBM comment
Table of contents, 7.8.6.2.3.2 Transition SL_IR_RIF2:Receive_Identify_Frame to SL_IR_RIF3:Completed
Align the page number properly.

Page: xix

Sequence number: 1
Author: MXO Mark Evans
Date: 1/7/2003 1:51:46 PM
Type: Note
ACCEPT - see IBM comment
Table of contents, 7.18.4.2.2.2 Transition SMP_IL2:Indicate_frame_tx to SMP_IL3:Rcv_response_frame
Align the page number properly.

Page: xx

Sequence number: 1
Author: MXO Mark Evans
Date: 1/7/2003 1:51:52 PM
Type: Note
ACCEPT - see IBM comment
Table of contents, 9.2.6.2.2.2 Transition ST_ISF1:Send_Frame to ST_ISF2:Prepare_Command_Request
Align the page number properly.

Page: xxi

Sequence number: 1
Author: MXO Mark Evans
Date: 1/7/2003 1:52:08 PM
Type: Note
ACCEPT - see IBM comment
Table of contents, 9.2.6.2.3.2 Transition ST_ISF2:Prepare_Command_Request to ST_ISF1:Send_Frame
Align the page number properly.

Sequence number: 2
Author: MXO Mark Evans
Date: 1/7/2003 1:52:03 PM
Type: Note
    ACCEPT - see IBM comment
    Table of contents, 9.2.6.3.6.3 Transition ST_TTS4:Receive_Data_Out to ST_TTS5:Prepare_XFER_RDY
    Align the page number properly.

Sequence number: 3
Author: MXO Mark Evans
Date: 1/7/2003 1:51:58 PM
Type: Note
    ACCEPT - see IBM comment
    Table of contents, 9.2.6.3.7.2 Transition ST_TTS5:Prepare_XFER_RDY to ST_TTS4:Receive_Data_Out
    Align the page number properly.

Page: xxxi

Sequence number: 1
Author: INTC
Date: 1/7/2003 1:52:38 PM
Type: Highlight
    ACCEPT - DONE (spaces after figure number)
    TOC
    Fix para formatting for Annex TOC entries

Page: xxxiii

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:58:25 AM
Type: Note
    ACCEPT - DONE
    Foreword
    I think it is appropriate to give a credit to the Serial Attached SCSI Working Group, which did the initial SAS proposal. This credit
    should go after the T10 member list.
    Possible wording:
    The Serial Attached SCSI Working Group provided the initial proposal for this standard. This Working Group consisted of the
    following member companies: <<<This list needs to be reviewed for accuracy>>>
    Adaptec Corp.
    Amphenol
    BREA Technologies
    Compaq Computer Corp.
    Crossroads Systems, Inc.
    Cypress Semiconductor
    Data Transit Corp.
    Dell
    Eurologic Systems Limited
    FCI
    Fujitsu Limited
    Hewlett Packard Co.
    Hitachi America, Ltd.
    IBM Corp.
    I-TECH Corp.
    KnowledgeTek, Inc.
    LSI Logic Corp.
    Marvell Technology Group Ltd.
    Maxtor Corp.
    Molex Inc.
    NEC Electronics
    QLogic Corp.

Seagate Technology
Serverworks
Sierra Logic
Silicon Image
Western Digital

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    ACCEPT - DONE
    Foreword
    The INCITS leadership should be adding here as follows:
    Karen Higginbottom, Chair
    David Michael, Vice-chair
    Monica Vago, Secretary

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    ACCEPT - DONE
    Foreword
    The t10 leadership should be adding here as follows:
    John B. Lohmeyer, Chair
    George O. Penokie, Vice-Chair
    Ralph O. Weber, Secretary

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    Foreword
    The list of t10 members should be added here. A good format is to place the list in three columns (see SPI-5)

Sequence number: 5
Author: INTC
Date: 1/7/2003 1:52:56 PM
Type: Highlight
    ACCEPT - DONE (removed "of "instead to match other standards)
    Foreword
    Fix 'of it' or reword for clarification from
    "At the time of it approved this standard, INCITS had the
    following members:"
       to
    "At the time of standard approval, INCITS had the following members:"

Page: 1

Sequence number: 1
Author: IBM
Date: 1/7/2003 1:53:36 PM
Type: Highlight
    REJECT - this standard is better
    Figure 1
    The statement << this standard >> should in this case be replaced with SAS.

Sequence number: 2
Author: IBM
Date: 1/7/2003 1:53:30 PM
Type: Highlight
    REJECT - this standard is better
    Figure 2
    The statement << this standard >> should in this case be replaced with SAS.

Page: 4

Sequence number: 1
Author: IBM
Date: 1/11/2003 5:31:27 PM
Type: Highlight
 ACCEPT - DONE (global format fix for notes)
 2.3 References under development
 Global
 The format of the notes should be << NOTE 1 - >> the dash is missing.

Sequence number: 2
Author: IBM
Date: 1/7/2003 1:55:41 PM
Type: Square
 REVIEW EDITORS WG
 REJECT - there are SATA references throughout this standard. (might want to make it clear that a "SATA" reference means all of these, not just the 8/29/01 document)
 2.4 Other references
 As far as I can tell there are no references to these documents within this standard. So why are they listed as norminative? They should be removed or appropriate references added.

Sequence number: 3
Author: PostLB
Date: 1/7/2003 1:54:43 PM
Type: Note
 2.4 Other references
 Change some of the SATA references to ATA/ATAPI-7 Volume 3 now that T13 has started its SATA incorporation

Page: 5

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
 3.1.8 ATA target device and 3.1.9 ATA target port
 See previous comment.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
 3.1.8 ATA target device and 3.1.9 ATA target port
 Since both ATA target device and ATA target port are equivalent to a device in ATA, does this mean that ATA target devices and ATA target ports are equivalent? If not, then one of these things is not equivalent to an ATA device.

Sequence number: 3
Author: IBM
Date: 1/7/2003 2:14:28 PM
Type: Highlight
 ACCEPT - DONE
 3.1.13 broadcast primitive processor
 The statement << The portion of an ... >> should be changed to << An object within an ... >>.

Sequence number: 4
Author: IBM
Date: 1/22/2003 10:32:31 AM
Type: Note
 ACCEPT - TODO
 3.1 Definitions
 The ATA definitions should be replaced with document 03-022.

Sequence number: 5
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.3 ATA device
    NOTE 4
    "uses the term device": place single quotes around words
    when the word itself is referenced:
      the term 'device', the term 'target device'

Sequence number: 6
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.4 ATA domain
    "(ATA) service delivery subsystem": Clarify whether this has the
    same defn as the SCSI SDS

Sequence number: 7
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.6 ATA initiator port
    "Equivalent to a host adapter": 'initiator port' is an abstraction,
    'host adapter' is, at least in one sense, a
    piece of hardware.   Clarify model, and that
    reference to 'HA' is to the term 'HA', not a thing. (FRAG)

Sequence number: 8
Author: INTC
Date: 1/7/2003 2:12:59 PM
Type: Highlight
    ACCEPT - DONE
    3.1.3 ATA device
    NOTE 4
    GLOBAL
    "ATA/ATAPI V1": Be consistent w/ 2.4, which uses ATAPI-7 (GLOBAL)

Sequence number: 9
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.9 ATA target port
    "task router" does not appear in ATAPI7. Use correct ATA terminology.

Sequence number: 10
Author: INTC
Date: 1/7/2003 1:58:38 PM
Type: Highlight
    REJECT - since 8b10b is used later, prefer to use number here (see 6.2.2)
    3.1.14 byte
    8 s/b 'eight'

Sequence number: 11
Author: INTC
Date: 1/7/2003 1:58:28 PM
Type: Highlight
    REJECT - since 8b10b is used later, prefer to use number here (see 6.2.2)
    3.1.15 character
    10 s/b 'ten'

Sequence number: 12
Author: Vixel
Date: 1/8/2003 9:33:33 AM
Type: Highlight
    ACCEPT - DONE
    Clause 3.1.3
    Clause 3.1.5
    Clause 3.1.6

Clause 3.1.8
Clause 3.1.9
Add -7 to ATAPI

Sequence number: 13
Author: Vixel
Date: 1/8/2003 9:32:46 AM
Type: Highlight
ACCEPT - DONE
3.1.5 ATA initiator device
ATAPI should be ATAPI-7

Sequence number: 14
Author: Vixel
Date: 1/8/2003 9:33:03 AM
Type: Highlight
ACCEPT - DONE
3.1.6 ATA initiator port
ATAPI should be ATAPI-7

Sequence number: 15
Author: Vixel
Date: 1/8/2003 9:33:13 AM
Type: Highlight
ACCEPT - DONE
3.1.9 ATA target port
ATAPI should be ATAPI-7

Sequence number: 16
Author: Vixel
Date: 1/8/2003 9:33:24 AM
Type: Highlight
ACCEPT - DONE
3.1.9 ATA target port
ATAPI should be ATAPI-7

Page: 6

Sequence number: 1
Author: ENDL
Date: 1/7/2003 2:15:47 PM
Type: Highlight
3.1.17 confirmation
 Is a confirmation really just a single parameter passed from a lower layer to a higher layer? Or, is a confirmation a passing of parameters and other state information from a lower layer to a higher layer?

Sequence number: 2
Author: ENDL
Date: 1/22/2003 3:36:13 PM
Type: Highlight
ACCEPT - DONE (deleted "device". It was intended to indicate that there is no special SAS meaning for the term on its own.)
3.1.25 device
The definition of device should include some relationship to SAS. As currently defined, a "device" may be a pencil, a house, a spaceship, or the moon.

Sequence number: 3
Author: ENDL
Date: 1/22/2003 10:34:16 AM
Type: Highlight
REJECT (per Jan Editor's meeting: acronym suffices)
3.1.27 direct current
Provide a definition for A.C.

Sequence number: 4
Author: ENDL
Date: 1/7/2003 2:21:38 PM

Type: Highlight
REFER PHYSICAL WG
3.1.27 direct current
Provide a definition for "signal". Relying on the standard English definition for "signal" allows a Stop sign to be a "signal".

Sequence number: 5
Author: LSI John Lohmeyer
Date: 1/7/2003 2:22:57 PM
Type: Highlight
ACCEPT - DONE
3.1.32 downstream phy
Replace "direction frame transmission" with "direction of frame transmission"

Sequence number: 6
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
3.1.37 end device
Delete "that is not contained within an expander device".
This is the first of several comments on "internal devices" and "internal ports". The current working draft does not use this
terminology consistently and needs a number of changes no matter how the problem is solved.
I prefer a solution that acknowledges that internal devices are just like external devices except for their lack of phys and does not
attempt to merge internal devices into the expander device definition.
Places I addressed in my comments:
3.1.37 end device
3.1.40 expander device
3.1.43 expander port
3.1.66+ internal device
3.1.70 link
3.1.73+ logical link
3.1.82 partial pathway
3.1.83 pathway
4.1.3 Ports (narrow ports and wide ports)
4.6.1 Expander device model overview
4.1.8.1 Expander device overview
4.1.8.2 Edge expander device set: 3rd paragraph. Is 64
    the maximum number of phys or devices?
4.1.8.2 Edge expander device set, Figure 11 - Edge expander device set
4.1.12 Pathways
4.4.2 Hard reset - fifth paragraph
5.3.2.1 SAS plug connector overview
Places possibly needing additional changes:
4.1.8.2 Edge expander device set: 1st paragraph; 2nd sentence.
    Address internal devices?
4.1.8.3 Configurable expander device: 1st paragraph; last sentence.
    Does the ECM route requests to non-phys?
4.1.9 Domains, Figure 12 - Domains and connections. Should internal
    devices be shown?
4.1.10 Expander device topologies: 3rd paragraph.
4.1.10 Expander device topologies, Figures 14-16 Should internal
    devices be shown?
4.1.11 Connections, Figure 17   Should internal devices be shown?
7.7.2 IDENTIFY address frame, Table 73 - Device types and paragraph
    above the table
7.12.4.2 Edge expander devices, Table 80
10.3.1 SMP functions. We may need to revise or add functions to
    properly support internal devices.
10.3.1.2 REPORT GENERAL response (in particular, the NUMBER OF PHYS
    field may need clarification and we may need to add a
    field for the number of internal ports).
10.3.1.4 DISCOVER function, Table 138 may need a clarification

Sequence number: 7
Author: MXO Mark Evans
Date: 1/23/2003 2:42:37 PM
Type: Highlight
ACCEPT - DONE (definition from FC-MJSQ letter ballot.)
3.1.24 deterministic jitter
Rewrite this definition to be something like: "Jitter from all sources for which the probability of a variation in interval occurring

outside the specified bounds is zero. These sources include duty cycle distortion, data dependent jitter, sinusoidal dependent jitter, and jitter uncorrelated to the data."

Sequence number: 8
Author: SEG houlderg
Date: 1/22/2003 9:49:56 AM
Type: Strikeout
    ACCEPT - DONE (delete it. That will mean no special meaning)
    3.1.25 device: A physical entity.
    Delete this definition of device. SAM-x, SPC-x, SPI-x, etc. have gotten along fine without defining device even though they all use the word hundreds of times. The given definition is so broad that it isn't helpful anyway.

Sequence number: 9
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
    Synonymous with SAS domain.
    The definition for domain should be more general purpose because several types of domains are referred to in SAS. Use the definition of domain from SAM-2 -- "An I/O system consisting of a set of devices that interact with one another by means of a service delivery subsystem" with the acronym SCSI removed so the definition can be applied to "ATA domain" which also appears in this draft.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    3.1.31 domain:
    Get rid of this by using << SAS domain >> in all cases.

Sequence number: 11
Author: IBM
Date: 1/7/2003 2:20:41 PM
Type: Strikeout
    ACCEPT - DONE
    3.1.32 downstream phy:
    The term << primary>> should be deleted as it provide no additional information to the definition.

Sequence number: 12
Author: IBM
Date: 1/7/2003 2:15:27 PM
Type: Highlight
    REJECT - upward signals are not always a response to anything
    3.1.17 confirmation
    A confirmation is not a parameter that is passed rather it is the a response returned from a lower layer indicating completion of a request from a higher layer.

Sequence number: 13
Author: INTC
Date: 1/17/2003 5:51:51 PM
Type: Highlight
    ACCEPT - TODO (needs to be consistent)
    3.1.30 discover process
    management application client: Clarify whether 'process' means 'algorithm' or some executing code.

Sequence number: 14
Author: INTC
Date: 1/22/2003 9:49:51 AM
Type: Highlight
    ACCEPT - DONE (delete it. That will mean no special meaning)
    3.1.25 device
    'A physical entity' seems quite vague. Clarify whether that is the intent.

Sequence number: 15
Author: INTC
Date: 1/7/2003 2:18:28 PM
Type: Highlight
    ACCEPT - DONE
    3.1.34 (Page 6) dword synchronization
    Add '(see 6.9)'

Sequence number: 16
Author: FUJ
Date: 1/22/2003 10:05:45 AM
Type: Highlight
ACCEPT - DONE (delete the 2nd sentence)
FUJITSU-2
PDF page : 6
Section : 3.1.18 connection
Figure/Table
Paragraph/sentense/row/colum
Comment : It defines only SSP(SCSI) case. SMP/STP case should be added since "3.1.78 nexus:" explains only SCSI and "see SAM-3"

Sequence number: 17
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
3.1.35 edge expander device
page 6
Definition suggests subtractive routing ports are required by edge expander - this is not the case. A simple expander may only support direct attachment.

Page: 7

Sequence number: 1
Author: ENDL
Date: 1/22/2003 10:36:05 AM
Type: Highlight
REFER PROTOCOL and PHYSICAL WG
3.1.39 expander connection router
Global
The reason why "signal" is not a defined term is becoming clear, i.e. "signal" has no consistent usage in SAS. The term "signal" as used in the ER definition almost certainly means something very different than the term "signal" as used in the D.C. definition. Otherwise, a SAS expander operates by switching raw waveforms from one phy to another, which seems unlikely to be the case. The inconsistent usage of 'signal' is far and away the most egregious problem ENDL discovered in its limited Letter Ballot review.

Sequence number: 2
Author: ENDL
Date: 1/25/2003 11:19:31 AM
Type: Highlight
ACCEPT - DONE (deleted sentence)
3.1.43 expander port
 Please provide a subject for this 'sentence': "Contains one or more phys."

Sequence number: 3
Author: ENDL
Date: 1/7/2003 2:27:42 PM
Type: Highlight
ACCEPT - DONE ("set of values")
3.1.55 hash function
 Since "domain" is equivalent to "SAS domain" (see 3.1.31), a hash function can be applied only to a SAS domain, whatever that means. Perhaps "domain" can be replaced with "value range" twice in the 3.1.55 definition.

Sequence number: 4
Author: LSI John Lohmeyer
Date: 1/7/2003 2:28:19 PM
Type: Highlight
ACCEPT - DONE
3.1.55 hash function
Replace "and that reduces" with "reducing"

Sequence number: 5
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight

3.1.40 expander device
Replace the last sentence with:
"An expander device supports SMP via an internal SMP target device. However, this internal device is logically considered outside the expander device. Other internal devices (e.g., a SCSI device supporting enclosure services) may also be packaged with expander devices, however these devices are also logically considered outside the expander device."

Sequence number: 6
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
   3.1.43 expander port
   Replace "physical links or to internal initiator ports and/or target ports. Contains one or more phys." with "links. Contains zero or more phys."

Sequence number: 7
Author: SEG houlderg
Date: 1/7/2003 2:23:48 PM
Type: Highlight
   ACCEPT - DONE
   expander connection router (ER):
   Change ER to ECR to be consistent withother references to this item.

Sequence number: 8
Author: IBM
Date: 1/7/2003 2:24:10 PM
Type: Highlight
   ACCEPT - DONE
   3.1.39 expander connection router (ER):
   The statement << The portion of an ...>> should be changed to << An object within an ... >>.

Sequence number: 9
Author: IBM
Date: 1/7/2003 2:25:07 PM
Type: Highlight
   ACCEPT - DONE
   3.1.41 expander function:
   The statement << The portion of an ... >> should be changed to << An object within an ... >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   3.1.44 expander route entry:
   So what is << A single destination SAS address >>? Do not all SAS addresses belong to an individual device? If so then all are single destination SAS addresses.

Sequence number: 11
Author: IBM
Date: 1/7/2003 2:28:33 PM
Type: Highlight
   ACCEPT - DONE
   3.1.55 hash function:
   Change the statement << into a hashed value >> to << into a shorter hashed value >>.

Sequence number: 12
Author: INTC
Date: 12/30/2002 1:45:08 PM
Type: Highlight
   ACCEPT - DONE
   3.1.45 expander route index
   Fix typo -- change "a" to "an"

Sequence number: 13
Author: INTC
Date: 1/17/2003 5:50:02 PM
Type: Highlight
   ACCEPT - TODO (make "with" throughout) (usually "with" an attribute, but sometimes "having" or "has" is used)
   3.1.47 fanout expander device
   'no phys with subtractive' - ambiguous. Change 'with' to 'having'

Sequence number: 14
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.40 (Page 7) expander device
    Make defn more generic - It provides connectivity by routing frames.

Sequence number: 15
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.43 (Page 7) expander port
    "A SAS expander device object that routes SSP, SMP, and STP frames
    to and from physical links or to internal initiator ports and/or
    target ports. Contains one or more phys."
    Either add: 'routes primitives, primitive sequences and other frames
    too.' or make more generic by not listing every function.

Sequence number: 16
Author: LSI Tim Hoglund
Date: 1/11/2003 5:29:03 PM
Type: Note
    ACCEPT - DONE
    3.1.39 expander connection router
     page 7
    typo: acronym (ER) should be (ECR)

Sequence number: 17
Author: PostLB
Date: 1/14/2003 11:40:18 AM
Type: Note
    in expander device, change "A device" to "A SAS device"

Page: 8

Sequence number: 1
Author: ENDL
Date: 1/7/2003 2:40:22 PM
Type: Highlight
    3.1.62 indication
     Is an indication really just a single parameter passed from a lower layer to a higher layer? Or, is an indication a passing of
    parameters and other state information from a lower layer to a higher layer?

Sequence number: 2
Author: ENDL
Date: 1/7/2003 2:29:36 PM
Type: Highlight
    ACCEPT - DONE
    3.1.63 information unit
     "Portion" s/b "The portion"

Sequence number: 3
Author: ENDL
Date: 1/7/2003 2:40:40 PM
Type: Highlight
    3.1.70 link
     "A physical link." s/b "Synonymous with physical link (see 3.1.86)."

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    After 3.1.66
    Add a new definition:
    "3.1.66+ internal device: An end device that is physically packaged with an expander device and uses a logical link."

Sequence number: 5
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    3.1.70 link
    Replace "physical link" with "physical or logical link".

Sequence number: 6
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    After 3.1.73
    Add a new definition:
    "3.1.73+ logical link: For internal devices, the virtual link from the expander port to the internal device port. Contains no phys."

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    3.1.62 indication
    In this standard an indication is passed from a transport layer to an application layer only.

Sequence number: 8
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
    Synonymous with
    This is not accurate or useful. use the generic "initiator device" description here (which can also be applied to ATA initiator device)
    and change "SAS initiator device" to "an initiator device in SAS domain".

Sequence number: 9
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
    Synonymous with
    This is not accurate or useful. use the generic "initiator port" description here (which can also be applied to ATA initiator port) and
    change "SAS initiator port" to "an initiator port in SAS domain".

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    3.1.62 indication:
    An indication is not a parameter that is passed rather it is a transaction from a lower layer that conveys a request to a higher layer.

Sequence number: 11
Author: IBM
Date: 1/7/2003 2:41:46 PM
Type: Strikeout
    REJECT - this links the term to other defined terms also in the glossary
    3.1.72 link reset sequence:
    This is way to detailed and is a duplicate of what is in 4.4. Delete <<an identification sequence, or a phy reset sequence followed
    by a hard reset sequence, another phy reset sequence, and an identification sequence>> and replace with <<one or more other
    sequences (see 4.4).>>

Sequence number: 12
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.62 indication
    indication: Defn is same as for 'confirmation'.
    Clarify whether they are identical.

Sequence number: 13
Author: KnowledgeTek
Date: 1/7/2003 2:39:21 PM
Type: Highlight
    ACCEPT - DONE (figure 3 is backwards)

3.1.62 indication:
The definition says < passed from lower layer... >
3.5.1 State machine convetions overview, Figure 3 shows < indication from upper layer... >

Sequence number: 14
Author: ADPT
Date: 1/6/2003 6:04:52 PM
Type: Note
    2.0 The term "initialization" is used in 3 places. It should be added to
    the definitions sub-clause.

Sequence number: 15
Author: ADPT
Date: 1/6/2003 6:05:11 PM
Type: Note
    3.0 The term "idle" used through-out the draft has conflicting meanings.
    Sometimes it refers to "idle time" and other times to "no activity". We
    should
    use "idle time" or "idle dwords" or "no activity".

Sequence number: 16
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
    Global
    There are many places which state that K28.5 and K28.3 are the only two control characters used by SAS. SATA_ERROR has
    been defined using K28.6. Globally add K28.6 as a legal control character.

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Sequence number: 1
Author: ENDL
Date: 1/22/2003 10:38:50 AM
Type: Highlight
    3.1.80 OOB sequence
    "OOB signals. Part of" s/b "OOB signals, part of"

Sequence number: 2
Author: ENDL
Date: 1/7/2003 2:43:25 PM
Type: Highlight
    3.1.96 request
    Is a request really just a single parameter passed from a higher layer to a lower layer? Or, is a request a passing of parameters
    and other state information from a higher layer to a lower layer?

Sequence number: 3
Author: ENDL
Date: 1/7/2003 2:43:19 PM
Type: Highlight
    3.1.97 response
    Is a response really just a single parameter passed from a higher layer to a lower layer? Or, is a response a passing of
    parameters and other state information from a higher layer to a lower layer?

Sequence number: 4
Author: LSI John Lohmeyer
Date: 1/7/2003 2:44:45 PM
Type: Highlight
    REJECT - terms are always spelled out in the glossary with the acronym in parenthesis
    3.1.81 OOB signal
    Replace "out-of-band (OOB)" with "OOB".

Sequence number: 5
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    3.1.80 OOB sequence

Replace "OOB" with "out-of-band (OOB)".

Sequence number: 6
Author: LSI John Lohmeyer
Date: 1/22/2003 10:38:11 AM
Type: Strikeout
    REJECT - we don't use link alone
    3.1.82 partial pathway
    Delete "physical".

Sequence number: 7
Author: LSI John Lohmeyer
Date: 1/22/2003 10:38:01 AM
Type: Strikeout
    REJECT - we don't use link alone
    3.1.83 pathway
    Delete "physical".

Sequence number: 8
Author: MXO Mark Evans
Date: 1/7/2003 2:43:04 PM
Type: Highlight
    REJECT - expander state machines use it too
    3.1.98 response
    In this standard a response is passed from an application layer to a transport layer only.

Sequence number: 9
Author: SEG houlderg
Date: 1/7/2003 2:42:42 PM
Type: Highlight
    REJECT - this is the correct direction
    higher layer state machine to a lower layer
    This wording is identical to "request" definition!! I think you mean "lower layer state machine to higher layer"

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    3.1.96 request:
    A request is not a parameter that is passed rather it is a transaction request from a higher layer that invokes a service from a lower
    layer.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    3.1.98 response:
    A response is not a parameter that is passed rather it is a transaction from a higher layer that conveys the result of a request to a
    lower layer.

Sequence number: 12
Author: IBM
Date: 1/7/2003 2:49:36 PM
Type: Strikeout
    ACCEPT - DONE
    3.1.91 programmed maximum physical link rate:
    The definition is no place to be defining the default value. Delete <<defaults to the hardware maximum physical link rate.>>

Sequence number: 13
Author: IBM
Date: 1/7/2003 2:49:43 PM
Type: Strikeout
    ACCEPT - DONE
    3.1.92 programmed minimum physical link rate:
    The definition is no place to be defining the default value. Delete <<defaults to the hardware maximum physical link rate.>>

Sequence number: 14
Author: INTC
Date: 1/20/2003 6:08:39 PM

Type: Highlight
    ACCEPT - DONE (changed to lowercase p-like)
    3.1.95 reflection coefficient
    This is the upper-case greek letter "gamma". It normally
    represents a complex number indicating phase as well as
    magnitude. Later, the char 'rho' is used, representing abs val.

Sequence number: 15
Author: INTC
Date: 1/17/2003 5:47:49 PM
Type: Highlight
    ACCEPT - TODO (see other comment)
    3.1.84 phy
    "interfaces to a service delivery subsystem" Please confirm
    intent that phy is outside the SDS.

Sequence number: 16
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.98 response
    response: Confirm intent that this be interchangable with 'request'

Sequence number: 17
Author: INTC
Date: 1/17/2003 5:47:34 PM
Type: Highlight
    ACCEPT - TODO (see other comment)
    3.1.83 (Page 9) pathway
    "A set of physical links between a SAS initiator port and a
    SAS target port"
    Use defn from 4.1.12:
      "A pathway is the physical route of a connection."

Sequence number: 18
Author: INTC
Date: 1/7/2003 2:45:33 PM
Type: Highlight
    REJECT - consecutive may mislead because of interspersed ALIGNs. The cross reference defines it in detail.
    3.1.91 (Page 9) primitive sequence
    "A set of primitives" change to
      "A set of one or more consecutive primitives"

Sequence number: 19
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.96 (Page 9) request:
    "request" has the same definition as "response"
    Clarify the difference between the two.

Sequence number: 20
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    3.1.100 (Page 9) SAS device
    "an ATA device" - Change 'device' to 'object'

Sequence number: 21
Author: KnowledgeTek
Date: 1/7/2003 2:42:14 PM
Type: Highlight
    ACCEPT - DONE (figure is wrong)
    3.1.98 response:
    definition says < passed from a higher layer...>
    3.5.1 State machine conventions overview, figure3
    says < to upper layer...>

Sequence number: 22

Author: Vixel
Date: 1/17/2003 3:47:35 PM
Type: Highlight
ACCEPT - DONE (defaults clause deleted altogether)
Clause 3.1.92
Should be "minimum"

Sequence number: 23
Author: PostLB
Date: 1/22/2003 10:37:02 AM
Type: Highlight
3.1.84 phy
SAS device object that interfaces..., or an expander device object (i.e., expander phy) that is part of the service delivery subsystem.

Sequence number: 24
Author: PostLB
Date: 1/22/2003 10:37:15 AM
Type: Note
TODO (Cris will think up some wording)
3.1.96 request: A parameter passed from a higher layer state machine to a lower level state machine to initiate an action.
indication: A parameter passed from a lower layer state machine to a higher level state machine derived from a request. An indication directly maps from a request.
response: A parameter passed from a higher layer state machine to a lower level state machine in reply to an indication.
confirmation: A parameter passed from a lower layer state machine to a higher level state machine in reply to a request. A response directly maps to a confirmation.

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Sequence number: 1
Author: ENDL
Date: 1/7/2003 2:50:42 PM
Type: Line
3.1.xx
Since SAS primitive has a definition, should SATA primitive have a definition?

Sequence number: 2
Author: ENDL
Date: 1/7/2003 2:51:45 PM
Type: Highlight
REFER EDITORS WG (is it the device (signular) that "originates" or the app clients and initiator ports (plural) that "originate"
3.1.115 SCSI initiator device
"originate device service" s/b "originates device service"

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
3.1.101 SAS domain
Global
Replace "an ATA domain and/or a SCSI domain" with an ATA domain, a SCSI domain, or both domains".
This comment applies to all occurrences of and/or.

Sequence number: 4
Author: LSI John Lohmeyer
Date: 1/7/2003 2:56:47 PM
Type: Note
ACCEPT - DONE
3.1.122 Serial ATA (SATA)
Add "(see 2.4)" to the end of the definition.

Sequence number: 5
Author: SEG houlderg
Date: 1/7/2003 2:56:08 PM
Type: Highlight
REJECT - it's referring to the SATA document
defined by SATA.

replace with "protocol defined by SATA industry group".

Sequence number: 6
Author: IBM
Date: 1/7/2003 2:55:28 PM
Type: Highlight
REFER PROTOCOL WG (depends on if it's referring to the "request-response" model in SAM-3 4.2 and 4.3, or the 4-step model in the transport protocol services)
3.1.116 SCSI initiator port:
The statement <<requests and responses are routed>> should be <<requests and confirmations are routed>>. Note this is also wrong in SAM-3.

Sequence number: 7
Author: IBM
Date: 1/7/2003 2:55:39 PM
Type: Highlight
REFER PROTOCOL WG (see prev comment)
3.1.119 SCSI target port:
The statement <<requests and
responses are routed>> should be <<indications and responses are routed>>. Note this is also wrong in SAM-3.

Sequence number: 8
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
3.1.104 SAS port
an expander port is also a SAS port, although it doesn't have a
SAS address. Add 'expander port'.

Sequence number: 9
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
3.1.102 (Page 10) SAS initiator device:
a SMP initiator device is also a SAS initiator device

Sequence number: 10
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
3.1.106 (Page 10) SAS target device:
Add SSP, SMP, STP target devices, and initiators.

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Sequence number: 1
Author: ENDL
Date: 1/7/2003 3:02:01 PM
Type: Highlight
3.1.137 table routing method
 It is not clear from the definitions whether a table routing method could result in a routing to an end device. If that is possible, both table routing and direct routing may do the same thing. If that is not possible, then "route connection requests" should be "route connection requests to devices other than end devices".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/7/2003 2:59:18 PM
Type: Note
REJECT - use "set of protocols and the interconnect"
3.1.124 Serial Attached SCSI (SAS)
This definition is confusing in that this standard defines three protocols (SSP, STP, and SMP) plus a physical transport.
It may be easiest just to delete this definition.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM

Type: Note
Definitions, 3.1.x
Add a definition for pathway blocked count something like the following, "Pathway blocked count (PBC): the number of times that a pathway has been blocked when attempting to open a connection."

Sequence number: 4
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
Synonymous with
This is not accurate or useful. use the generic "target device" description here (which can also be applied to ATA target device) and change "SAS target device" to "a target device in SAS domain".

Sequence number: 5
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
Synonymous with
This is not accurate or useful. use the generic "target port" description here (which can also be applied to ATA target port) and change "SAS target port" to "a target port in SAS domain".

Sequence number: 6
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
Global: To be compatible with ATA terminology
STP initiator port
s.b.
STP host port

Sequence number: 7
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
Global: To be compatible with ATA terminology
STP target port
s.b.
STP device port

Sequence number: 8
Author: IBM
Date: 1/20/2003 4:01:47 PM
Type: Strikeout
REJECT (per PHY WG, but delete "(SSC)" abbreviation and keep a definition since the term is used within the specification.)
3.1.129 spread spectrum clocking (SSC):
This should be deleted as the term is not used anywhere else in this standard.

Sequence number: 9
Author: IBM
Date: 1/7/2003 2:59:26 PM
Type: Highlight
ACCEPT - DONE ("set of protocols and the interconnect")
3.1.124 Serial Attached SCSI (SAS):
The term <<protocol>> should be <<protocols>> as there are at least two protocols defined (i.e., SMP and SSP)

Sequence number: 10
Author: INTC
Date: 1/17/2003 4:58:42 PM
Type: Highlight
ACCEPT - TODO (phy definition fixed)
3.1.127 service delivery subsystem
'service requests' SDS defn appears to be at odds with that
implied by 'phy' defn wrt abstraction level. Clarify.

Sequence number: 11
Author: INTC
Date: 1/20/2003 4:02:16 PM
Type: Highlight
ACCEPT (definition rewritten by PHY WG)

3.1.129 spread spectrum clocking
increase -> widen

Sequence number: 12
Author: INTC
Date: 1/20/2003 4:02:19 PM
Type: Highlight
    ACCEPT (definition rewritten by PHY WG)
    3.1.129 spread spectrum clocking
    peaks -> peak amplitude

Sequence number: 13
Author: INTC
Date: 1/7/2003 3:03:12 PM
Type: Highlight
    REJECT - we don't do anything to break linked command usage
    3.1.141 task
    "linked commands" - remove if linked cmds not supported

Sequence number: 14
Author: INTC
Date: 1/22/2003 10:40:30 AM
Type: Highlight
    ACCEPT - DONE
    3.1.128 (Page 11) speed negotiation sequence
    "determine the highest common supported physical link rate"
        change to
    "negotiate the operational physical link rate"

Sequence number: 15
Author: INTC
Date: 1/7/2003 3:00:39 PM
Type: Highlight
    ACCEPT - DONE
    3.1.128 speed negotiation sequence
     'where' s/b 'by which'

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 11:06:06 AM
Type: Note
    ACCEPT - DONE
    3.2 Symbols and abbreviations
    Add:
    EMI   electromagnetic interference
    EMI is referenced in 7.15.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    3.1.146 transport protocol service confirmation:
    3.1.147 transport protocol service indication: .
    3.1.148 transport protocol service request:
    3.1.149 transport protocol service response:
    I don't think these should even be in the glossary. But if they remain they need to change in the same manner suggested in the
    confirmation, indication, request, and response definitions.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    3.1.151 upstream phy:
    The term << primary >> should be deleted as it provide no additional information to the definition.

Sequence number: 4
Author: IBM
Date: 1/7/2003 3:04:52 PM
Type: Strikeout
    REVIEW PROTOCOL WG
    REJECT
    3.2 Symbols and abbreviations
    Primitives should not be listed in the abbreviations list. Remove all primitives from the list.

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Sequence number: 1
Author: SEG houlderg
Date: 12/30/2002 11:04:37 AM
Type: Highlight
    ACCEPT - DONE (also fixed millivolt and nanofarad)
    millisecond (10-6 seconds)
    Should be 10-3 seconds.

Sequence number: 2
Author: SEG Coomesj
Date: 1/22/2003 10:41:59 AM
Type: Strikeout
    ACCEPT - DONE(drop the - 3)
    3.2 Symbols and abbreviations
    The - 3 in the abbreviation for SCSI s.b. dropped to be consistent with 1 Scope.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    3.2 Symbols and abbreviations
    Primitives should not be listed in the abbreviations list. Remove all primitives from the list.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    3.2 Symbols and abbreviations
    Primitives should not be listed in the abbreviations list. Remove all primitives from the list.

Sequence number: 5
Author: INTC
Date: 1/20/2003 6:08:08 PM
Type: Highlight
    ACCEPT - DONE
    3.2 symbols and abbreviations
    The lower-case greek letter "rho" is normally used to
    represent the "absolute" reflection coefficient (real
    ratio of incident   to reflected voltage). It looks
    like an italics lower-case   roman letter 'p'.

Sequence number: 6
Author: PostLB
Date: 1/25/2003 4:41:07 PM
Type: Highlight
    ACCEPT - DONE (PPT acronym later removed altogether)
    3.2 Symbols and abbreviations
    PPT   timer should be timeout

Sequence number: 7
Author: PostLB
Date: 1/25/2003 4:40:54 PM
Type: Highlight
    ACCEPT - DONE

3.2 Symbols and abbreviations
PPT is only used about six times in this standard; remove the acronym

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Sequence number: 1
Author: SEG houlderg
Date: 12/30/2002 1:43:39 PM
Type: Highlight
ACCEPT - DONE
not::
remove the extra : after the word not.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
3.3.6 need not::
Remove one of the :s

Sequence number: 3
Author: PostLB
Date: 1/24/2003 7:12:30 PM
Type: Highlight
ACCEPT - DONE
3.3.10 restricted
Add "or for use in other data structures in this standard."

Sequence number: 4
Author: PostLB
Date: 1/25/2003 4:30:51 PM
Type: Highlight
ACCEPT - DONE
3.4 Editorial conventions
SCSI mode pages, SCSI log pages are mixed-case not uppercase

Sequence number: 5
Author: PostLB
Date: 1/25/2003 4:31:20 PM
Type: Note
ACCEPT - DONE
add mixed-case convention for
parameters, requests, confirmations, responses, indications, and timers

Page: 15

Sequence number: 1
Author: ENDL
Date: 1/7/2003 3:06:59 PM
Type: Highlight
ACCEPT - DONE
3.4 Editorial conventions
 "Fields containing only one bit are usually referred to as the name bit instead of the name field." is a repeat of the second
sentence in the third paragraph in this subclause. Remove this paragraph because the earlier sentence uses small caps more
correctly.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/7/2003 3:06:41 PM
Type: Highlight
ACCEPT - DONE (removed second sentence; small caps is correct)

3.4 Editorial conventions
The first sentence after Table 2 is redundant with the last sentence of the third paragraph. Delete one of these sentences.
Why does one have NAME in small caps and the other is lower-case?

Sequence number: 3
Author: SEG houlderg
Date: 12/30/2002 11:08:07 AM
Type: Strikeout
    ACCEPT - DONE
    Fields containing only one bit are usually referred to as the name bit instead of the name field.
    Remove this sentence - it is redundant with sentence 2 paragraphs earlier (paragraph starting with "Names of fields are ..").

Sequence number: 4
Author: PostLB
Date: 12/30/2002 10:41:07 AM
Type: Highlight
    ACCEPT - DONE
    3.4 Editorial conventions
    Table 1 should be Table 2

Sequence number: 5
Author: Vixel
Date: 1/17/2003 3:47:02 PM
Type: Strikeout
    ACCEPT - DONE
    Clause 3.4
    Remove this sentence.
    Duplicate of last sentence in 3rd paragraph of this section.

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Sequence number: 1
Author: SEG wordenj
Date: 1/7/2003 3:11:46 PM
Type: Highlight
    REFER EDITORS WG (Figures 88 and 89 seem fine. Not sure if uppercase after each _ is needed in the state name - maybe
    that's the comment?)
    3.5.1 -State Machine Conventions overview
    Figure 3 - State machine conventions
    Change <State designator:State_name>
    to "STATE DESIGNATOR: State_Name"
    also change SMP state machine names to agree with this (Fig 88, 89) and associated text

Sequence number: 2
Author: SEG wordenj
Date: 1/7/2003 3:12:45 PM
Type: Highlight
    REJECT (the label is a brief description - not an "or")
    3.5.2 Transitions
    change <label, a brief>
    to "label, or a breif>

Sequence number: 3
Author: IBM
Date: 1/7/2003 2:37:45 PM
Type: Circle
    ACCEPT - DONE
    Figure 3
    The indication goes from lower layers to higher layers. This should be response name.

Sequence number: 4
Author: IBM
Date: 1/7/2003 2:37:54 PM
Type: Circle
    ACCEPT - DONE
    Figure 3

The indication goes from lower layers to higher layers. This should be response name.

Sequence number: 5
Author: IBM
Date: 1/7/2003 2:38:06 PM
Type: Circle
    ACCEPT - DONE
    Figure 3
    The Response goes from higher layers to lower layers. This should be indication name.

Sequence number: 6
Author: IBM
Date: 1/7/2003 2:37:59 PM
Type: Circle
    ACCEPT - DONE
    Figure 3
    The Response goes from higher layers to lower layers. This should be indication name

Page: 17

Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/7/2003 3:13:28 PM
Type: Highlight
    ACCEPT - DONE
    3.5.2 Transitions
    In the last paragraph of this subclause, replace "valid in entry" with "valid upon entry".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/7/2003 5:19:38 PM
Type: Highlight
    ACCEPT - DONE
    3.5.3 Parameters, requests, etc.
    In the last paragraph of this subclause, replace "onto" with "to".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/7/2003 5:22:20 PM
Type: Highlight
    ACCEPT - DONE
    3.6 Bit and byte ordering
    In the fourth paragraph, replace "non-monotonically" with "non-sequentially".

Sequence number: 4
Author: MXO Mark Evans
Date: 1/7/2003 3:13:08 PM
Type: Strikeout
    REJECT
    3.5.2 Transitions, third paragraph
    Delete the word "fully".

Sequence number: 5
Author: IBM
Date: 1/7/2003 5:23:46 PM
Type: Highlight
    REFER EDITORS WG (why not use quotes? Not using them just makes it more confusing. This also occurs in some table column header references in the annexes.)
    3.5.3 Parameters, requests, indications, confirmations, and responses
    Loss the """" around the <<"(to all states)">>.

Sequence number: 6
Author: IBM
Date: 1/7/2003 5:21:23 PM
Type: Highlight
    REJECT (I like to spell out the first use in the text then use the acronym thereafter - who studies the acronym list before reading

the document? Also, MSB and LSB could easily be read as ms/ls BYTE not BIT.)
3.6 Bit and byte ordering
There is not need to redefine the LSB and MSB acronym as it has already been defined in the abbreviations list. Change <<least significant bit (LSB) is shown on the right and the most significant bit (MSB)>> to <<LSB is shown on the right and the MSB>>.

Sequence number: 7
Author: INTC
Date: 1/17/2003 12:29:43 PM
Type: Highlight
TODO (Cris will investigate an alternate term that is not message or signal)
3.5.3 Parameters, requests, indications, confirmations, and responses
  "Parameters":   Incorrect use of the term 'parameter' to mean 'signal',
'notification', or 'indication' (in the generic sense). Replace
with one of these or an appropriate term that better reflects what's
really being passed. If nothing else, call it a 'message' or an
'object', so that it can carry multiple parameters, as is the actual case.

Page: 18

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 11:09:17 AM
Type: Note
ACCEPT - DONE
3.7 Notation for procedures and functions
In the first procedure (Procedure Name), the parenthesis do not match. If the Search example below is correct, then there is an extra right parenthesis after input-2.

Sequence number: 2
Author: PostLB
Date: 1/25/2003 11:20:15 AM
Type: Highlight
ACCEPT - DONE
Mirroring an ENDL comment in the definitions section,
Contains should be "This list contains"

Page: 19

Sequence number: 1
Author: ENDL
Date: 1/7/2003 5:28:27 PM
Type: Highlight
REJECT (this is not a subset of SAS ports)
4.1.1 Architecture overview
 'which' s/b 'that' [twice]

Sequence number: 2
Author: IBM
Date: 1/7/2003 5:27:59 PM
Type: Highlight
REJECT - not referring to a subset of ports; all SAS ports do this
4.1.1 Architecture overview
This which should be a that.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - not referring to a subset of ports
4.1.1 Architecture overview
This which should be a that.

Sequence number: 4
Author: INTC
Date: 1/23/2003 2:36:07 PM
Type: Highlight
    REJECT (expander device is not a SAS device, but contains one. Changed to match new glossary definition.)
    4.1.1 (Page19) Architecture overview
    "A SAS device (see 4.1.4) is an ATA device or SCSI
    device with ports in a SAS domain:"
    Expander device is also a SAS device as defined
    on page 9, 3.1.100 SAS device.

Sequence number: 5
Author: INTC
Date: 1/23/2003 2:36:45 PM
Type: Highlight
    REJECT (yes they are; fixed the phy definition, which should help reduce confusion)
    4.1.1 (Page 19) Architecture overview
    "The service delivery subsystem in a SAS domain
    may include expander devices"
    Expander devices are not part of the "service delivery subsystem.
    Expander device interfaces to the SAS service delivery subsystem.
    This is also shown in Figure 4 on page 20.

Page: 20

Sequence number: 1
Author: IBM
Date: 1/7/2003 5:24:47 PM
Type: Highlight
    REJECT (what's wrong with semicolons for related sentences?)
    4.1.2 Physical links and phys
    The statement <<A phy is a transceiver; it is the object in a ...>> should be changed to <<A phy is a transceiver and it is the object
    in a ...>>

Sequence number: 2
Author: Vixel
Date: 1/22/2003 10:55:09 AM
Type: Note
    REJECT - The arrows are correct.
    Clause 4.1.1, Figure 4
    Change direction of all arrows (inheritance) in diagram. They appear to point the wrong way.

Sequence number: 3
Author: Vixel
Date: 1/17/2003 3:41:33 PM
Type: Note
    REJECT (SAS device may be inside an expander device)
    Clause 4.1.1, Figure 4
    Clarify. What is this modeling, the fact that the Expander is a SAS device, or that an SMP application must reside in an Expander
    device?
    If this illustrates that an Expander is a SAS device, this line should be an "association", not an "aggregation".

Sequence number: 4
Author: Vixel
Date: 1/22/2003 10:50:19 AM
Type: Highlight
    ACCEPT - DONE (2..128 per 03-064)
    Clause 4.1.1, Figure 4
    Change to "2..64". see clause 4.1.8.1.

Sequence number: 5
Author: Vixel
Date: 1/22/2003 10:50:00 AM
Type: Highlight
    ACCEPT - DONE (0..127 with 03-034)
    Clause 4.1.1, Figure 4

Change to "0..63", should have upper bounds as specified in later clause.

Sequence number: 6
Author: Vixel
Date: 1/22/2003 10:50:34 AM
Type: Highlight
ACCEPT - DONE (1..128 per 03-064)
Clause 4.1.1, Figure 4
Change to "1..64".

Sequence number: 7
Author: PostLB
Date: 1/23/2003 2:38:04 PM
Type: Note
ACCEPT - DONE (labeled as "SCSI device name")
the SCSI device also has a SAS address (retrieve with VPD from a target...)

Sequence number: 8
Author: PostLB
Date: 1/22/2003 10:52:01 AM
Type: Highlight
ACCEPT - DONE (1..* for now)
0..* should be 1..* since SMP targets must be included.
If Steve's proposal is accepted, this could be exactly one unless virtual phys are present

Sequence number: 9
Author: PostLB
Date: 1/22/2003 10:54:59 AM
Type: Note
ACCEPT - DONE (make the SCSI boxes all higher than the SAS boxes so the inheritance arrows go in the bottom of the SCSI boxes.

Sequence number: 10
Author: PostLB
Date: 1/22/2003 12:53:16 PM
Type: Note
ACCEPT - DONE
Use the CIM color convention of green for aggregation lines and blue for inheritance lines

Sequence number: 11
Author: PostLB
Date: 1/23/2003 2:38:40 PM
Type: Note
ACCEPT - DONE
Change the SAS address in the SCSI port to "SCSI port identifier". Pure SCSI objects don't know anything about SAS attributes.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/7/2003 5:31:03 PM
Type: Highlight
ACCEPT - DONE
4.1.3 Ports (narrow ports and wide ports)
In the third paragraph, replace "with one phy" with "with only one phy".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
4.1.3 Ports (narrow ports and wide ports)
Rename this subclause:
4.1.3 Ports (narrow ports, wide ports, and internal ports)
Add the following paragraph:
"An internal port in an expander device does not contain a phy and is used to connect to an internal device."

Sequence number: 3
Author: MXO Mark Evans
Date: 1/23/2003 3:28:07 PM
Type: Highlight
   ACCEPT - DONE
   4.1.3 Ports (narrow ports and wide ports), NOTE 6
   In the first sentence replace "primarily" with "e.g.,"

Sequence number: 4
Author: SEG houlderg
Date: 1/23/2003 3:27:39 PM
Type: Highlight
   ACCEPT - DONE (added "8b10b coding" to definitions)
   8b10b coded
   This term should be defined in definitions clause (3.1).

Sequence number: 5
Author: SEG houlderg
Date: 1/23/2003 3:18:37 PM
Type: Highlight
   REJECT (the attached phys might have the same SAS address in a physical loopback configuration, so "different" is not
   necessarily true. Note 6 describes that scenario.)
   4.1.3 Ports
   Replace "a SAS" with " a different SAS".

Sequence number: 6
Author: SEG wordenj
Date: 1/23/2003 3:18:11 PM
Type: Highlight
   ACCEPT - DONE (it should be 6.2.1 where "dword" is defined)
   4.1.2 Physical links and phys
   change <(see 6.1)>
   to ???
   (the reference is to "dwords" but 6.1 is "Phy layer overview" and not about dwords)

Sequence number: 7
Author: SEG Coomesj
Date: 1/23/2003 3:16:43 PM
Type: Highlight
   ACCEPT - DONE (reword to: This creates a wide link if more than two phys are so attached or a narrow link if only two phys are
   so attached.)
   4.1.3 Ports (narrow ports and wide ports)
   Change:
   are
   To:
   is

Sequence number: 8
Author: IBM
Date: 1/7/2003 5:25:30 PM
Type: Highlight
   ACCEPT - DONE (but with "which" rather than "that" - it's not a subset)
   4.1.2 Physical links and phys
   The statement <<unique phy identifier (see 4.2.6) within the device.>> should be changed to <<phy identifier (see 4.2.6) that is
   unique within the device>>.

Sequence number: 9
Author: IBM
Date: 1/23/2003 3:15:52 PM
Type: Strikeout
   REJECT (this is here so ch4 the model chapter introduces the concept of link rates, which are used throughout ch5/ch6/ch10.
   When 6 Gbps is added, a global sweep of 3,0 will certainly occur. Later on in the connections section we have to add the concept
   of connection rate to address another comment.)
   4.1.2 Physical links and phys
   This should be deleted as it only contains information that is defined elsewhere. It adds nothing to the standard and could easily be
   forgotten about and not updated in the next version of the standard. Delete << Phys transmit and receive bits at physical link rates
   of 1,5 Gbps or 3,0 Gbps (see 5.7). The bits are part of
   dwords (see 6.1) which have been 8b10b coded into 10-bit characters (see 6.2).>>

Sequence number: 10
Author: INTC
Date: 1/23/2003 3:15:11 PM
Type: Highlight
    ACCEPT - DONE
    4.1.3 (Page 21) Ports (narrow ports and wide ports)
    "A port may contain one or more phys." should be
    A port contains one or more phys.

Sequence number: 11
Author: INTC
Date: 1/23/2003 3:14:47 PM
Type: Highlight
    ACCEPT - DONE (rewritten)
    4.1.3 Ports (narrow ports and wide ports)
    ***
    Clarify whether the SAS address of the port or the device.

Sequence number: 12
Author: DSS
Date: 1/23/2003 3:13:53 PM
Type: Note
    ACCEPT - DONE (reworded; see new text)
    1. (T) Section 4.1.3, second paragraph (unordered list). It is unclear in
    the standard, but I don't think Phys don't have SAS addresses. This wording needs improvement to indicate exactly what the SAS
    Address in question is assigned to.

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Sequence number: 1
Author: ENDL
Date: 1/7/2003 5:34:29 PM
Type: Circle
    ACCEPT - DONE
    4.1.3 Ports
    Figure 6 Ports
    Based on the title of the subclause, the title of the figure, and the text preceding the figure, the ports attached to the narrow link
    should belabeled 'Narrow Port', 'Port'.

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Sequence number: 1
Author: ENDL
Date: 1/7/2003 5:37:17 PM
Type: Circle
    ACCEPT - DONE
    4.1.4 SAS devices
    figure 7
    If figure 6 is changed to use 'Narrow Port' perhaps figure 7 should be changed too.

Sequence number: 2
Author: ENDL
Date: 1/22/2003 3:31:03 PM
Type: Highlight
    ACCEPT - DONE (added "in this standard")
    4.1.4 SAS devices
    last 2 in subclause
    The phrase 'In figures that show ports but no phys ...' makes not sense in the context of this subclause. Perhaps 'In figures in this
    standard that show ports but no phys ...'.

Sequence number: 3
Author: INTC

Date: 1/22/2003 3:04:46 PM
Type: Highlight
REJECT (but the SP state machine supports both modes, and this is a common question)(whole section deleted anyway)
4.1.5 Initiator devices
"Initiator ports may support SSP and/or STP and/or SATA."
SAS initiator does not support native SATA as stated below -
"Initiator ports supporting SATA are outside the scope of
this standard."

Sequence number: 4
Author: TI
Date: 1/22/2003 9:39:55 AM
Type: Note
ACCEPT - DONE (In figures that show ports but no phys, the phy level of detail is not shown, but the ports always contain one or more phys.>>
4.1.4 last sentence needs work.
<<In figures that show ports but no phys, the ports still contain phys and may or may not be wide ports.>>
should be:
<<In figures that show ports but no phys, the phy level of detail is not shown, the ports actually contain one or more phys.>>

Sequence number: 5
Author: TI
Date: 1/22/2003 3:05:26 PM
Type: Note
ACCEPT - DONE (removed whole section)
4.1.5 and 4.16 first sentence does not make sense in a SAS standard, unless it is explained better.
SCSI and ATA port that support SMP can be used
in SAS domains. If a device supports SCSI or ATA without SMP is outside of
the scope of this standard.

Sequence number: 6
Author: Vixel
Date: 1/17/2003 3:38:08 PM
Type: Highlight
REJECT (clause 3 has state machine conventions)
Clause 4.1.4.
Move to clause 3.4.

Sequence number: 7
Author: Vixel
Date: 1/22/2003 3:05:12 PM
Type: Strikeout
REJECT (the SP state machine supports being a SATA initiator) (whole section deleted anyway)
Clause 4.1.5
Remove this. This is outside the scope of the standard.

Sequence number: 8
Author: Vixel
Date: 1/22/2003 3:04:41 PM
Type: Strikeout
REJECT (it says it is outside the scope) (whole section deleted anyway)
Clause 4.1.5
Remove this. This is outside the scope of the standard.

Sequence number: 9
Author: PostLB
Date: 1/23/2003 3:32:56 PM
Type: Note
ACCEPT - DONE
4.1.4 SAS devices
Move the "In figures which contains ports but not phys" sentence into the SAS port section, not the SAS device section

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Sequence number: 1
Author: LSI John Lohmeyer

Date: 1/22/2003 3:07:34 PM
Type: Highlight
    REJECT (STP target ports are allowed)(whole section being deleted anyway)
    4.1.6 Target devices
    Figure 9 - Target device
    The text "STP and SMP" is too close to the line.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/22/2003 3:07:48 PM
Type: Note
    REJECT (STP target ports are allowed)(whole section being deleted anyway)
    4.1.6 Target devices
    Figure 9 - Target device
    Don't most ATA targets use SATA protocol instead of STP protocol?
    Also, see the related comment at 4.1.11 Connections.

Sequence number: 3
Author: SEG wordenj
Date: 1/22/2003 3:06:57 PM
Type: Highlight
    REJECT (STP target ports are allowed)(whole section being deleted anyway)
    4.1.6 Target devices
    I think this wording <or STP> shouls be deleted,

Sequence number: 4
Author: SEG wordenj
Date: 1/22/2003 3:07:16 PM
Type: Highlight
    REJECT (STP target ports are allowed)(whole section being deleted anyway)
    4.1.6 Target devices
    I think this wording <,and STP target ports> should be deleted

Sequence number: 5
Author: SEG wordenj
Date: 1/22/2003 3:07:29 PM
Type: Highlight
    REJECT (STP target ports are allowed)(whole section being deleted anyway)
    4.1.6 Target devices
    I think this wording < ,STP> should be deleted

Sequence number: 6
Author: IBM
Date: 1/22/2003 3:06:09 PM
Type: Highlight
    REJECT (whole section being deleted anyway)
    4.1.6 Target devices
    ***
    The idea that a target would support both SCSI and ATA is too weird to conceive. I would like the idea deleted. The effect is that
    some of the and/ors change to or and figure 9 looses the middle set of boxes.

Sequence number: 7
Author: INTC
Date: 1/22/2003 3:06:24 PM
Type: Highlight
    REJECT (whole section being deleted)
    4.1.6 Target devices
    Figure 9
    Target device: Figure doesn't match text. Figure should show
    SATA target device/port, perhaps as a separate block attached to the Service delivery subsystem.

Sequence number: 8
Author: INTC
Date: 1/22/2003 3:06:39 PM
Type: Highlight
    REJECT (whole section being deleted)
    4.1.6 Target devices
    SAS target device does not support SATA, it can support ATA target.
    Confusing.

Sequence number: 9
Author: ADPT
Date: 1/22/2003 3:32:17 PM
Type: Note
REJECT (initiator could support SATA to talk to a SATA-only target port, but STP won't help)(whole section being deleted anyway)
4.0 P24, 4.1.6 2nd para - Last sentence reads "included in SAS domains if
the expander device". S/B "included in SAS domains if the Initiator or
expander device"

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
4.1.8.1 Expander device overview
Figure 10 - Expander Device
Modify the figure to show the required SMP target port. The internal expander ports should be included in the Expander device
(shaded box) while the target and initiator internal ports should be outside the shaded box.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
4.1.8.1 Expander device overview
Replace the second sentence of the first paragraph with:
"Expander devices include one or more internal expander ports connected to internal devices. These internal ports use a logical
link that does not contain phys. All expander devices have one internal expander port connected to an internal SMP target port.
They may have additional internal expander ports connected to internal initiator ports or internal target ports (e.g., a SCSI
enclosure services target device)."

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
4.1.8.2 Edge expander device set
Third paragraph. Should this maximum be the number of devices or phys?

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
Figure 10
The term <<(optional)>> should be deleted as everything is optional unless stated otherwise.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
4.1.8.2 Edge expander device set
The statement <<grouped into edge expander device sets.>> should be changed to <<grouped into an edge expander device set>>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
4.1.8.2 Edge expander device set
The statement <<The edge expander device sets are>> should be <<An edge expander device set is>>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
4.1.8.2 Edge expander device set
The statement <<Edge expander device sets are>> should be <<An edge expander device set is>>.

Sequence number: 8
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
4.1.8.2 Edge expander device set
This sentence needs to be clarified in terms of the phys of other
edge expander devices that the phys that support table routing
can be attached to (eg., direct routing, subtractive routing,
table routing, or all of the above) Figure 11 implies that
it would only attach to a subtractive port.

Sequence number: 9
Author: INTC
Date: 1/17/2003 4:55:15 PM
Type: Highlight
ACCEPT - TODO (fixed phy definition)
4.1.8.1 Expander device overview
"Expander devices are part of the service delivery subsystem"
appears to be in conflict with glossary defn for phy. Clarify SDS model.

Sequence number: 10
Author: INTC
Date: 1/17/2003 4:36:15 PM
Type: Highlight
ACCEPT - TODO (change glossary to "may contain subtractive routing attributes")
4.1.8.1 Expander device overview
subtractive routing attribute defined in Clause 3 and general concept is clear; however, the delineation between edge/fanout due
to subtractive routing is unclear. Conflicts with defn for 'edge expander device'. Please clarify.
glossary is:
An expander device containing phys with subtractive routing attributes (see 4.1.8.1).

Sequence number: 11
Author: INTC
Date: 1/17/2003 4:49:12 PM
Type: Highlight
REJECT (this is true)
4.1.8 (Page 25) Expander device overview
"Expander devices are part of the service delivery subsystem."
 - expander is not part of the service delivery subsystem as
shown in Fig. 4 on page 20. Expander interface to the service
delivery subsystem.

Sequence number: 12
Author: INTC
Date: 1/17/2003 4:38:26 PM
Type: Highlight
ACCEPT - TODO (SAS initiator ports, SAS or SATA target ports, or expander ports)
4.1.8.1 Expander device overview
Fig 10 (Pae 25) Expander device
Expander only interface to SATA target. The diagram is
not clear that it seems it also allows the expander device
interface to SATA initiators, SATA expander ports.

Sequence number: 13
Author: INTC
Date: 1/17/2003 4:33:15 PM
Type: Highlight
REJECT (we once tried to call that an edge router, but the WG preferred to keep it in the edge expander device class)
4.1.8.1 Expander device overview
"There are two types of expander devices differentiated by the
routing attributes of their phys, edge expander
devices and fanout expander devices."
The expander device which is not the leaf edge expander within the edge expander set behaves differently than an edge expander
and fanout expander. It has the routing capability as the fanout expander but it also has a subtractive port which fanout expander
does not have. Thus, there are THREE types.

Sequence number: 14
Author: INTC

Date: 12/30/2002 10:07:22 AM
Type: Highlight
    4.1.8.2 (Page 25) Edge expander device set
    "attached to the phys supporting subtractive routing on another
    edge expander device set;"
       change to
    "attached to the phys supporting subtractive routing on another
    edge expander or edge expander device set;"
       to make it clear even an edge expander is a subset of
    edge expander set

Sequence number: 15
Author: TI
Date: 1/23/2003 4:01:38 PM
Type: Note
    ACCEPT - TODO
    3. Technical 4.1.8 should have a Fan out expander section and a description of the relationship between the expanders in a large
    configuration. I have seen it in presentations, but there is no clear description of it in the standard.
    There should be a clear definition of a fan out expander as a section.
    4.1.8.1 Expander device overview
    4.1.8.2 Edge expander device set
    4.1.8.3 Configurable expander device

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Sequence number: 1
Author: ENDL
Date: 1/23/2003 4:02:20 PM
Type: Circle
    4.1.8.2 Edge expander device set, figure 11
    I think this figure would more clearly represent the routing possibilities in an edge expander device set if the optional target port
    joined the optional initiator port in being absent from the figure. If necessary, add a sentence before or after the figure indicating
    that optional initiator and target ports have been omitted for clarity.

Sequence number: 2
Author: ENDL
Date: 1/23/2003 4:07:38 PM
Type: Note
    ACCEPT - TODO (moved the edge expander and configurable expander device sections after the Domain. 4.1.1 introduces a
    hierarchy of objects; 4.1.2 details the lowest level (phy) and leads up to this section on domains. Subsequent sections on
    expander topologies, connections, and pathways may follow in 4.1.xx or move up to 4.x level.
    Counterargument: expander topologies are really defining the service delivery subsystem object, so should remain before
    domains.)
    4.1.9 Domains
     The presence of a subclause describing domains separating two subclauses discussing expanders and expander topologies is
    more than a little confusing. My gut level preference would be to put the domains subclause between 4.1.1 and 4.1.2. However, it
    appears that the general order of topic introduction in 4.1 is from the bottom of the architectural pyrimid up, leading to the
    conclusion that the discussion of domains should appear last among the subclauses in 4.1.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    4.1.8.2 Edge expander device set
    Figure 11 - Edge expander device set
    Show the internal target port outside the Edge expander device set box.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    Figure 11
    The term <<(optional)>> should be deleted as everything is optional unless stated otherwise.

Sequence number: 5
Author: INTC

Date: 1/17/2003 4:27:02 PM
Type: Highlight
    ACCEPT - TODO (a self-configuring expander really contains a mgmt app client and initiator port to do the work...)
    4.1.8.3 (Page 26) Configurable expander device
    "Expander devices with a configurable route table [MAY]
    depend on the application client within one or more initiator
    devices to use the discover process (see 4.6.11.5)
    to configure the expander route table."
    The edge expander set can self-initialize itself.

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Sequence number: 1
Author: SEG houlderg
Date: 1/23/2003 4:28:36 PM
Type: Highlight
    ACCEPT - DONE (new "bridge" object created as requested; paragraph deleted, new picture added including bridge)
    4.1.9 Domains
    are not required to
    Change to "do not". I contend that something that translates SSP to SATA is a bridge device, not an expander.

Sequence number: 2
Author: INTC
Date: 1/23/2003 4:26:47 PM
Type: Highlight
    ACCEPT - DONE
    4.1.9 Domains
    Figure 12
    Add 'STP' targ port.

Sequence number: 3
Author: INTC
Date: 1/23/2003 4:24:29 PM
Type: Highlight
    ACCEPT - DONE (add some SMP boxes and add note that normally SMP targets are inside the cloud)
    4.1.9 Domains
    Figure 12
    Also need to show SMP connections in the SAS domain.

Sequence number: 4
Author: INTC
Date: 1/23/2003 4:27:40 PM
Type: Highlight
    REJECT (the "other expander ports" phrase covers STP passthru)(but whole paragraph deleted anyway)
    4.1.9 (Page 27) Domains
    "The expander port attached to a SATA target port
    translates STP to SATA;"
    It should also mention the case where the expander attached to a
    STP target port where the expander only need to pass thru STP traffic.

Page: 28

Sequence number: 1
Author: ENDL
Date: 1/23/2003 4:45:51 PM
Type: Strikeout
    ACCEPT - DONE (replaced with an intro saying something like "a service delivery subsystem may contain expanders")
    4.1.10 Expander device topologies
    Delete the first sentence of this subclause. It grows tiresome with repetition. Surely, the reader has graspsed the concept by this
    point in 4.1.

Sequence number: 2

Author: ENDL
Date: 1/22/2003 3:35:11 PM
Type: Highlight

4.1.10 Expander device topologies
Regarding, 'The number of edge expander devices and the phy route attributes of edge expander devices within an edge expander device set shall be established when the edge expander device set is configured.' Since it is said else where that application clients do something to edge expander device sets in the configuration process, does the cited sentence mean that application clients can control the number of exander devices in an edge expander device set?

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle

4.1.10 Expander device topologies
After the sentence that ends in <<is configured.>> add in the following sentence <<The method used to configure edge expander device sets is outside the scope of this standard.>>

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle

Figure 14
The bracket that is labeled <<64 edge expander device sets>> should be rotated 90 degrees and be stretched to bracket the two edge expander device sets.

Sequence number: 5
Author: INTC
Date: 1/23/2003 4:30:02 PM
Type: Highlight

REJECT (An edge expander device set is not an edge expander device. An edge expander device set is not a SAS device. An edge expander device is not a SAS device (although it contains one). Each edge expander device has its own SAS address. Thus, an edge expander device set has lots of SAS addresses.)
4.1.10 (Page 28) Expander device topologies
Clarify:
Is edge expander device set a _single_ SAS device?
Probably not because edge expander device set has one or more device name?

Page: 29

Sequence number: 1
Author: SEG houlderg
Date: 1/23/2003 4:42:05 PM
Type: Note

ACCEPT - DONE (added note that the top edge expander devices are using subtractive routing to each other)
Should there be more rules to define an "edge expander device set"? For instance, it is not clear to me why this group of 6 edge expander devices is considered to be two edge expander device sets instead of one edge expander device set. I'm sure there must be a way to connect the 6 edge expander devices so that they are considered to be one expander device set.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle

Figure 15
The bracket that is labeled <<64 attached devices or edge expander device sets>> should be rotated 90 degrees and be stretched to bracket the edge expander device set, the initiator or target devices, and the ...s.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle

Figure 16
The bracket that is labeled <<64 physical links per edge expander device set>> should be rotated 90 degrees and be stretched to bracket the initiator or target devices.

Sequence number: 4
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Circle
　　　Figure 16
　　　The bracket that is labeled <<2 edge expander device sets>> should be rotated 90 degrees and be stretched to bracket the 2
　　　edge expander device sets.

Sequence number: 5
Author: INTC
Date: 1/23/2003 4:47:51 PM
Type: Highlight
　　　ACCEPT - DONE (add "temporary." Pull in second sentence from the glossary too (not necessarily as the 2nd sentence here;
　　　wording changes may be appropriate))
　　　4.1.11 (Page 29) Connections
　　　"A connection is an association between an initiator port and
　　　a target port."
　　　A "connection" is a physical path that is logically established and
　　　has the right to pass information between the initiator and the
　　　target as only as the logical establishment is maintained. Clarify.
　　　3.1.x has "A temporary association between an initiator port and a target port (see 7.12). During a
　　　connection all transmitted dwords are associated with the I_T nexus formed by that initiator port and target
　　　port."

Page: 30

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Note
　　　4.1.11 Connections
　　　This general intro needs to make it clear that frames related to one command (ATA or SCSI) may be transferred in different
　　　connections. A connection need not stay open for the duration of the command.

Sequence number: 2
Author: ENDL
Date: 1/23/2003 5:07:42 PM
Type: Highlight
　　　ACCEPT - DONE (overcome by rewrite)
　　　4.1.11 Connections
　　　items a) and c) in the first unordered list identify the protocol in use, while item b) omits this information. Include or do not include
　　　the protocol information equally in all list entries.

Sequence number: 3
Author: ENDL
Date: 1/23/2003 5:02:39 PM
Type: Highlight
　　　ACCEPT - DONE (Reworded)
　　　4.1.11 Connections
　　　Regarding, '...the number of connections shall not exceed the number of phys within the wide port (i.e., only one connection per
　　　phy is allowed)...'.
　　　It would seem that this requirement applies equally well to both wide and narrow ports. Furthermore, I cannot find a statement that
　　　specifically limits a narrow port to one connection per phy (i.e., one connection). It might be useful to 1) remove the word 'however',
　　　and 2) change 'wide port' to 'port' or if that is deemed too vague change 'wide port' to 'port, either wide or narrow,'.

Sequence number: 4
Author: ENDL
Date: 1/23/2003 5:03:29 PM
Type: Highlight
　　　ACCEPT - DONE
　　　4.1.11 Connections
　　　Move the qualifing phrase 'if multiple pathways exist between the initiator port(s) and the target port(s)' to the beginning of the
　　　sentence so that the word following directly introduces the list.

Sequence number: 5
Author: LSI John Lohmeyer
Date: 1/23/2003 4:58:58 PM
Type: Note

ACCEPT - DONE (list removed in favor of generic SSP, STP, and SMP references. We can't say ATA initiator any more.)
4.1.11 Connections
In the first list, it appears that a connection type has been omitted:
d) ATA initiator port(s) using STP to ATA target port(s) using STP.
If this connection type is not intended to be supported, then delete STP target ports from the second paragraph in 4.1.6 and from Figure 9

Sequence number: 6
Author: SEG houlderg
Date: 1/23/2003 5:07:20 PM
Type: Highlight
    ACCEPT - DONE (overcome by rewrite)
    port(s);
    change to "port(s) using SSP;".

Sequence number: 7
Author: SEG houlderg
Date: 1/23/2003 5:06:54 PM
Type: Highlight
    ACCEPT - DONE (list removed; generic SSP, STP, and SMP references put in place)
    Should an example d) be added to describe a SCSI initiator port to expander port(s) using SMP?
    If this is inperpreted as a complete list of allowed connection types, the example must be added.

Sequence number: 8
Author: SEG Coomesj
Date: 1/25/2003 11:03:34 AM
Type: Highlight
    ACCEPT - DONE
    4.1.11 Connections
    Change:
    to
    To:
    the

Sequence number: 9
Author: IBM
Date: 1/23/2003 5:00:40 PM
Type: Highlight
    REJECT (yes more than one I_T can be connected at a time in the domain. It's only on a physical link that they are one at a time.)
    4.1.11 Connections
    The statement <<b) SCSI initiator port(s) to expander port(s) to SCSI target port(s); and>> is not correct. You cannot establish a connection between more that one initiator port and target port at a time. The statement should be changed to <<b) SCSI initiator port to expander port(s) to SCSI target port; and>>. The same is probably true for item c.

Sequence number: 10
Author: IBM
Date: 1/23/2003 5:06:20 PM
Type: Note
    TODO (this adds excess white space in many places. re-evaluate near end of editing. Maybe a 1 point line could be snuck in?)
    4.1.11 Connections
    Global
    Having the anchored frame tag at the end of a paragraph can cause paragraphs, lines, and even individual words to be separated be large amounts of white space. This can made it difficult to read. The solution to this is to place the anchor in it's own paragraph. I recommend this be done. throughout this standard.

Sequence number: 11
Author: INTC
Date: 1/23/2003 5:04:53 PM
Type: Highlight
    ACCEPT - DONE
    4.1.11
    Connections "to pathway" changed to "the pathway"

Sequence number: 12
Author: ADPT
Date: 1/23/2003 5:04:38 PM
Type: Note
    ACCEPT - DONE
    5.0 P30, 5th para - "physical links that make up to pathway", S/B

"physical
links that make up the pathway".

Sequence number: 13
Author: LSI Brian Day
Date: 1/23/2003 5:04:46 PM
Type: Note
    ACCEPT - DONE
    4.1.11 Connections
    page 30
    In second paragraph from end, should read "...links that make up the pathway..." (change "to" to "the")

Sequence number: 14
Author: LSI Tim Hoglund
Date: 1/23/2003 4:49:51 PM
Type: Note
    ACCEPT - DONE (deleted current list; replaced by sentence relating connections to SSP, STP, or SMP)
    4.1.11 Connections
    page 30
    abc list of connection types is incomplete - either remove or add all possible types, i.e SMP initiator port to expander SMP target
    port (or SMP through expander to another expander, etc)

Page: 31

Sequence number: 1
Author: ENDL
Date: 1/22/2003 3:34:18 PM
Type: Circle
    4.1.11 Connections
     Do not anchor figure 17 to list entry d) so that list entry d) is not orphaned from the rest of the list by a quarter page of white space.

Sequence number: 2
Author: ENDL
Date: 1/22/2003 3:34:24 PM
Type: Circle
    4.1.11 Connections
     It is most curious how connection E has succeeded in avoiding the requirement to pass through any phy on one of the expanders
    and in the target port.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    4.1.11 Connections
    In the third list, why does item d) appear on the next page? There is plenty of room to place it on the same page with the first three
    list items.

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    4.1.12 Pathways
    Is there a pathway to an internal target device? If so, then the first paragraph needs some changes to accommodate targets
    without phys. I suggest re-wording the second paragraph of this paragraph as follows:
    "In the case where there are expander devices between an initiator and a target, the pathway consists of all the links required to
    route dwords between the initiator and the target."

Sequence number: 5
Author: INTC
Date: 1/17/2003 2:36:52 PM
Type: Highlight
    ACCEPT - TODO (pull the 4.1.12 definition into 3.1.83, but change "required" to "used" in both places)
    4.1.12 Pathways
    "the pathway consists of all the physical links required to route
    dwords between the initiator phy and the target phy"
    Definition is not quite the same as defined in 3.1.83 on page 9 which says:

A set of physical links between a SAS initiator port and a SAS target port (see 4.1.12).

Sequence number: 6
Author: INTC
Date: 1/17/2003 2:31:28 PM
Type: Highlight
ACCEPT - TODO (see other comments; more clarification/examples obviously needed)
4.1.10 Expander device topologies
Figure 17 - Multiple connections on wide ports
Initiator
***
This Initiator shows two ports. The Expander device has two
corresponding Expander ports. CLARIFY how the expander can determine
there are two ports if the initiator reports the same "device"
SAS address in the Identify address frame on all 6 phys?
Need an overview of multi-ported devices and usage of
device & port SAS addresses.

Sequence number: 7
Author: PostLB
Date: 1/16/2003 5:26:21 PM
Type: Note
show the IDENTIFY addresses here

Page: 32

Sequence number: 1
Author: ENDL
Date: 1/22/2003 3:34:41 PM
Type: Circle
4.1.11 Connections
Since figure 18 appears to make no attempt to unambiguously relate pathways to phsyical links (e.g., one of the magenta
pathways passes through four phys in the expander device) perhaps it would be best to remove the physical links and expander
device phys from the figure.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
4.1.12 Pathways
Figure 18 - Pathways
The pathway lines and arcs obscure the physical link lines. Consider moving them a bit above or below the physical link lines.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
4.1.12 Pathways
Add a forward reference from the e.g. in the first paragraph under Figure 18 to the subclause on connections: (see 7.12).

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
4.1.12 Pathways
Delete "physical" from the paragraph after figure 18.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
Figure 18
The text in the key list is not lined up.

Sequence number: 6
Author: DSS

Date: 1/6/2003 3:09:23 PM
Type: Note
    2. (T) Section 4.2.1, first paragraph. In FCP-2, the device (node) is
    allowed to share the same name as
    LUN 0. Is that true for SAS also?

Page: 33

Sequence number: 1
Author: IBM
Date: 1/23/2003 5:52:17 PM
Type: Highlight
    ACCEPT - DONE
    4.2.2 SAS addresses
    The statement <<names in this>> in note 7 should be <<names defined by this standard.>>

Sequence number: 2
Author: INTC
Date: 1/17/2003 2:30:44 PM
Type: Highlight
    ACCEPT - TODO (add Device name section 4.2.x and make sure it points to the VPD page for targets.)
    4.2.2 SAS addresses
    ***
    Specify which one is reported when device has multple ports in the
    same domain.

Page: 34

Sequence number: 1
Author: MXO Mark Evans
Date: 1/7/2003 6:15:25 PM
Type: Note
    ACCEPT - DONE
    4.2.3 Hashed SAS address
    Add the following paragraph at the end of this clause: "Annex D contains information on SAS address hashing."

Sequence number: 2
Author: IBM
Date: 1/23/2003 5:51:57 PM
Type: Highlight
    REJECT - this convention is already described in section 3.4 after table 2 for binary and hex numbers
    4.2.2 SAS addresses
    The _ notation needs to be added to the notations section.

Sequence number: 3
Author: IBM
Date: 1/23/2003 6:16:05 PM
Type: Highlight
    ACCEPT - DONE (and removed the 8-bit part too)
    4.2.6 Phy identifier
    The statement <<a unique 8-bit identifier within the device.>> should be change to <<an 8-bit identifier that is unique within the
    device.>>.

Sequence number: 4
Author: INTC
Date: 1/17/2003 2:28:59 PM
Type: Highlight
    ACCEPT - TODO (add ref to IDENTIFY section)
    4.2.5 Port identifiers
    ***
    Clarify whether this is the SAS address reported in the Identify
    message, or is it the "device" SAS address?

Sequence number: 5
Author: DSS
Date: 1/23/2003 6:15:46 PM
Type: Note
    ACCEPT - DONE (remove the bit mention)
    3. (T) Section 4.2.6, first paragraph. Should be "6-bit".

Sequence number: 6
Author: Vixel
Date: 1/23/2003 5:58:14 PM
Type: Highlight
    REJECT (when a wide-capable port is split into two domains, it ends up with two ports with the same address. This violates the
    SCSI definition of port name which requires "unique within the protocol". However, did rewrite the note a little bit to explain this
    scenario better and removed the mention of logins.)
    Clause 4.2.4
    Change to "Port names are not defined in SAS, because there is no login process in SSP to exchange port names."
    Removed part that conflicts with clause 4.2.2, "SAS address shall be worldwide unique."

Sequence number: 7
Author: PostLB
Date: 1/17/2003 11:33:23 AM
Type: Highlight
    to help optional
    addresses DSS comment in D.1

Sequence number: 8
Author: PostLB
Date: 1/23/2003 5:51:46 PM
Type: Highlight
    ACCEPT - DONE
    4.2.2 SAS address
    IEEE COMPANY IDENTIFIER small caps without 'field"

Sequence number: 9
Author: PostLB
Date: 1/23/2003 5:59:01 PM
Type: Note
    ACCEPT - DONE
    4.2.4 Port names
    Note about lack of port names
    Don't mention login non-existence; only helpful to someone with iSCSI, SRP, or FC experience

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Sequence number: 1
Author: SEG wordenj
Date: 1/16/2003 5:01:23 PM
Type: Note
    (add a similar picture for expanders and emphasize that this picture is for end devices.)
    4.3.1 State machine overview ***
    Figure 19 - State machines
    Figure 20 - Transmit data path and state machines
    Figure 23 - STP link STP transport and ATA application layers state machines
    For the STP paths, these state machines are only valid for the initiator device. Also, the STP transport layer and the STP link layer
    are not documented in this document, and these layers are not the same as the SATA defined layers because they must interface
    to the SAS port layer in order to get a port assigned for the transmit function. This is a big hole in this document . In addition this
    figure is not valid for target devices. The target device can only be a SATA device with a SATA link layer (which does not support
    sending or receiving SAS address frames - which gets you in and out of the SAS link layer (SL)). There is also no port layer in a
    SATA device.   the SATA devices have no concept of ports or SAS addressing. Note: These comments are also applicable to
    figures 20 and 23.

Sequence number: 2
Author: IBM
Date: 1/7/2003 6:16:47 PM
Type: Highlight

ACCEPT - DONE
4.3.1 State machine overview
The statement <<and target devices and their relationships to each other and to the SAS device,>> should be changed to <<and target devices, their relationships to each other, and to the SAS device,>>

Sequence number: 3
Author: DSS
Date: 1/7/2003 6:18:00 PM
Type: Note
REJECT - state machines are a key documentation technique to try to reduce interpretation differences about what is legal.
4. (T) Section 4.3, entire section. These state machines do not belong in
this standard as normalized text.
The standard should be specifying observable behavior, not implementation such as this.

Sequence number: 4
Author: PostLB
Date: 1/16/2003 4:43:04 PM
Type: Note
4.3.1 State machine overview
the expander state machine stack is not described here
The expander stack with an attached SATA device is also a bit different

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Sequence number: 1
Author: SEG wordenj
Date: 1/23/2003 6:32:45 PM
Type: Note
ACCEPT - DONE (crammed in a port layer box)
4.3.2 Transmit data path
Figure 20 transmit datat path and state machines
This picture should have a port layer box between each transport and link layer box

Sequence number: 2
Author: IBM
Date: 1/7/2003 6:19:57 PM
Type: Circle
REJECT (f a state machine has an associated transmitter, that controls both data and control of the MUX. SP, SP_IR, and SL are
this way)
Figure 20
The blue dotted line on the last thing on the right is not connected to the correct text box. On closer inspection it looks like there
two other blue dotted lines that look like they are going to the wrong place and there are two boxes with no lines coming out.

Sequence number: 3
Author: Vixel
Date: 1/23/2003 6:20:19 PM
Type: Note
ACCEPT - DONE (added key: dashed means control signal; solid means data path)
Clause 4.3.2, figure 20.
Define what the dashed blue lines mean in these figures, they appear to be used in a different manner than defined in clause 3.5.

Page: 37

Sequence number: 1
Author: SEG wordenj
Date: 1/23/2003 6:22:39 PM
Type: Highlight
ACCEPT - DONE (reworded all three figure intros to mention the port layer)
4.3.2 Transmit data path
chnge <link, SSP>
to "link, SSP port, SSP"

Sequence number: 2
Author: SEG wordenj
Date: 1/23/2003 6:33:22 PM
Type: Highlight
    ACCEPT - DONE
    4.3.2 Transmit data path
    Figure 21title
    change <link, SSP>
    to "link, SSP port, SSP"

Page: 38

Sequence number: 1
Author: SEG wordenj
Date: 1/23/2003 6:33:41 PM
Type: Highlight
    ACCEPT - DONE
    4.3.2 Transmit data path
    chnge <link, SMP>
    to "link, SMP port, SMP"

Sequence number: 2
Author: SEG wordenj
Date: 1/23/2003 6:33:28 PM
Type: Highlight
    ACCEPT - DONE
    4.3.2 Transmit data path
    Figure 22title
    change <link, SMP>
    to "link, SMP port, SMP"

Sequence number: 3
Author: SEG wordenj
Date: 1/7/2003 6:20:44 PM
Type: Note
    REJECT (DONE is not used in SMP connections)
    4.3.2 Transmit data path
    figure 22 SMP link, SMP transprt ...
    Should't there be a "DONE" box and line like in figure 21 ???

Page: 39

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    4.3.3 Signals between state machines
    Replace this clause with T10/03-023r0.

Sequence number: 2
Author: SEG wordenj
Date: 1/23/2003 6:33:46 PM
Type: Highlight
    ACCEPT - DONE
    4.3.2 Transmit data path
    chnge <link, STP>
    to "link, STP port, STP"

Sequence number: 3
Author: SEG wordenj
Date: 1/23/2003 6:33:34 PM
Type: Highlight

ACCEPT - DONE
4.3.2 Transmit data path
Figure 23title
change <link, STP>
to "link, STP port, STP"

Sequence number: 4
Author: SEG wordenj
Date: 1/23/2003 6:35:31 PM
Type: Note
REJECT (this is valid for an STP target too. True it is not describing a pure SATA target + a STP/SATA bridge - but that combination should end up with a result that equals this)
4.3.2 Transmit data path
Figure 23 - STP link, STP transport and ATA application layer state machines
Only valid for initiator layer. Figure 23 states that the STP transport and link layer state machines are "based" on the SATA state machines but are not documented - especially on how they interface to the port layer . This figure doesn't really agree with figure 19 - State machines

Sequence number: 5
Author: IBM
Date: 1/23/2003 6:34:34 PM
Type: Note
REJECT (some of these have special meaning for STP)
Figure 23
In general this is too detailed for a SAS standard. Reduce the details. At a minimum reduce or eliminate the SATA primitives. All that is needed are some << SATA primitives >> labels.

Sequence number: 6
Author: IBM
Date: 1/24/2003 9:32:45 AM
Type: Note
4.3.3 Signals
Tables 9 through 22
There needs to be a better notation for the direction indication. the --> and <-- looks hookey.

Sequence number: 7
Author: IBM
Date: 1/24/2003 9:32:38 AM
Type: Note
4.3.3 Signals
Tables 9 through 22
In these tables the acronyms for the state machines are used but not all of them have been defined at this point in the standard. One solution would be to make a list or table of all the state machines with there acronyms before table 9. Another way would be to add in keys to every table with the acronym followed by the long name.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
4.3.3 Signals between state machines
This section needs to be replaced with proposal 03-023.

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Sequence number: 1
Author: IBM
Date: 1/24/2003 9:32:54 AM
Type: Circle
4.3.3 Signals
Tables 11 through 15
Where ever there are multiple blank rows they should be combined to make a single blank area.

Sequence number: 2
Author: LSI Tim Hoglund
Date: 1/14/2003 12:07:14 PM
Type: Note

4.3.3.1 Table 10; page 40
Broadcast Event Notify (type) list incomplete (should be consistent with Table 25).

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Sequence number: 1
Author: DSS
Date: 1/6/2003 3:46:39 PM
Type: Note
    ACCEPT - DONE
    5. (E) Table 12, there are 2 cases of missing ")".

Page: 42

Sequence number: 1
Author: SEG wordenj
Date: 1/7/2003 6:22:14 PM
Type: Note
    4.3.3.1 Signals between phy layer and other layers
    Table 13 — Confirmations between SSP link layer, port layer, and SSP transport layer
    add "ACK Transmitted" as a confirmation from the link to the port layer and from the port to the transport layer.

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Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Connection Opened (SMP,Source Opened)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Connection Closed (Close Timeout)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Connection Closed (Close Timeout)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    Timeout)

Sequence number: 5
Author: SEG wordenj

Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <CConnection Closed (Break Received)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer
    Received)

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Connection Closed (Link Broken)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 7
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Connection Closed (Normal)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 8
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    change <Connection Closed> to "Transmission Status (Connection Lost)

Sequence number: 9
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Open Failed (Retry)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 10
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    4.3.3.3 Signals between link layer, port layer, and transport layer for SMP
    Table 15 — Confirmations between link layer, port layer, and SMP transport layer
    remove <Open Failed (Port LayerRequest)>
    (this signal is repeated in Table 16 — Confirmations between link layer and port layer

Sequence number: 11
Author: DSS
Date: 1/6/2003 3:47:04 PM
Type: Note
    ACCEPT - DONE
    6. (E) Table 15, there are 2 cases of missing ")".

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Table 18

Why is this the only table that has something called an <<Expander function>> in the layers column? It seems out of place. At the minimum some kind if explanation is needed as to what it is and why it is here.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/24/2003 9:47:09 AM
Type: Note
REFER PROTOCOL WG
4.4.2 Hard Reset
The second paragraph, first sentence is ambiguous. What exactly does "stop transmitting" mean? Is this the Tx Off Voltage in table 35? If so, add a forward reference. What are the timing requirements to stop transmitting?

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
4.4.2 Hard Reset
Delete the second sentence of the fifth paragraph and add the following two paragraphs after the fifth paragraph:
"If the port is an internal port within an expander device and the internal port is connected to an internal SCSI device, this causes a Transport Reset event notification to the SCSI application layer (see 10.1.4); the SCSI device shall perform the actions defined for hard reset in SAM-3.
If the port is an internal port within an expander device and the internal port is connected to an internal ATA device, the ATA device shall perform the actions defined for power-on or hardware reset in ATA."

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
4.6.1 Expander device model overview
First list, item d). Replace "internal" with "internal expander port providing a connection for an internal SMP target port."

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
4.5 I_T nexus loss, first paragraph
Change the first sentence from, "When a port receives OPEN_REJECT (NO DESTINATION), OPEN_REJECT (CONNECTION RATE NOT
SUPPORTED), or an open connection timeout in response to a connection request, it shall retry the connection request until:" to
something like, "When a port receives OPEN_REJECT (NO DESTINATION), OPEN_REJECT (CONNECTION RATE NOT
SUPPORTED), or an open connection timeout in response to a connection request, it shall retry the connection request. After
receiving an OPEN_REJECT (NO DESTINATION) or after an open connection time out, the port shall use the same OPEN
address frame to retry the connection. After receiving an OPEN_REJECT (CONNECTION RATE NOT SUPPORTED), the port
shall send a new OPEN address frame with the connection rate changed as described in 7.12.2.2. The connection request shall
be retried until:"

Sequence number: 5
Author: SEG wordenj
Date: 1/7/2003 6:24:46 PM
Type: Highlight
ACCEPT - DONE
4.6.1 Expander device model overview
change <SL_IR primitive processor (BPP);> to
"broadcast primitive processor (BPP);"

Sequence number: 6
Author: IBM
Date: 1/24/2003 9:45:07 AM
Type: Highlight
ACCEPT - DONE (changed this to "a hard reset")
4.4.2 Hard reset
In the statement <<If the port is part of a SCSI device, this causes a Transport Reset>> it is not clear what the <<this>> is referring
to. This needs to be corrected.

Sequence number: 7
Author: IBM
Date: 1/24/2003 9:40:31 AM
Type: Note
ACCEPT - DONE (but only here, the first additional sense code mentioned; not adding an SPC-3 crossref to every use of additional sense code because there is often already a crossref after such)
4.4.2 Hard reset
There should be a reference to SPC-3 at the end of the last paragraph of this section.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
4.5 I_T nexus loss
The statement <<an open connection time out in response>> should be changed to <<an open connection time out occurs in response>>

Sequence number: 9
Author: IBM
Date: 1/24/2003 9:35:56 AM
Type: Highlight
REJECT (timers expire)
4.5 I_T nexus loss
The term <<expires>> is not a word that should be used (look up the definition). It could easily be translated into dies. A quick fix would be to use <<times out>>. But I am open to other suggestions.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
4.6.1 Expander device model overview
We have not used the A,B,C convention in any t10 standards yet. We have been just using the a,b,c even in second level lists. If we are going to start using this then we need to define in the conventions section how we will indicate up to four(?) levels for both ordered and unordered lists. I don't think that is necessary and that changing this to a,b,c would not cause any confusion.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
4.6.1 Expander device model overview
I see no benefit from the statement <<For the maximum number of phys, see 4.1.8>>. If should be deleted or at a minimum reduced to <<(see 4.1.8)>>.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
4.5 I_T nexus loss
The statement << it shall retry the connection request until: >> appears to be in conflict with Table 61 — OPEN_REJECT abandon primitives. That table includes OPEN_REJECT (CONNECTION RATE NOT SUPPORTED). So who can it be retried and abandoned at the same time . This needs to be fixed.

Sequence number: 13
Author: INTC
Date: 1/7/2003 6:24:28 PM
Type: Highlight
ACCEPT - DONE (broadcast primitive processor)
4.6.1 Expander device model overview
bullet a).C)
Is this the "Broadcast" Primitive Processor? If so, I think the
original "Broadcast" was clearer. If not, then
the "BPP" acronym doesn't match. Other places including
the Acronym glossary in section 3.2, and section 4.6.5,
"BPP" continues to be referred to as the "Broadcast Primitive Processor".

Sequence number: 14
Author: INTC
Date: 1/24/2003 9:35:02 AM
Type: Highlight

TODO (maybe an informative annex of examples or add addresses to other pictures)
4.6.1 Expander device model overview (c):
***
Clarify how the expander determines how to group phys under ports. If it's based on the SAS address reported in the Identify address frame, all phys attached to the same "device" must form a single port?

Sequence number: 15
Author: DSS
Date: 1/11/2003 5:07:34 PM
Type: Note
    ACCEPT - DONE (changed to "SCSI BUS RESET OCCURRED" since the new names proposed in 02-232 were rejected)
    7. (T) Section 4.4.2, last paragraph. The additional sense code "HARD RESET
    OCCURRED" does not
    exist.

Sequence number: 16
Author: DSS
Date: 1/6/2003 3:12:08 PM
Type: Note
    8. (T) Section 4.6.1, first paragraph unordered list, item c. This sounds
    like it forbids an expander from
    supporting only wide ports with multiple phys per port.

Sequence number: 17
Author: Vixel
Date: 1/24/2003 9:44:47 AM
Type: Highlight
    ACCEPT - DONE ("... port. Each phy may then participate in new phy reset sequences and start transmitting.")
    Clause 4.4.2
    This needs clarification. Does this mean the phy that received the hard reset, or each phy in the port?

Sequence number: 18
Author: Vixel
Date: 1/8/2003 9:30:18 AM
Type: Highlight
    ACCEPT - DONE (should be broadcast primitive processor)
    Clause 4.6.1
    Clause 4.6.5 (2 instances)
    Please provide a definition for "SL_IR primitive".

Sequence number: 19
Author: LSI Tim Hoglund
Date: 1/24/2003 9:48:04 AM
Type: Note
    ACCEPT - DONE
    4.6.1 Expander device model overview
    page 49
    a) C) SL_IR primitive processor - typo: should be broadcast primitive processor   (DONE)

Sequence number: 20
Author: PostLB
Date: 1/25/2003 4:42:44 PM
Type: Note
    ACCEPT - DONE
    Global: change all timers to "expire"   There is inconsistent usage.

Sequence number: 21
Author: LSI Tim Hoglund
Date: 1/24/2003 9:47:51 AM
Type: Note
    4.6.1 Expander device model overview
    page 49
    also, c) an expander port available per phy - what does this mean? is this necessary? either clarify or remove.

Sequence number: 22
Author: PostLB
Date: 1/25/2003 4:43:07 PM
Type: Note
    Global

Figure out where to define expires as "goes to zero"
also clarify count-up vs count-down timers

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
> 4.6.1 Expander device model overview
> Figure 25
> Is there some reason that only one SATA port is shown? Don't ports automatically configure to the protocol of the attached device?

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
> 4.6.1 Expander device model overview
> Replace "the following:" with "additional internal expander ports providing connections for:"

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> Figure 25
> What is the statement <<Narrow or wide port>> have to do with this figure? It seems like it is saying there is a port that connects the expander function to the external SAS port. I believe it should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 4.6.1 Expander device model overview
> In figure 25 it appears the <<external expander port>> is called an <<external SAS port>> also the same figure lists <<IR>> while the text lists <<SL_IR>>. This inconsistent terminology needs to be resolved.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
> 4.6.1 Expander device model overview
> There are several cases of inconsistent terminology between this section and figure 25. These all need to be resolved to one set of terms.

Sequence number: 6
Author: DSS
Date: 1/7/2003 4:15:12 PM
Type: Note
> 9. (E) Section 4.6.2, third paragraph. Change the second sentence to "If an
> expander device contains more than one internal SMP port, more than one internal SSP port, or more than one internal STP port, the additional ports shall include SAS addresses different from that of the expander device.

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Sequence number: 1
Author: IBM
Date: 1/24/2003 9:50:43 AM
Type: Highlight
> ACCEPT - DONE
> 4.6.6 Expander device interface
> The statement <<The interaction between an XL state machine and the expander function is called
> the expander device interface, and uses signals called requests, confirmations, indications, and responses.>> should be changed

to <<The interaction between the XL state machine and the expander function consists of requests, confirmations, indications, and responses. This interaction is called the expander device interface.>>

Sequence number: 2
Author: INTC
Date: 1/24/2003 9:49:58 AM
Type: Highlight
     ACCEPT - DONE (change SL_IR to Broadcast)
     4.6.5 Broadcast primitive processor (BPP):
     I don't believe "SL_IR primitive requests" has been defined anywhere.
     Does it include RESET? ALIGN? BROADCAST primitives? If there is a
     subset of all the primitives that applies that's different from
     the BROADCAST primitives defined in section 7.1, they ought to be
     so designated as SL_IR primitive requests in section 7.1. If
     "SL_IR primitive requests" are the same thing as "Broadcast
     Primitives", then the text here should use the same term.

Sequence number: 3
Author: Vixel
Date: 1/24/2003 9:49:51 AM
Type: Highlight
     ACCEPT - DONE
     4.6.5 Broadcast primitive processor
     Change SL_IR to BPP

Sequence number: 4
Author: LSI Tim Hoglund
Date: 1/24/2003 9:49:42 AM
Type: Note
     ACCEPT - DONE
     4.6.5 Broadcast primitive processor
     page 51
     typo: replace SL_IR with broadcast (twice).

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Sequence number: 1
Author: IBM
Date: 1/24/2003 10:06:41 AM
Type: Circle
     REJECT (1/217 editors meeting said accept, but that's incorrect)
     Figure 26
     The outputs from the broadcast primitive processor should be called confirmation not indication. The indication only occurs when
     there are interim steps between the request and the confirmation.

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Sequence number: 1
Author: IBM
Date: 1/24/2003 10:06:59 AM
Type: Circle
     REJECT (1/217 editors meeting said accept, but that's incorrect)
     Figure 27
     The outputs from the broadcast primitive processor should be called confirmations not indications. The indication only occurs when
     there are interim steps between the request and the confirmation.

Sequence number: 2
Author: KnowledgeTek
Date: 12/31/2002 1:35:11 PM
Type: Highlight
     ACCEPT - DONE (phy status)
     4.6.7 Expander device interface detail

Figure 27
'Link Status' sb 'Phy Status' or Table 23 needs to change its entries to 'Link Status'

Sequence number: 3
Author: KnowledgeTek
Date: 12/31/2002 1:34:05 PM
Type: Highlight
    ACCEPT - DONE
    4.6.7 Expander device interface detail
    Figure 27
    All of the requests and indications using "Send" sb "Transmit" or Table 24 should change its entries to "Send".
    There are eight occurences of "Send" in this figure that should change to "Transmit"

Sequence number: 4
Author: KnowledgeTek
Date: 1/11/2003 5:16:49 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 5
Author: KnowledgeTek
Date: 12/31/2002 1:34:25 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 6
Author: KnowledgeTek
Date: 12/31/2002 1:34:28 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 7
Author: KnowledgeTek
Date: 12/31/2002 1:34:32 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 8
Author: KnowledgeTek
Date: 12/31/2002 1:34:09 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 9
Author: KnowledgeTek
Date: 12/31/2002 1:34:14 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 10
Author: KnowledgeTek
Date: 1/11/2003 5:16:45 PM
Type: Highlight
    ACCEPT - DONE
    Send

Sequence number: 11
Author: LSI Tim Hoglund
Date: 1/24/2003 9:55:58 AM
Type: Note
    ACCEPT - DONE
    4.6.7 Figure 27
    page 53

update diagram text:
change Link Status to Phy Status
change Send Open to Transmit Open
change Send Close to Transmit Close
change Send Break to Transmit Break
change Send Dword to Transmit Dword

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Sequence number: 1
Author: Vixel
Date: 1/11/2003 5:09:24 PM
Type: Highlight
    REJECT (changed the Links to Phys in 4.6.7 instead)
    Clause 4.6.8, table 23
    (3 instances)
    Change "Phy" to "Link" to match terminology used in clause 4.6.7, figure 27 (3 times)

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Sequence number: 1
Author: IBM
Date: 1/24/2003 10:21:49 AM
Type: Circle
    REJECT - the input indications are very important (the phy has got two signals named Transmit Open - the request going out and the indication coming in).
    Table 24
    Global
    All the request/indication terms should be changed to just request. There is no need to state the indication part of the procedure.

Sequence number: 2
Author: IBM
Date: 1/24/2003 10:22:30 AM
Type: Circle
    REJECT - the input confirmations are very important (the phy has got two signals named Arb Status (Normal) - the respose going out and the confirmation coming in).
    Table 24
    Global
    All the confirmation/response terms should be changed to just confirmation. There is no need to state the response part of the procedure.
    This change should also be made in the globally.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    4.6.9 Expander connection router interface
    The term <<signals>> is not correct here. I'm not sure what it should be maybe <<dwords>> or <<parameters>>.

Sequence number: 4
Author: INTC
Date: 1/24/2003 10:07:23 AM
Type: Highlight
    ACCEPT - DONE
    4.6.9 Expander connection router interface
    Table 24
    Transmit Close
    Replace "an CLOSE" with "a CLOSE"

Sequence number: 1
Author: INTC
Date: 1/17/2003 2:26:12 PM
Type: Note
ACCEPT - TODO (make sure the expander model section defines self-initializing expanders and clarifies that they have some sort of application client internally running.)
4.6.11.1
Define a method for identifying/reporting this case for self-initialized.

Sequence number: 2
Author: KnowledgeTek
Date: 12/28/2002 1:31:59 PM
Type: Highlight
4.6.11.1 Routing attributes and methods
4th paragraph
The following paragraph implies that the routing will be either table OR direct, not both:
"A phy that has the table routing attribute allows the expander connection manager to use one of the following
methods to route connection requests:
a) the table routing method if attached to an expander device; or
b) the direct routing method if attached to an end device."
4.6.11.2 Expander device connection request routing
2nd paragraph
This paragraph says that if the "DISABLE ROUTE ENTRY bit" is set the entry is ignored (I assume that means the connection request will get an OPEN_REJECT response???):
"If the destination SAS address of a connection request matches the attached SAS address of an expander
route entry and the DISABLE ROUTE ENTRY bit is set to one in the expander route entry, then the expander
connection manager shall ignore the expander route entry."
4.6.11.3 Expander route table
10th paragraph
This paragraph states that the"attached" expander's entry is disabled(I assume this means directly attached and not cascaded expanders beyond the one directly attached???):
"If the discover process detects an expander route table entry that references the SAS address of an attached
edge expander device, it shall set the DISABLE ROUTE ENTRY bit to one in the expander route table entry."
Given the above, how can access to internal devices (i.e., SMP Target function) that share the expanders SAS address be accomplished?

Sequence number: 3
Author: Vixel
Date: 1/8/2003 9:29:25 AM
Type: Highlight
ACCEPT - DONE
Clause 4.6.11.1
Change "may only" to "shall". "may only " not in list of keywords.

Sequence number: 1
Author: Vixel
Date: 1/24/2003 10:23:39 AM
Type: Highlight
ACCEPT - DONE (add "to other fanout expander devices.")
Clause 4.6.11.3
This sentence should be clarified, add "together" to the sentence.

Sequence number: 2
Author: Vixel
Date: 1/14/2003 5:44:23 PM
Type: Strikeout
REJECT (Jan WG)
Clause 4.6.11.3
This requirement is an implementation issue and should not be in the standards. Remove this.

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 11:14:56 AM
Type: Highlight
    ACCEPT - DONE
    4.6.11.3 Expander route table
    Change "expander" to "expander device" before (i.e., self-reference)

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    4.6.9 Expander connection router interface
    The <<, etc.>> should be deleted because the e.g. implies an etc. at the end of the list.

Sequence number: 3
Author: IBM
Date: 1/24/2003 10:52:16 AM
Type: Highlight
    4.6.9 Expander connection router interface
    The following <<For each of the level 2 devices that:
    a) is an edge expander device with M phys; and
    b) is attached to a phy in the level 1 edge expander device with the table routing attribute,
    the next M entries shall be the SAS addresses of the devices (level 3) attached to that level 2 edge expander device.>>
    should be changed to
    <<For each of the level 2 devices that is an edge expander device with M phys and is attached to a phy in the level 1 edge
    expander device with the table routing attribute, the next M entries shall be the SAS addresses of the devices (level 3) attached to
    that level 2 edge expander device.>>

Sequence number: 4
Author: INTC
Date: 12/30/2002 11:15:46 AM
Type: Highlight
    ACCEPT - DONE
    4.6.11.4 Expander route index order
    change "has" to "have"

Sequence number: 5
Author: Vixel
Date: 1/17/2003 3:19:06 PM
Type: Highlight
    ACCEPT - TODO (this is totally broken. Fanout expanders do this all the time; so do edge routers. It was intended to disable
    route entries if two edge expander sets are attached without subtractive ports.)
    Clause 4.6.11.3
    This needs clarification. What is the purpose of setting the DISABLE ROUTE ENTRY bit here? This would seem to preclude
    using the expander SAS address for expander internal ports.

Sequence number: 1
Author: HP relliott
Date: 1/24/2003 10:58:30 AM
Type: Highlight
    ACCEPT - DONE
    4.6.11.4 Expander route index order
    Table 26 - Expander route table levels
    Change "SAS address of the device" to "SAS address of the port" for each entry

Sequence number: 2
Author: INTC

Date: 1/24/2003 11:04:02 AM
Type: Highlight
    ACCEPT - DONE
    4.6.11.4 Expander route index order
    "U" should be changed to "V" ***

Sequence number: 3
Author: KnowledgeTek
Date: 1/24/2003 11:03:46 AM
Type: Highlight
    REJECT - TODO (the directly attached SAS address is not considered part of the route table. This needs to be made clear
    however)
    4.6.11.4 Expander route index order
    Table 26 - Expander route table levels.
    The first entry in the table for level one should be the expander SAS address of expander N. Level two entries should begin with
    the device SAS addresses attached to phy0 of expander N. etc.... There is only one Level 1 entry per phy. I believe the whole
    table is wrong...
    (I'm assuming the text is correct in paragraph 2, including numbered list, of the same clause???).
    That text follows here:
    For purposes of configuring the expander route table, the edge expander devices attached to the phy are
    assigned levels:
    1) the attached edge expander device is considered level 1;
    2) devices attached to it are considered level 2;
    3) devices attached to level 2 edge expander devices are considered level 3; and
    4) etc.

Sequence number: 4
Author: Vixel
Date: 1/24/2003 11:01:17 AM
Type: Highlight
    REJECT - DONE (but move ... over to the right for phy numbers, so the left side can mean devices)
    Clause 4.6.11.4
    For clarity and completeness, include expanders X and Y in this example.

Sequence number: 5
Author: PostLB
Date: 1/24/2003 10:58:35 AM
Type: Note
    ACCEPT - DONE
    4.6.11.4 Expander route index order
    Table 26 - expander route table levels
    delete extra blank rows

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Sequence number: 1
Author: KnowledgeTek
Date: 12/28/2002 2:49:20 PM
Type: Highlight
    4.6.11.4
    Table 27 - Expander route table entries for edge expander E0 phy 0
    see comments for table 26
    The level 1 entries should be the devices attached to the E0 phy 0, that is edge expander E1.
    Level 2 entries are the devices attached to edge expander E1 (i.e., D1,1... D1,Y)
    I'm assuming the text is correct in the 2nd paragraph, including numbered list, of the same clause.

Sequence number: 2
Author: KnowledgeTek
Date: 12/15/2002 11:57:10 PM
Type: Highlight
    4.6.11.4
    Table 28 - Expander route table entries for fanout expander device F phy 0
    See comment on table 27, same type of errors apply to this table.

Sequence number: 3
Author: Vixel

Date: 1/24/2003 11:05:41 AM
Type: Highlight
ACCEPT - DONE (add phy 0 to the introduction)
Clause 4.6.11.4
Add a clarification that the route table in the table is for one phy on expander E0.

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Sequence number: 1
Author: KnowledgeTek
Date: 12/28/2002 4:45:26 PM
Type: Highlight
4.6.11.5 Discover process
1st paragraph
"The order of traversal shall be to discover:
1) the expander device to which the initiator port is attached;
2) every device attached to that expander device; and
3) as each expander device is found, every device attached to that expander device."
The above requires traversal to go down each phy to end before moving to the next phy. This seems to complicate the process of building the routing table entries since the order is based on level. Why the requirement as stated???

Sequence number: 2
Author: Vixel
Date: 1/17/2003 3:11:30 PM
Type: Highlight
ACCEPT - TODO (add a picture with several levels of mixed expanders and devices, numbering them.)
Clause 4.6.11.5
Add an example to clarify these rules for order of traversal.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
5.1 SATA cables and connectors (informative), first paragraph
Figure 31 doesn't really show the cables and connectors, so the first sentence should be changed to something like, "Figure 31 shows a schematic representation of the cables and connectors defined by SATA (for reference)."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
5.1 SATA cables and connectors (informative), first paragraph
The second sentence implies too much of a similarity between SATA and SAS devices. Either delete this sentence or change it to something like, "A SATA host is an analogue to a SAS initiator device; a SATA device is an analogue to a SAS target device.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
5.1 SATA cables and connectors (informative)
This section should be placed in a annex that describes any SATA specific functions.

Sequence number: 4
Author: DELL
Date: 1/20/2003 4:03:10 PM
Type: Note
REJECT (SAS PHY WG majority vote to REJECT as the WG looked at this item prior to choosing no key.)
Dell #1
Request investigation of keying feature for SAS 4X external connection to
allow future compatibility with SATA 4X JBODs. The current cable selection

(non-keyed) is not compatible with any keyed cable. Proposal could
anticipate a keyed SAS connector for controllers and JBODs, and a keyed
SAS/SATA connector for controllers only.

Sequence number: 5
Author: DELL
Date: 1/22/2003 10:04:52 AM
Type: Note
    REJECT (per phy WG)
    Dell #2
    Request investigation of the HDD connector keying feature to prevent SAS
    drives from plugging into SATA backplanes. Most drive slots use bays and
    carriers with integrated levers for increased seating force. The drive
    carrier lever engages with the front panel just prior to the connection
    engagement, which means activating the lever to seat the drive will cause
    damage to the drive and midplane connectors due to the increased (10x)
    forces involved.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    5.2 SAS cables and connectors
    Figure 33
    Where SAS uses the same connector as in SATA, the color and size should match the corresponding connector in figure 31. Thus
    the SATA-style host plug connector should be dark green and be the same size as the dark green signal host plug connector in
    figure 31.
    The signal portions of the SAS internal cable connectors need to be shown in pink (just like the SATA internal cable) and the end
    that plugs into the target device needs to be the same width as the SAS plug connector.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    5.2 SAS cables and connectors
    As above, Figure 32 doesn't really show the cables and connectors, so the sentence should be changed to something like, "Figure
    32 shows a schematic representation of the cables and connectors defined in this standard to support an external environment."

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    Figure 32
    The statement <<Tx to Rx on each>> should be changed to <<the Tx signal to the Rx signal on each>>

Sequence number: 4
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
    6.0 P66, Figure 33 Internal backplane environment - It is unclear where
    power for the target device is derieved.

Page: 67

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    5.2 SAS cables and connectors
    Table 29 - Connectors

Add rows for the SATA-style host plug connector and the SATA-style signal cable receptacle. References should be to SATA for the connector drawings and to 5.4.1 for pin assignments.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    5.2 SAS cables and connectors
    Penultimate paragraph. Replace "second" with "secondary".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    5.3.2.1 SAS plug connector overview
    This subclause uses "internal ports" for a different concept than used elsewhere in the standard. I recommend replacing "internal ports" with "internal connections".

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
    5.3.3 SAS internal cable receptacle connector
    In list item b, delete "only".

Sequence number: 5
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
    5.3.4 SAS backplane receptacle connector
    In list item b, delete "only".

Sequence number: 6
Author: LSI John Lohmeyer
Date: 1/20/2003 4:07:16 PM
Type: Highlight
    ACCEPT - DONE
    5.3.2.1 SAS plug connector overview
    Since 5.3.2.1 is the only subclause under 5.3.2, promote this subclause.

Sequence number: 7
Author: SEG Alvin E Cox
Date: 12/30/2002 10:06:26 AM
Type: Strikeout
    5.3.3 SAS internal cable receptacle connector
    "only" is unnecessary in this sentence and should be removed.

Sequence number: 8
Author: SEG Alvin E Cox
Date: 12/30/2002 10:06:26 AM
Type: Strikeout
    5.3.4 SAS backplane receptacle connector
    "only" is unnecessary in this sentence and should be removed.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.2 SAS cables and connectors
    The following paragraph should be a footnote in table 29 and should be modified as shown <<The SATA device plug connector (e.g., used by a <<SATA>> disk drive) may be attached to a SAS backplane receptacle
    connector or a SAS internal cable receptacle connector, connecting the primary signal pairs and leaving the
    second signal pairs unconnected.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    5.2 SAS cables and connectors

The term <<drive>> should be deleted as the form factors apply to a size of a device not the type of device.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.3.2.1 SAS plug connector overview
    The statement <<(for SAS cables) and SAS backplane
    receptacle connectors (for SAS backplanes).>> should be <<for SAS cables and SAS backplane
    receptacle connectors for SAS backplanes>>

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.3.3 SAS internal cable receptacle connector
    The statement <<link, pins S8 through S14, is>> should be <<link (i.e., pins S8 through S14) is>>.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    5.3.5 SAS internal connector pin assignments
    In the first paragraph under table 30, the second sentence is either not true or misleading. The Rx and Tx signals are not crossed
    in the SAS internal cable assembly using the SATA-style signal cable receptacle on one end and the SAS internal cable receptacle
    on the other end (see figure 34).

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    Table 30
    So when I hook up all the voltage and precharge pins together and blow-up the drive and the possibly the power supply who is
    going to be responsible.
    This should change to <<
    The precharge pin and each corresponding voltage pin shall be connected together (e.g., the V5 precharge pin is connected to
    the two V5 pins).>>.

Sequence number: 3
Author: IBM
Date: 1/20/2003 4:10:08 PM
Type: Highlight
    ACCEPT - DONE
    5.3.5 SAS internal connector pin assignments
    The statement << AT+ of connector 1 shall connect to AR+ >> should be << AT+ signal of connector 1 shall connect to AR+ signal
    >>.

Sequence number: 4
Author: IBM
Date: 1/20/2003 4:12:52 PM
Type: Highlight
    ACCEPT - DONE
    5.3.6 SAS external cable plug connector
    It the statement << It
    attaches >> what is the << it >> supposed to be be? I'm not sure. This needs to be fixed.

Sequence number: 5
Author: IBM
Date: 1/20/2003 4:10:02 PM
Type: Highlight
    ACCEPT - DONE
    5.3.5 SAS internal connector pin assignments
    The statement <<Table 30 shows>> should be <<Table 30 defines>>.

Sequence number: 6
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
    7.0 P68, Table 30 - For clarification, a SATA column S/B added that
    clearly
    shows that the connections are the same.

Sequence number: 7
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
    8.0 P68, Table 30 - Name Column - Names should match SATA to resolve
    confusion. Refer to figure 6 in SATA 1.0. Use the same terminology used in
    Table 31 for Rx and Tx signals.

Page: 69

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    5.3.8 SAS external connector pin assignments
    We should recommend that external cables be labeled to indicate how many physical links are included (e.g., X1, X2, X3, and X4
    on each connector's overmolding).

Sequence number: 2
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
    Table 31 defines
    change to "Table 31 in clause 5.3.8 defines .." for clarity. Change both occurrances on this page.

Sequence number: 3
Author: IBM
Date: 1/20/2003 4:12:42 PM
Type: Highlight
    ACCEPT - DONE
    5.3.7 SAS external receptacle connector
    It the statement << It
    attaches >> what is the << it >> supposed to be be? I'm not sure. This needs to be fixed.

Sequence number: 4
Author: IBM
Date: 1/20/2003 4:13:28 PM
Type: Highlight
    ACCEPT - DONE
    5.3.8 SAS external connector pin assignments
    The statement <<Table 31 shows>> should be <<Table 31 defines>>.

Page: 70

Sequence number: 1
Author: SEG houlderg
Date: 1/20/2003 4:25:24 PM
Type: Highlight
    ACCEPT - DONE
    ACCEPT - DONE
    itnernal
    spelling should be "internal".

Sequence number: 2

Author: SEG Alvin E Cox
Date: 12/30/2002 10:06:26 AM
Type: Circle
    5.4.1 SAS internal cables
    Figure 34 — SAS internal cable assembly and destination pin assignments
    P11 is not bidirectional should only have one arrow on the far end.

Sequence number: 3
Author: SEG Alvin E Cox
Date: 1/20/2003 4:25:09 PM
Type: Circle
    ACCEPT - DONE
    5.4.1 SAS internal cables
    Figure 34 — SAS internal cable assembly and destination pin assignments
    These grounds should have an arrow on both ends as they are a shield rather than a directional signal or power function.

Sequence number: 4
Author: SEG Alvin E Cox
Date: 1/20/2003 4:25:01 PM
Type: Circle
    ACCEPT - DONE
    5.4.1 SAS internal cables
    Figure 34 — SAS internal cable assembly and destination pin assignments
    These grounds should have an arrow on both ends as they are a shield rather than a directional signal or power function.

Sequence number: 5
Author: SEG Alvin E Cox
Date: 1/20/2003 4:25:17 PM
Type: Circle
    ACCEPT - DONE
    5.4.1 SAS internal cables
    Figure 34 — SAS internal cable assembly and destination pin assignments
    These grounds should have an arrow on both ends as they are a shield rather than a directional signal or power function.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.4.1 SAS internal cables
    The statement << SATA-style cable receptacle on the initiator device >> should be << SATA-style cable receptacle (see SATA)
    on the initiator device >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.4.1 SAS internal cables
    The following << A SAS initiator device shall use a SATA-style host plug connector for connection to the SAS internal cable. The
    SATA host plug connector is defined in SATA. The signal assignment for the SAS initiator device or expander device with this
    connector shall be the same as defined for a SATA host in SATA. >> should be changed to << A SAS initiator device shall use a
    SATA-style host plug connector (see STAT) for connection to the SAS internal cable. The signal assignment for the SAS initiator
    device or expander device with this connector shall be the same as a SATA host (see SATA). >>

Sequence number: 8
Author: TI
Date: 12/30/2002 12:53:08 PM
Type: Note
    ACCEPT - DONE
    4. Figure 34 the title has internal misspelled

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/20/2003 4:31:26 PM
Type: Highlight

ACCEPT - DONE (per phy WG, removed whole secod half of sentence including all color references)
5.6 READY LED pin
Replace "shall" with "should". The visual output color is not important to the operation of the interface.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
5.6 READY LED pin
Global
List item d), last sentence. Replace "vendor-specific" with "vendor specific".
Global comment: There is no hyphen if these words are not used as an adjective modifying a noun. There are also many places in the document where the hyphen needs to be added because vendor-specific is used as an adjective modifying a noun.

Sequence number: 3
Author: MXO Mark Evans
Date: 1/20/2003 4:28:33 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin, first paragraph
Change "turn on" to "activate".

Sequence number: 4
Author: MXO Mark Evans
Date: 1/20/2003 4:50:46 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin, second paragraph
In the second sentence change "when the READY LED signal is raised" to "when the READY LED signal is asserted."

Sequence number: 5
Author: MXO Mark Evans
Date: 1/20/2003 4:33:32 PM
Type: Highlight
REJECT (but per PHY WG deleted whole sentence)
5.6 READY LED pin, third paragraph
Change the second sentence to: "The READY LED circuitry in the target device shall be ground tolerant since this pin may be connected by a system directly to power supply ground."

Sequence number: 6
Author: MXO Mark Evans
Date: 1/20/2003 4:39:00 PM
Type: Highlight
REJECT (but sentence deleted)
5.6 READY LED pin, fifth paragraph
Change "turn on" to "activate".

Sequence number: 7
Author: MXO Mark Evans
Date: 1/20/2003 4:44:03 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin, bulleted list, item a)
Change the second sentence to: "In this state the target device may be removed with no danger of mechanical or electrical damage;"

Sequence number: 8
Author: MXO Mark Evans
Date: 1/20/2003 4:46:00 PM
Type: Highlight
ACCEPT - DONE (per SAS PHY WG, change to:
When processing a command, the target device shall toggle the READY LED signal in a vendor-specified manner (e.g., the LED is usually on, but is momentarily off when commands are processed);)
5.6 READY LED pin, bulleted list, item c)
The second sentence ("When processing a command, the target device shall negate READY LED for a period long enough to be detected by an observer (i.e., LED is usually on, but flashes off when commands are processed);" is vague in the extreme. At least add some "example" times.

Sequence number: 9

Author: MXO Mark Evans
Date: 1/20/2003 4:38:48 PM
Type: Highlight
　　REJECT (but sentence deleted)
　　5.6 READY LED pin, fifth paragraph
　　Change "...may optionally be driven..." to "...may be driven..."

Sequence number: 10
Author: MXO Mark Evans
Date: 1/20/2003 4:46:59 PM
Type: Highlight
　　ACCEPT - DONE (per phy WG, change to:
　　If the target device is formatting the media, it shall toggle the READY LED signal in a vendor-specific manner (e.g., with each
　　cylinder change on a disk drive).)
　　5.6 READY LED pin, bulleted list, item d)
　　The first sentence ("If the target device is formatting the media, it shall toggle READY LED between asserted and negated at
　　significant intervals during the format operation (e.g., with each cylinder change on a disk drive)." is also vague in the extreme.
　　What is a "significant interval". At least add some "example" times.

Sequence number: 11
Author: SEG houlderg
Date: 1/20/2003 4:32:59 PM
Type: Highlight
　　ACCEPT - DONE
　　The LED and the current limiting resistor may be external to the target device.
　　***Change this to read " The LED and the current limiting circuitry shall be external to the target device." The standard must
　　definitely state where the current limiting circuirty and the LED are located.

Sequence number: 12
Author: SEG wordenj
Date: 1/20/2003 4:37:17 PM
Type: Highlight
　　ACCEPT - DONE
　　5.6 READY LED pin
　　Table 32 — Output characteristics of the READY LED signal
　　change <LED off> to
　　"LED off / negated"

Sequence number: 13
Author: SEG wordenj
Date: 1/20/2003 4:37:23 PM
Type: Highlight
　　ACCEPT - DONE
　　5.6 READY LED pin
　　Table 32 — Output characteristics of the READY LED signal
　　change <LED on> to
　　"LED on / asserted"

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　5.4.2 SAS external cables
　　The statement << not carry power>> should be changed to << not contain power >>.

Sequence number: 15
Author: IBM
Date: 1/20/2003 4:29:36 PM
Type: Highlight
　　ACCEPT - DONE
　　5.6 READY LED pin
　　The statement << READY LED signal is raised, >> should be << READY LED signal is asserted, >>

Sequence number: 16
Author: IBM
Date: 1/20/2003 4:33:44 PM
Type: Strikeout
　　ACCEPT (deleted whole sentence)
　　5.6 READY LED pin

The following should be deleted << since this pin may be connected by a system directly to power supply GROUND. >>. The standard does not need to justify a requirement.

Sequence number: 17
Author: IBM
Date: 1/20/2003 4:43:20 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin
global
Whenever a signal name is used it needs to be followed by the term << signal >>. Several places in this section READY LED is used without the term << signal >>. It should have been written as << READY LED signal >> in all cases.

Sequence number: 18
Author: IBM
Date: 1/20/2003 4:26:34 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin
The title of this section is not correct. It should be << READY LED signal >>.

Sequence number: 19
Author: IBM
Date: 1/20/2003 4:43:06 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin
global
There should be a reference to where the <<standby or stopped power condition state,>> are defined.

Sequence number: 20
Author: IBM
Date: 1/20/2003 4:43:12 PM
Type: Highlight
ACCEPT - DONE
5.6 READY LED pin
global
There should be a reference to where the <<. active or idle power condition state,>> are defined.

Sequence number: 21
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
9.0 P71, 5.4.2 2nd para - S/B "one, two, three, or four active physical links".

Sequence number: 22
Author: PostLB
Date: 1/20/2003 4:27:50 PM
Type: Highlight
ACCEPT - DONE
SAS PHY WG
5.6 page 71
Change "may" to "shall", requiring all targets to provide READY LED.

Sequence number: 23
Author: PostLB
Date: 1/20/2003 4:37:03 PM
Type: Note
ACCEPT - DONE
SAS PHY WG
5.6 page 71
Change table 32 to the following (=< used for less than or equal to symbol):
Driver state Test condition Requirement
Negated (LED off) 0 =<V OH =<3,6 V -100 uA < I OH < 100 uA
Asserted (LED on) I OL = 15 mA 0 =<V OL =<0,225 V

Sequence number: 24
Author: PostLB
Date: 1/20/2003 4:39:23 PM

Type: Note
    ACCEPT - DONE
    SAS PHY WG
    5.6 page 71
    Delete sentence after table 32 based on change of section name

Page: 72

Sequence number: 1
Author: LSI jenkins
Date: 1/20/2003 4:52:30 PM
Type: Highlight
    ACCEPT - DONE (thanks)
    5.7 Driver and receiver electrical characteristics
    For what it's worth, an acquaintance of mine who was not involved with the drafting of the SAS spec reviewed this document on behalf of another company. He offered the unsolicited comment that this was a quite well written specification. ...Just thought I'd pass that along.

Sequence number: 2
Author: SEG houlderg
Date: 1/20/2003 4:54:17 PM
Type: Highlight
    ACCEPT - DONE (changed to "exceed")
    operate within
    ***Change to "meet". The word within is ambiguous.

Sequence number: 3
Author: SEG houlderg
Date: 12/30/2002 1:42:58 PM
Type: Highlight
    ACCEPT - DONE
    that
    Replace with "this".

Sequence number: 4
Author: SEG Alvin E Cox
Date: 12/30/2002 10:06:26 AM
Type: Highlight
    5.7.2 General interface specification
    Change "interoperability" to "compliance"

Sequence number: 5
Author: SEG Alvin E Cox
Date: 12/30/2002 10:06:26 AM
Type: Highlight
    5.7.2 General interface specification
    Change "conforming" to "compliant"

Sequence number: 6
Author: SEG Alvin E Cox
Date: 12/30/2002 10:06:26 AM
Type: Highlight
    5.7.1 Compliance points
    Change "physical definition" to "description" as this is consistent with the column label in Table 33.

Sequence number: 7
Author: IBM
Date: 1/20/2003 4:49:28 PM
Type: Highlight
    ACCEPT - DONE
    5.6 READY LED pin
    The references to the a,b,c list items should have a cross-reference link.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM

Type: Strikeout
    5.7.2 General interface specification
    ****
    All references to a BER should be removed from this standard. The value as specific is not low enough and specifying a lower number is not practical. Any SAS design that only meets the current specified BER will fail any qualification being used today.

Sequence number: 9
Author: IBM
Date: 1/20/2003 5:00:10 PM
Type: Highlight
    ACCEPT - DONE (per SAS phy WG, changed to "These signal specifications are consistent with using good quality cable assemblies constructed with shielded twinex cable with 24 gauge solid wire up to eight meters in length without using any form of equalization (e.g.,
    transmitter pre-emphasis, receiver adaptive equalization, or passive cable equalization).")
    5.7.2 General interface specification
    ****
    The following statement indicates there are cable lengths specified in this standard but there are none.
    I believe that with out guidance from this standard as to what reasonable lengths are for cables this group is doing a disservice to the using community. I proposal cable lengths be specified in the same manner as they are in SPI-5.
    << TxRx connections operating at the maximum specified distances may require some form of equalization (e.g.,
    transmitter pre-emphasis, receiver adaptive equalization, or passive cable equalization) to enable the signal
    requirements to be met. >>

Sequence number: 10
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
    10.0 P72, 5.7.1 1st para - Is "transmitter and reciever characteristic
    tables, See Tables 35 & 36, only".

Sequence number: 11
Author: PostLB
Date: 1/25/2003 11:02:42 AM
Type: Note
    next to cable length text, mention that STP flow control assumes a 50 ns cable propagation delay (one-way).
    Cables that support STP shall not exceed that delay(unless the receiver has more buffers than specified by the equations).

Sequence number: 12
Author: PostLB
Date: 1/20/2003 4:50:17 PM
Type: Note
    ACCEPT - DONE
    SAS PHY WG
    5.6 page 72
    Change "mechanical damage" to "mechanical or electrical damage".

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Sequence number: 1
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Note
    Figures 35 and 36 seem out of place here. Should they be moved to the Test Loads clause or somewhere else?

Sequence number: 2
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
    11.0 P73, Figure 35 & 36 - distance from connector pin to loads S/B
    specified. The connector should also be identified.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    5.7.3.1 Eye masks overview, first paragraph
    In the last sentence change "sigma" to "standard deviations".

Sequence number: 2
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
    limits.
    change to "limits imposed on the signal at that particular compliance point". The added clarification is considered significant by Al
    Kramer.

Sequence number: 3
Author: IBM
Date: 1/20/2003 5:02:30 PM
Type: Circle
    ACCEPT - DONE
    Table 34
    The entries in the characteristics column should be left justified.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    Table 34
    The term << or odd mode, >> is not used anywhere else in this standard and should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    Table 34
    The statement << rate (both up and down). >> should be << rate for both power on and power off conditions. >>

Sequence number: 6
Author: ADPT
Date: 1/20/2003 5:03:02 PM
Type: Note
    ACCEPT - DONE
    12.0 P74, Table 34 - note b - refer to the SATA 1.0 specification

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Sequence number: 1
Author: IBM
Date: 1/20/2003 5:06:28 PM
Type: Highlight
    ACCEPT - DONE
    5.7.3.2 Delivered (receive) eye mask at IR, CR, and XR
    The term << delivered (receive) >> should be changed to << receive >>

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Sequence number: 1
Author: IBM
Date: 1/20/2003 5:12:15 PM
Type: Highlight
    ACCEPT - DONE
    5.7.3.3 Jitter tolerance masks

In the statement starting with << However, the leading >> the << however >> seems odd. It's not clear as to where the << however >> is referring to. Either the sentence needs to move or the << however >> should be deleted. I think deletion is the right answer.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.7.4 Transmitted signal characteristics
    After the first usage of the statement << SATA 1.0 signal levels >> there needs to be a the << (see SATA) >> reference added.

Sequence number: 3
Author: INTC
Date: 1/20/2003 5:12:27 PM
Type: Highlight
    REJECT (per PHY WG)
    5.7.3.3 Jitter Tolerance Masks
    change "Z1" to "Z1tol"

Sequence number: 4
Author: PostLB
Date: 1/20/2003 5:11:24 PM
Type: Highlight
    ACCEPT - DONE (per
    SAS PHY WG
    5.7.3.3 page 76
    ...table 36 and Z1tol and Z1op shall be defined from these slopes as follows:

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Sequence number: 1
Author: LSI jenkins
Date: 12/30/2002 10:07:09 AM
Type: Highlight
    5.7.4 Transmitted signal characteristics
    Table 35 — Transmitted signal characteristics at Tx compliance points
    133 ps (0.2 UI) provides no overlap with required 3Gbps max rise time. I believe the initial intent was to track SATA. However, the SATA min risetime at 1.5Gbps is being changed to 100 ps (0.15 UI). I propose that SAS change this value to 67 ps (0.1 UI) at 1.5 Gbps, allowing extra room for higher performance devices.
    I also propose that the minimum rise/fall time of 67 ps (0.2 UI) at 3 Gbps be changed to 50 ps (0.15 UI) for similar reasons.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    5.7.4 Transmitted signal characteristics, Table 35 - Transmitted signal characteristics at Tx compliance points
    In note c) change "...logically turned off..." to "...not being driven..."

Sequence number: 3
Author: SEG Alvin E Cox
Date: 1/20/2003 5:44:54 PM
Type: Highlight
    ACCEPT - DONE
    5.7.4 Transmitted signal characteristics
    Table 35 — Transmitted signal characteristics at Tx compliance points
    ***
    Change 133 to 67

Sequence number: 4
Author: IBM
Date: 1/25/2003 11:22:27 AM
Type: Highlight
    ACCEPT - DONE (xref to 5.7.8)
    5.7.5 Received signal characteristics
    Table 35
    There need to be a reference to were the << CJTPAT test pattern >> is.

Sequence number: 5
Author: IBM
Date: 1/25/2003 11:22:21 AM
Type: Highlight
    5.7.5 Received signal characteristics
    Table 36
    This table should be broken into three tables with titles of:
    << Delivered signal characteristic at IR compliance points >>, << Delivered signal characteristic at CR compliance points >>, and
    << Delivered signal characteristic at XR compliance points >>. Then the first column can be deleted and the table will not flow
    across multiple pages.

Sequence number: 6
Author: INTC
Date: 1/20/2003 5:44:09 PM
Type: Highlight
    ACCEPT - DONE
    5.7.4 Transmitted Signal Characteristics
    General comment: A 3Gb PHY hitting maximum specs for compliance point
    CT will not be able to pass both bit rate r/f times. Reduce min r/f
    time for 1,5 from 133 to 67ps.

Sequence number: 7
Author: ADPT
Date: 1/20/2003 5:14:04 PM
Type: Note
    REJECT (per phy WG: Not needed with incorporation of OOB characteristics in Table 35.)
    13.0 P77, Top of page - add a new sub-clause 5.7.4.1

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Sequence number: 1
Author: LSI jenkins
Date: 12/30/2002 10:07:09 AM
Type: Highlight
    5.7.4 Transmitted signal characteristics
    Table 36 — Delivered signal characteristic at Rx compliance points (part 2 of 2)
    "OOB detect guaranteed on (eye opening) ... OOB detect guaranteed off signal level "
    It is unclear to me a) how to interpret these values, and b) how they are meant to line up (if at all) with the SATA spec values. The
    signal characteristic names suggest that the first spec is the eye opening of a minimum valid signal, while the second spec is the
    absolute peak-peak voltage of noise which must be ignored. This is fine, but it is unclear how this relates to footnote c which
    seems to be describing something different.
    Regarding lining up with SATA, that document specifies "squelch detector threshold" with a min/max of 50/200 mVp-p.
    Apologies for having no clear recommended change, but it seems that a 120 mV required noise tolerance does not compare well
    with SATA's threshold range of 50 to 200 mV.

Sequence number: 2
Author: IBM
Date: 1/25/2003 11:22:16 AM
Type: Highlight
    5.7.5 Received signal characteristics
    Table 36
    The term << guaranteed >> should be deleted in all cases. Standards in general do not give guarantees. I do not believe anything
    would be lost if it is deleted.

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Sequence number: 1
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
    ***The requirements of both notes b and d should be worded the same except for the swept frequency range (first sentence of
    each note). Combining requirements of both should make both notes look like this:

The jitter values given are normative for a combination of deterministic jitter, random jitter, and sinusoidal jitter that receivers shall be able to tolerate without exceeding a BER of 10-12. Receivers shall tolerate sinusoidal jitter of progressively greater amplitude at lower frequencies, according to the mask in figure 39 with the same deterministic jitter and random jitter levels as were used in the high frequency sweep.

Sequence number: 2
Author: SEG houlderg
Date: 12/30/2002 10:06:45 AM
Type: Highlight
***Again the requirements of notes c and e should be combined and applied to both notes:
No value is given for random jitter. For compliance with this
standard, the actual random jitter amplitude shall be the value that brings total jitter to the stated value at a probability of 10-12. The additional 0,1 UI of sinusoidal jitter is added to
ensure the receiver has sufficient operating margin in the presence of external interference.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
5.7.8 Jitter compliance test pattern (CJTPAT)
What the heck does CJPAT stand for: Jitter compliance test pattern or compliant protocol frame? It appears to be defined as both here. This needs to be resolved.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 11:21:54 AM
Type: Highlight
5.7.9 Impedance specifications
Table 39
The formatting of table 39 needs work. The super-script is running into the double lines.

Sequence number: 2
Author: IBM
Date: 1/25/2003 11:21:49 AM
Type: Highlight
5.7.9 Impedance specifications
Table 39
The last sentence of the footnotes does not have a period.

Sequence number: 3
Author: IBM
Date: 1/25/2003 11:21:44 AM
Type: Highlight
5.7.9 Impedance specifications
Table 39
The term << media >> is not defined. This needs to be added to the glossary.

Sequence number: 4
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
5.7.9 Impedence specifications
Table 39 - Impedance requirements footnote f:
The text uses an upper-case greek letter "gamma" that normally
represents a complex number. To represent the "magnitude" of
the reflection coefficient, use the lower-case greek letter "rho".

Sequence number: 5

Author: INTC
Date: 1/20/2003 6:09:01 PM
Type: Highlight
    ACCEPT - DONE
    5.7.9 Impedance specifications
    Table 39 - Impedance requirements footnote f:
    The text uses an upper-case greek letter "gamma" that normally
    represents a complex number. To represent the "magnitude"
    of the reflection coefficient, use the lower-case greek letter "rho".

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/20/2003 5:32:21 PM
Type: Highlight
    ACCEPT - DONE (changed satisfies to is given by)
    5.7.11 Transmitter characteristics, fourth paragraph
    In the last sentence replace "...satisfies the following equation." with "...shall satisfy the following equation."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    5.7.11 Transmitter characteristics
    Replace the equation after the fourth paragraph with:
    | S21 | = -{20 log10 (e)} {[6,5 x 10^-6 (f^0,5)] + [2,0 x 10^-10 (f)] + [3,3 x 10^-20 (f^2)]} dB

Sequence number: 3
Author: MXO Mark Evans
Date: 1/20/2003 5:37:05 PM
Type: Note
    ACCEPT - DONE (per phy WG, Add text at the end of the last sentence in the paragraph so that the sentence reads: "A
    compliance interconnect is any physical interconnect with equal or greater loss at frequencies from 150 MHz to 3,0 GHz and that
    also meets the ISI loss requirements shown in figures 42 and 43.")
    5.7.11 Transmitter characteristics, fifth paragraph
    Add text at the end of the last sentence in the paragraph so that the sentence reads: "A compliance interconnect is any physical
    interconnect with equal or greater loss at all frequencies than that required by the TCTF and that also meets the ISI loss
    requirements shown in figures 42 and 43."

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    5.7.10 Electrical TxRx connections, first paragraph
    Change "media" to "medium" (AN electrically conductive MEDIUM).

Sequence number: 5
Author: IBM
Date: 1/20/2003 5:31:05 PM
Type: Highlight
    ACCEPT - DONE
    5.7.11 Transmitter characteristics
    global
    The term << A. C. >> needs to be changed to <<A.C.>> in all cases.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    5.7.11 Transmitter characteristics
    global
    The term << D. C. >> needs to be changed to <<D.C.>> in all cases.

Sequence number: 7
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Highlight
5.7.11 Transmitter characteristics
global
There should be no << etc. >> at the end of an e.g. list. The ect is implied in all e.g. lists and is therefore not needed.

Sequence number: 8
Author: IBM
Date: 1/20/2003 5:35:34 PM
Type: Highlight
ACCEPT - DONE (f is the signal frequency in hertz.)
5.7.11 Transmitter characteristics
In the equation for S21 it in not clear what << f >> is. There needs to be a << Where: >> after the equation that describes << f >>.

Sequence number: 9
Author: IBM
Date: 1/20/2003 5:38:27 PM
Type: Highlight
REJECT (per phy WG, "a" intentionally left out as inclusion of it implies a single measurement. Multiple measurements)
5.7.11 Transmitter characteristics
The statement << determined by measurement made >> seems to be missing a word. I think it should be << determined by a measurement made >>.

Sequence number: 10
Author: INTC
Date: 1/20/2003 5:38:34 PM
Type: Note
REJECT (per phy WG)
5.7.11 Transmitter characteristics
Clarify whether both cases must pass, or whether one or the
other is sufficient.

Sequence number: 11
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
14.0 P82, 5.7.11, 3rd para - Is "specification of the external, initiator,
expander .....device transmitter". S/B "specification of the initiator,
expander .....device transmitter". What is an external device transmitter?

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Sequence number: 1
Author: PostLB
Date: 1/14/2003 4:03:10 PM
Type: Highlight
5.7.12 Receiver characteristics
10 -12 remove space

Page: 86

Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/24/2003 12:01:04 PM
Type: Highlight
ACCEPT - DONE (globally)
6.2.1 Encoding overview
Global
Replace "10 bit" with "10-bit" whenever this phrase is used as an adjective to modify characters or bytes.
This comment also applies to the occurrences of "8 bit", which should be changed to "8-bit".

Sequence number: 2

Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight

    6.2 Encoding (8b10b), 6.2.1 Encoding overview, first paragraph
    In the first sentence, change "10 bit" to "10-bit". There are four additional occurrences of different values in this clause to change. There are no other occurrences of this in the draft.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight

    6.2 Encoding (8b10b), 6.2.1 Encoding overview, second paragraph
    Change "four byte" to "four-byte".

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight

    6.2 Encoding (8b10b), 6.2.1 Encoding overview, third paragraph after Table 40 - Special character usage
    Change "10 bit" to "10-bit".

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight

    6.2 Encoding (8b10b), 6.2.1 Encoding overview, third paragraph after Table 40 - Special character usage
    Change "8 bit" to "8-bit".

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight

    6.2 Encoding (8b10b), 6.2.1 Encoding overview, third paragraph after Table 40 - Special character usage
    Change "10 bit" to "10-bit".

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight

    6.2 Encoding (8b10b), 6.2.1 Encoding overview, third paragraph
    The term "disparity" is introduced without definition. Either add definitions for the various forms of "disparity", or reference 6.3.3 Valid and invalid transmission characters.

Sequence number: 8
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Strikeout

    6.2.2 8b10b coding introduction, second paragraph
    In the second sentence, delete the word "greatly".

Sequence number: 9
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Strikeout

    6.2.2 8b10b coding introduction, second paragraph
    In the third sentence, delete the word "easily".

Sequence number: 10
Author: IBM
Date: 1/25/2003 11:23:30 AM
Type: Highlight

    6.2.1 Encoding overview
    Table 40
    The << Usage in SATA >> column should be deleted. As most there could be a footnote stating << For the SATA usage of K28.3 and K28.5 characters see SATA. >>

Sequence number: 11
Author: PostLB
Date: 1/7/2003 1:58:12 PM

Type: Highlight
    6.2.2 8b10b coding introduction
    Change all the "eight"s in this section to "8" since 10 is expressed as "10"
    (also see INTC comment in glossary)

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/24/2003 12:06:10 PM
Type: Highlight
    ACCEPT - DONE (and following sentence too. D vs. K is always used in the Dxx.y format; I don't think this section applies to
    normal data references)
    6.2.3 8b10b encoding notation conventions, fourth paragraph
    Delete the sentence, "The control variable is typically not specified." Item a) in the following bulleted list states what the values of
    the control variable are.

Sequence number: 2
Author: PostLB
Date: 1/11/2003 5:14:32 PM
Type: Highlight
    ACCEPT - DONE
    6.2.3 8b10b encoding conventions
    this specification should be this standard

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Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 11:18:32 AM
Type: Highlight
    ACCEPT - DONE
    6.3.3.1 Definitions
    Change:
    an primitive
    To:
    a primitive

Sequence number: 2
Author: IBM
Date: 1/24/2003 12:15:55 PM
Type: Highlight
    ACCEPT - DONE (deleted parens altogether)
    6.3.2 Transmission order
    The statement << (SOF delimiter) >> is not complete in SAS because we use other delimiters. It should be change to << (e.g.,
    SOF delimiter) >>.

Sequence number: 3
Author: IBM
Date: 1/24/2003 12:15:49 PM
Type: Highlight
    ACCEPT - DONE (deleted parens altogether)
    6.3.2 Transmission order
    The statement << (EOF delimiter) >> is not complete in SAS because we use other delimiters. It should be change to << (e.g.,
    EOF delimiter) >>.

Sequence number: 4
Author: IBM
Date: 1/24/2003 12:10:58 PM
Type: Highlight
    REJECT - this seems like a truly parenthetical expression to me. It's not crucial to the sentence but is pointing out that the
    characters might be the same.

6.3.3.1 Definitions
The statement << two (not necessarily different) transmission >> should be change to << two, not necessarily different, transmission >>.

Sequence number: 5
Author: IBM
Date: 1/24/2003 12:12:08 PM
Type: Highlight
     ACCEPT - DONE
     6.3.3.1 Definitions
     The term << Current RD >> should not be capitalized. Change to << current RD >>.

Sequence number: 6
Author: IBM
Date: 1/24/2003 12:11:40 PM
Type: Highlight
     ACCEPT - DONE
     6.3.3.1 Definitions
     The term << Current RD >> should not be capitalized. Change to << current RD >>.

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Sequence number: 1
Author: IBM
Date: 1/24/2003 12:19:18 PM
Type: Highlight
     ACCEPT - DONE (table 43 or table 44)
     6.3.3.2 Generating transmission characters
     In the statement << the table shall be found >> what table is being referred to? I don't know and this needs to be fixed.

Sequence number: 2
Author: PostLB
Date: 1/24/2003 12:14:23 PM
Type: Highlight
     ACCEPT - DONE
     Table 45 - delayed code violation example
     Change "character" labels to "first character" "second character" and "third character"

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Sequence number: 1
Author: SEG Alvin E Cox
Date: 12/30/2002 1:41:13 PM
Type: Circle
     ACCEPT - DONE
     6.4 Bit order
     Figure 44 — SAS bit transmission logic
     Correct figure so that 16 is horizontal like the rest of the numbers instead of vertical.

Sequence number: 2
Author: IBM
Date: 1/24/2003 12:19:40 PM
Type: Circle
     ACCEPT - DONE
     6.4 Bit order
     Figure 44
     The << 16 >> at the top needs to be fixed.

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Sequence number: 1
Author: ADPT
Date: 1/20/2003 5:40:32 PM
Type: Note
REJECT (per SAS phy WG, Reject. The text is not in error.)
15.0 P94, 6.5 1st para - "signals are low-speed signal patterns detected".
S/B "signals are low-speed envelope patterns detected".

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Sequence number: 1
Author: IBM
Date: 1/8/2003 1:53:56 PM
Type: Highlight
ACCEPT - DONE
6.5 Out of band (OOB) signals
****
The term << UI >> is used throughout this section with a different meaning than in all section up to this point. In this section it is assumed to be a fixed value while in all other sections it assumed to be a value the is related to the data rate of the bus. This inconsistency cannot be allowed. The thing that is called UI in this section needs to be renamed. I like OOBI. Out Of Band Interval. This would then be defined as the G1 UI.

Sequence number: 2
Author: IBM
Date: 1/8/2003 1:56:15 PM
Type: Strikeout
REJECT (now that we're not using the SATA UI(OOB) term, this note serves to relate OOBI to UI(OOB) in SATA.)
Table 46
This statement << UI(OOB) is different than that defined in SATA; SAS has tighter clock tolerance. >> is meaningless in this standard as there are lots of differences between SAS and SATA.

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Sequence number: 1
Author: SEG Alvin E Cox
Date: 1/8/2003 2:03:38 PM
Type: Highlight
ACCEPT - DONE (also added cross reference to first use of transmitter, receiver, and state machine, and changed "SAS phy" to "SP" after this)
6.5 Out of band (OOB) signals
Change "SP" to "SAS phy (SP)", as this is the first occurence.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
6.5 Out of band (OOB) signals, third paragraph after Table 48 - OOB signal receiver requirements
Delete the page break in this paragraph.

Sequence number: 2
Author: SEG houlderg
Date: 12/30/2002 1:42:07 PM
Type: Highlight
ACCEPT - DONE
then
Replace with "than".

Sequence number: 3
Author: SEG Coomesj
Date: 1/8/2003 2:07:27 PM
Type: Highlight
    ACCEPT - DONE
    6.5 Out of band (OOB) signals
    Change:
    proceeding
    To:
    preceding

Sequence number: 4
Author: SEG Alvin E Cox
Date: 1/8/2003 2:07:19 PM
Type: Highlight
    ACCEPT - DONE
    6.5 Out of band (OOB) signals
    This is more clear if the two cases are put in the opposite order and "then" should be "than". Replace the highlighted text with:
    "A receiver shall not detect the same OOB signal again until it has detected lack of transitions for a time greater than the
    proceeding idle time (i.e., a COMINIT negation time for a COMINIT idle time or a COMSAS negation time for a COMSAS idle time)
    or has detected a different OOB signal (e.g., if the idle time changes).

Sequence number: 5
Author: IBM
Date: 1/8/2003 2:08:17 PM
Type: Highlight
    ACCEPT - DONE
    6.5 Out of band (OOB) signals
    The statement << Figure 47 describes SAS OOB signal detection by the SP receiver. >>
    needs a cross-reference to the SP receiver section which 6.7.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    6.5 Out of band (OOB) signals
    Here's another one of those chopped sentences that occur because of the anchor placement.

Sequence number: 7
Author: IBM
Date: 1/8/2003 2:04:40 PM
Type: Note
    Tables
    Global
    Many of the table have spacing between the double line borders and the text that is too close. This needs to be fixed on all tables.

Sequence number: 8
Author: PostLB
Date: 1/8/2003 2:04:14 PM
Type: Highlight
    ACCEPT - DONE
    6.5 OOB signals
    Table 48 OOB signal receiver requirements
    The number 1008 needs a space after the 1 to follow ISO format

Sequence number: 9
Author: ADPT
Date: 1/8/2003 2:09:38 PM
Type: Note
    REJECT (for OOB signal detection, all rates up to the highest speed must be supported)
    16.0 P97, 3rd para - e.g. should read "a SAS reciever shall support its
    current speed and one generation less. A 3.0Gbps reciever shall support
    1.5Gbps, a 6.0Gbps reciever need only support 3.0Gbps. The transmitter and reciever portion of the PHY shall support the same
    rate.

Sequence number: 10
Author: PostLB
Date: 1/8/2003 2:27:11 PM
Type: Highlight

ACCEPT - DONE
6.5 OOB signals
Delete COMINIT Completed as it is not used

Sequence number: 11
Author: PostLB
Date: 1/24/2003 12:46:48 PM
Type: Note
ACCEPT - DONE
Word this in terms of negation time, not "greater than proceeding idle time"
They happen to match now, but that's not necessarily true.

Sequence number: 12
Author: PostLB
Date: 1/24/2003 12:43:47 PM
Type: Note
ACCEPT - DONE (had to split into two tables to fit)
idle time mays should be:
>= 55 ns and < 175 ns
>= 175 ns and < 525 ns (propose to SATA)
>= 525 ns and < 1575 ns (propose to SATA)
idle time shalls should be:
>= 101,3 ns and <= 112 ns
>= 304 ns and <= 336 ns
>= 911,7 ns and <= 1008 ns
negation time shall should be:
> 175 ns
> 525 ns
> 1575 ns

Sequence number: 13
Author: PostLB
Date: 1/24/2003 12:48:43 PM
Type: Highlight
ACCEPT - DONE
6.5 OOB signals
After table 48 OOB signal receiver requirements
"not an error to receive more than six"
should be four, since this is the receiver section

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Sequence number: 1
Author: SEG houlderg
Date: 1/8/2003 2:26:01 PM
Type: Highlight
ACCEPT - DONE (also deleted the references in the SP receiver)
COMINIT Completed
This transition is defined here, but is not used anywhere in the SP state machine (figure 56, page 133). Why?

Sequence number: 2
Author: SEG Alvin E Cox
Date: 1/8/2003 2:09:55 PM
Type: Highlight
ACCEPT - DONE
6.5 Out of band (OOB) signals
Change "SAS phy (SP)" to "SP"

Sequence number: 3
Author: SEG Alvin E Cox
Date: 1/8/2003 2:27:28 PM
Type: Circle
ACCEPT - DONE
6.5 Out of band (OOB) signals
Figure 47 — OOB signal detection
Bracket 6 is o the wrong side of the burst. It should be at the trailing edge instead of the leading edge.

Sequence number: 4
Author: ADPT
Date: 1/8/2003 2:28:41 PM
Type: Note
    ACCEPT - DONE (added receiving but not primitive, since it's a primitive sequence)
    17.0 P98, 6.6.1, last sentence - "After a HARD RESET a device" S/B "After
    reciept of a HARD RESET primitive a device".

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Sequence number: 1
Author: IBM
Date: 1/8/2003 2:29:16 PM
Type: Highlight
    REVIEW PROTOCOL WG
    REJECT (it is most useful in context, which is here.)
    6.6.2 SATA phy reset sequence (informative)
    This entire section should be deleted as it only described SATA functionality that is a duplicate of what is defined in the SATA
    document. If not deleted then it should be moved to a informative annex.

Sequence number: 2
Author: IBM
Date: 1/8/2003 2:55:35 PM
Type: Highlight
    ACCEPT - DONE
    6.6.3 SAS to SATA phy reset sequence
    The statement << in response to a COMINT, >> should be << in response to receiving a COMINIT, >>.

Sequence number: 3
Author: KnowledgeTek
Date: 1/8/2003 2:52:16 PM
Type: Highlight
    ACCEPT - DONE (removed the times altogether. Also reformatted the picture a bit to show locking on the nth rate not the 2nd rate)
    6.6.2.2 SATA speed negotiation sequence (informative)
    Figure 49
    Time reference is incorrect. 533 ns sb 53,3 ns

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/8/2003 2:59:51 PM
Type: Highlight
    ACCEPT - DONE
    6.6.3 SAS to SATA phy reset sequence
    The text (two paragraphs above Figure 50 - SAS to SATA OOB sequence) says that the SAS phy responds with COMRESET.
    However figure 50 shows a COMWAKE at this point.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/24/2003 2:48:18 PM
Type: Highlight
    ACCEPT - DONE (hot-plug timeout is currently in the speed negotiation sequence timing table. It is really related to the phy reset
    sequence, not just the speed negotiation sequence. I think a new phy reset sequence timing table should be created in 6.6.1 that
    includes the hot-plug timeout. Then, this is no longer a forward reference. Tom agrees)
    6.6.4.1 SAS OOB sequence
    Add forward reference in first paragraph: "hot-plug timeout (see table 49)".

Sequence number: 3
Author: MXO Mark Evans
Date: 1/8/2003 3:01:31 PM

Type: Highlight
    ACCEPT - DONE (enters the SATA speed negotiation sequence after COMWAKE)
    6.6.3 SAS to SATA phy reset sequence, sixth paragraph
    In the last sentence delete the word "normal" or describe an abnormal SATA reset sequence.

Sequence number: 4
Author: SEG Alvin E Cox
Date: 1/8/2003 3:00:09 PM
Type: Strikeout
    ACCEPT - DONE
    6.6.3 SAS to SATA phy reset sequence
    This does not have to be a "legacy" device.

Sequence number: 5
Author: IBM
Date: 1/8/2003 3:02:42 PM
Type: Circle
    ACCEPT - DONE
    Figure 50
    The << Time z >> and it's definition are not lined up.

Sequence number: 6
Author: PostLB
Date: 1/24/2003 2:47:51 PM
Type: Highlight
    ACCEPT - DONE (removed sentence. The phy reset section overview says this now)
    6.6.4.1 SAS OOB sequence
    Is hot-plug timeout a shall or a should? (see comment in timing table)

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/24/2003 2:51:35 PM
Type: Highlight
    ACCEPT - DONE (reworded if phrases to the front of each of a) and b))
    6.6.4.1 SAS OOB sequence
    In the first list, shouldn't item a) be: "... has not yet transmitted a COMINIT, followed by a COMSAS; or"

Sequence number: 2
Author: SEG Coomesj
Date: 1/8/2003 5:40:30 PM
Type: Highlight
    ACCEPT - DONE (reworded if phrases to the front of each of a) and b))
    6.6.4.1 SAS OOB sequence
    Change:
    COMSAS,
    To:
    COMINIT;

Sequence number: 3
Author: PostLB
Date: 1/8/2003 5:35:44 PM
Type: Highlight
    ACCEPT - DONE
    6.6.4.1 SAS OOB sequence
    phys should be phy (two times)

Sequence number: 4
Author: PostLB
Date: 1/24/2003 2:52:13 PM
Type: Note
    ACCEPT - DONE
    add a description of replying to a COMSAS directly with COMSAS

Sequence number: 1
Author: SEG wordenj
Date: 1/8/2003 5:42:47 PM
Type: Highlight
    ACCEPT - DONE
    6.6.4.1 SAS OOB sequence
    change <as SAS phy.> to
    "as SAS phy B."

Sequence number: 2
Author: SEG Coomesj
Date: 1/21/2003 12:59:52 PM
Type: Highlight
    ACCEPT - DONE (with arrow from A's COMINIT not B's COMINIT to B's COMSAS)
    6.5 Out of band (OOB) signals Figure 51Scenario 2:
    The figure shows a sequence, COMINIT from B to COMSAS from A to COMSAS from B. By definition, B may send its COMSAS
    after sending and receiveing COMINIT. B may send COMSAS even if it does not receive a COMSAS from A.
    The figure should be changed:
    Remove the arrow from A's COMSAS to B's COMSAS and
    add an arrow form B's COMINIT to B's COMSAS.

Sequence number: 3
Author: SEG Coomesj
Date: 1/9/2003 3:25:10 PM
Type: Highlight
    ACCEPT - DONE (a dfiferent scenario 3 is needed)
    6.5 Out of band (OOB) signals Figure 51Scenario 3:
    This scenario is not very interesting. It is just a flip of senario 2. Delete?

Sequence number: 4
Author: IBM
Date: 1/8/2003 5:42:21 PM
Type: Highlight
    ACCEPT - DONE
    6.6.4.1 SAS OOB sequence
    The statement <<phy A starting the SAS OOB sequence before, after, or at the same time as SAS phy. >> should be << phy A
    starting the SAS OOB sequence before, after, or at the same time as SAS phy B. >>.

Sequence number: 5
Author: PostLB
Date: 1/9/2003 3:27:12 PM
Type: Note
    split this into 3 pictures

Sequence number: 6
Author: PostLB
Date: 1/11/2003 5:13:03 PM
Type: Highlight
    ACCEPT - DONE (removed Scenario 3)
    6.6.4.1 SAS OOB sequence
    Figure 51 - SAS to SAS OOB sequence
    Scenario 3: start should be starts

Sequence number: 1
Author: IBM
Date: 1/8/2003 5:52:15 PM
Type: Strikeout
    REVIEW PROTOCOL WG

REJECT (highlights an important difference)
6.6.4.2 SAS speed negotiation sequence
The statement << like the SATA speed negotiation sequence. >> is not relevant to this standard and should be deleted.

Sequence number: 2
Author: IBM
Date: 1/8/2003 5:52:36 PM
Type: Strikeout
ACCEPT - DONE
6.6.4.2 SAS speed negotiation sequence
The SNLT is defined elsewhere so there is not need for the statement << a subset of the SNTT used by the receiver. >> which is more confusing than helpful. Delete it.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/24/2003 3:46:36 PM
Type: Highlight
ACCEPT - DONE (create a timing table in 6.6.2 for this. SATA unfortunately doesn't refer to this time by name - the 880 is embedded in the state machine description. We don't want to do that.)
6.6.4.2 SAS speed negotiation sequence
Table 49 - SAS speed negotiation sequence timing specs (last row)
What is a SATA speed negotiation parameter doing in a SAS speed negotiation table? Either put this parameter in a different table or name of this table appropriately (e.g., delete "SAS").

Sequence number: 2
Author: SEG Coomesj
Date: 1/24/2003 3:48:26 PM
Type: Highlight
ACCEPT - TODO (this is really a minimum not a maximum; should it be absolute or based on UI(OOB)?)
SATA uses both 440 and 880 for this value. Question sent to Knut about which is correct. Might call it "Await ALIGN Timeout".
6.6.4.2 SAS speed negotiation sequence, Table 49 — SAS speed. .
The value of ALIGN detect timeout maximum needs a tolerance. A minimum value is also required. The current requirement would allow a phy to not wait.

Sequence number: 3
Author: SEG Coomesj
Date: 1/8/2003 1:57:08 PM
Type: Highlight
ACCEPT - DONE (deleted note a)
6.6.4.2 SAS speed negotiation sequence, Table 49 — SAS speed. .
Note "a" is not referenced in the table.

Sequence number: 4
Author: IBM
Date: 1/24/2003 2:46:14 PM
Type: Highlight
ACCEPT - DONE (who cares if an initiator takes longer? An attached device unless it tries. There should be a requirement on expanders. We might place a requirement on targets. Even then, the initiator's own polls will find a hot-plugged target quickly as it deserves. This value is here just to indicate that some attempt should be made again if nothing is detected.
Changing to:
initiator max - no (initiator can wait as long as it wants)
initiator min - yes (for EMI)
expander max - yes (so initiators are assured of seeing targets quickly)
expander min - yes (for EMI)
target max - no
target min - yes (for EMI)
drop nominal time
only applies to enabled phys (see SMP PHY CONTROL)
(original comment:)
Table 49
The hot-plug time out should be a requirement not a option. The <<should>> should be changed to a << shall >>

Sequence number: 5
Author: IBM

Date: 1/8/2003 1:57:22 PM
Type: Strikeout
    ACCEPT - DONE (deleted note a as it is not used)
    Table 49
    This statement << UI(OOB) is different than that defined in SATA; SAS has tighter clock tolerance. >> is meaningless in this
    standard as there are lots of differences between SAS and SATA.

Sequence number: 6
Author: IBM
Date: 1/14/2003 8:52:33 PM
Type: Note
    REJECT (the WG repeatedly requested overall text rules here so the state machine doesn't have to be thought-simulated to figure
    out the resulting rules. That's what this section does.)
    6.6.4.2 SAS speed negotiation sequence
    ****
    Much of the information in this section after table 49 is an exact duplicate of the information provided in the SAS speed negotiation
    states sections. It is not a good idea to have the same thing defined in two places in the standard. I suggest that the duplicate
    information in this section be placed in annex B.

Sequence number: 7
Author: INTC
Date: 1/9/2003 4:08:54 PM
Type: Note
    ACCEPT - DONE (deleted)
    6.6.4.2
    table 49 Footnoote
    The reference doesn't appear to be applied to anything.
    In any case the comment doesn't belong with this table as
    it is defined as the SAS speed negotiation.
    Correct ref or delete.

Sequence number: 8
Author: ADPT
Date: 1/9/2003 3:33:55 PM
Type: Note
    REJECT (but will remove the whole sentence)
    18.0 P104, Table 49 -RCD - comments- reads "Used by transmitter and
    receiver to calculate the speed negotiation window time." S/B "Used by transmitter and reciever to indicate the speed negotiation
    window is beginning."

Sequence number: 9
Author: ADPT
Date: 1/24/2003 3:07:10 PM
Type: Note
    REJECT (but the receiver times are being deleted)
    19.0 P104, Table 49 3rd row - "(SNTT for reciever)" S/B "(SNTR for reciever)"

Sequence number: 10
Author: ADPT
Date: 1/24/2003 3:07:04 PM
Type: Note
    REJECT (but the receiver times are being deleted)
    20.0 P104, Table 49 6th row - "(SNLT for reciever)" S/B "(SNLR for reciever)"

Sequence number: 11
Author: PostLB
Date: 1/24/2003 3:06:49 PM
Type: Note
    ACCEPT - DONE (removed receiver times altogether)
    Table 49 - SAS speed negotiation sequence timing specifications
    Some of these receiver times might not be used in the standard. Or it's not clearly differentiated when the transmit times apply and
    when the receive times apply.

Sequence number: 12
Author: PostLB
Date: 1/24/2003 3:06:36 PM
Type: Highlight
    ACCEPT - DONE
    6.6.4.2 SAS speed neg sequence

Table 49 - SAS speed neg
Rate change delay should be "Rate change delay time (RCDT)" to match the other names

Sequence number: 13
Author: PostLB
Date: 1/9/2003 3:46:16 PM
Type: Highlight
    ACCEPT - DONE
    6.6.4.2 SAS speed neg
    Table 49 - SAS speed neg
    Replace speed negotiation window time with a version in units of OOBI.

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Sequence number: 1
Author: IBM
Date: 1/8/2003 6:10:42 PM
Type: Highlight
    ACCEPT - DONE (it's not an "in other words" sentence. However, an ordered list works much better. Also tossed the "valid" and "invalid" wording. Also changed annex B examples like this.)
    6.6.4.2 SAS speed negotiation sequence
    The statement << (supported by phy A but not by phy B, so invalid), >> should be << (i.e., supported by phy A but not by phy B, so invalid), >>

Sequence number: 2
Author: IBM
Date: 1/8/2003 6:12:32 PM
Type: Highlight
    ACCEPT - DONE (it's not an "in other words" sentence. However, an ordered list works much better. Also tossed the "valid" and "invalid" wording. Also changed annex B examples like this.)
    6.6.4.2 SAS speed negotiation sequence
    The statement << (supported by phy A but not by phy B, so invalid), >> should be << (i.e., supported by phy A but not by phy B, so invalid), >>

Sequence number: 3
Author: ADPT
Date: 1/9/2003 4:11:03 PM
Type: Note
    ACCEPT - DONE (just remove "receiving")
    21.0 P105, 1st sentence- "If the recieved phy supports the physical link
    rate...." S/B "If the phy supports the recieved physical link rate...."

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Sequence number: 1
Author: SEG houlderg
Date: 1/8/2003 6:20:24 PM
Type: Highlight
    REJECT (Figure 53 shows a G2-only phy B talking to a G1, G2, G3 phy A)
    The specification is not clear and does not have an example (either here or in Annex B) of a Phy that may only supports G2, but not G1. Thus, the speed negotiation window may be as following: G2 rate, G3 rate, then G2 rate (negotiated rate). Or is this protocol allowed?

Sequence number: 2
Author: SEG Alvin E Cox
Date: 1/8/2003 6:22:01 PM
Type: Highlight
    REFER PHYSICAL WG (made the change, but perhaps these two sentences need better wording overall)
    6.6.5 Phy reset sequence after device is attached
    GEnder is wrong. Change "into a receptacle." to "onto a plug."

Sequence number: 3

Author: SEG Alvin E Cox
Date: 1/9/2003 4:38:19 PM
Type: Highlight
   REJECT (a phy does not ignore incoming COMINITs while waiting through its hot-plug timeout)
   6.6.5 Phy reset sequence after device is attached
   This explanation needs additional detail to be clear. Make the following changes to the text by adding additional information and
   delting "after the attachment".
   In this example, SAS phy B is attached to SAS phy A some time before SAS phy B's second hot-plug timeout occurs, but while
   SAS phy A is still in a hot-plug timeout and unable to detect a valid COMINIT from SAS phy B. SAS phy A completes its hot-plug
   timeout and transmits COMINIT. SAS phy B's OOB detection circuitry detects a COMINIT, ...

Sequence number: 4
Author: IBM
Date: 1/24/2003 3:50:22 PM
Type: Highlight
   REJECT (only required for expander phys)
   6.6.5 Phy reset sequence after device is attached
   The transmission of COMINIT should be a requirement not a option. The <<should>> should be changed to a << shall >>

Sequence number: 5
Author: ADPT
Date: 1/9/2003 4:26:07 PM
Type: Note
   ACCEPT - DONE (added "sequence" here and in prev paragraph)
   22.0 P106, 1st sentence - "...SAS phy fails speed negotiation, it
   shall....." S/B "...SAS phy fails speed negotiation at all supported rates,
   it shall....."

Sequence number: 6
Author: PostLB
Date: 1/21/2003 4:10:41 PM
Type: Highlight
   ACCEPT - DONE
   6.6.4.2 SAS speed negotiation sequence
   Figure 54 - SAS speed negotiation
   Bx should be Rx

Sequence number: 7
Author: PostLB
Date: 1/24/2003 4:03:16 PM
Type: Highlight
   ACCEPT - DONE
   6.6.5 Phy reset sequence after device is attached
   There is no such thing as a COMINIT sequence. Change to COMINIT signal. Global change for COMxxx sequence.

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Sequence number: 1
Author: SEG houlderg
Date: 1/8/2003 2:26:22 PM
Type: Highlight
   ACCEPT - DONE
   COMINIT Completed;
   This parameter is not used anywhere in SP state machine.

Sequence number: 2
Author: SEG wordenj
Date: 1/24/2003 4:36:31 PM
Type: Note
   ACCEPT - DONE (Put in separate lines for Phy A Rx and Phy B Rx. There are already words above the figure describing it.).
)
   6.6.5 Phy reset sequence after device is attached
   Figure 55 — Hot-plug and the phy reset sequence
   This figure is not self explainitory. It needs some words to explain what you are trying to portray.

Sequence number: 3

Author: SEG Alvin E Cox
Date: 1/24/2003 4:37:02 PM
Type: Highlight
ACCEPT - DONE (the labels are broken; "Rx" on the left is not true until time y... I don't think it matters if A is attached to B or B is attached to A. Tx and Rx lines separated.)
6.6.5 Phy reset sequence after device is attached
Figure 55 — Hot-plug and the phy reset sequence
Change "SAS phy A attached to SAS phy B" to "SAS phy B attached to SAS phy A. Phy A and Phy B Rx signals are not present until this time."

Sequence number: 4
Author: SEG Alvin E Cox
Date: 1/24/2003 4:42:17 PM
Type: Circle
REVIEW PROTOCOL WG
ACCEPT - DONE
6.6.5 Phy reset sequence after device is attached
Figure 55 — Hot-plug and the phy reset sequence
The "Time y" arrowhead should be on the other side of the squiggle to have the event illustrated later in the timing sequence.

Sequence number: 5
Author: PostLB
Date: 1/9/2003 3:28:24 PM
Type: Highlight
"bypassing the normal
requirement that COMINIT be both transmitted and received."
with the changes earlier, this is not a violation of the "Normal"requirement anymore

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Sequence number: 1
Author: IBM
Date: 1/24/2003 6:18:28 PM
Type: Highlight
REJECT (SATA used Await. English rules would replace Await with WaitFor, not just Wait)
6.8 SAS phy (SP) state machine (global)
All the states that have << Await >> in the title should be change to << Wait >>.

Sequence number: 2
Author: IBM
Date: 1/8/2003 6:30:19 PM
Type: Strikeout
REJECT (allow that rule to be violated in introductions... note this one even has an e.g. about the source)
6.8.1 Overview
The statement << from the management layer >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 3
Author: INTC
Date: 1/8/2003 6:38:57 PM
Type: Highlight
ACCEPT - DONE (it's really OOB_COMINIT)
6.8.1 Overview
"SP0:SAS_PowerOn state" is not defined anywhere within
the document. Define this state.

Sequence number: 4
Author: INTC
Date: 1/17/2003 2:21:49 PM
Type: Note
REJECT (but added cross ref after SP_DWS reference)
6.8.1 Overview
Define 'DWS' in clause 3

Sequence number: 5
Author: KnowledgeTek

Date: 1/8/2003 6:29:33 PM
Type: Highlight
ACCEPT - DONE (should be SP1:OOB_COMINIT)
6.8.1 Overview
A reference is made to "SP0:SAS_PowerOn state" in the thrid paragraph. This state does not appear in the state figures nor is there a state description of function or how it transitions to other states. Nor is it listed in the preceeding paragraph of SP states.

Sequence number: 6
Author: PostLB
Date: 1/8/2003 6:38:16 PM
Type: Highlight
ACCEPT - DONE
6.8 SP state machine
Add a cross reference to the first reference to SP_DWS state machine

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/10/2003 5:02:47 PM
Type: Highlight
ACCEPT - DONE
6.8.2 OOB sequence states
Figure 56 - SAS phy (SP) state machine - OOB sequence states
The "COMSAS Transmitted" parameter into the SP3:OOB_AwaitCOMINIT_Sent should be "COMINIT Transmitted".

Sequence number: 2
Author: MXO Mark Evans
Date: 1/9/2003 6:02:45 PM
Type: Note
ACCEPT - DONE
6.8.2 OOB sequence states, Figure 56 - SAS phy (SP) state machine - OOB sequence states
Add a "Broadcast Event Notify" confirmation from SP1:OOB_COMINIT (this has the argument Phy Not Ready).

Sequence number: 3
Author: MXO Mark Evans
Date: 1/10/2003 5:03:28 PM
Type: Highlight
REVIEW PROTOCOL WG
ACCEPT - DONE (moved SP1 to SP0, SP2 to SP1, created new SP2 to serve as a return path which honors COMINIT but not COMSAS)
6.8.2 OOB sequence states, Figure 56 - SAS phy (SP) state machine - OOB sequence states
The COMSAS detect timeout transition from SP7:OOB_AwaitCOMSAS cannot go to SP2:OOB_AwaitCOMX because this would cause another COMSAS to be transmitted. Add another state to which this transition goes where the timer resides. Then, after the timer expires, a hot-plug timeout would cause a transition to SP1:OOB_COMINIT.

Sequence number: 4
Author: SEG houlderg
Date: 1/10/2003 5:05:25 PM
Type: Highlight
ACCEPT - DONE
Figure 56 SP OOB state machine
COMSAS Should be "COMINIT".

Sequence number: 5
Author: IBM
Date: 1/10/2003 2:36:41 PM
Type: Highlight
ACCEPT - DONE
6.8.2.1.1 State description
The statement << This state shall send a Transmit COMINIT parameter to the SP transmitter and wait for COMINIT to be transmitted and/or received.>> should be << Upon entry into this state, this state shall:
a) request a COMINIT be transmitted by sending a Transmit COMINIT parameter to the SP transmitter then wait for the receipt of a COMINIT Transmitted parameter and/or a COMINIT Detected parameter; and
b) send a PhyNotReady parameter to the SP_DWS state machine. >>

Sequence number: 6
Author: IBM
Date: 1/10/2003 11:20:56 AM
Type: Highlight
ACCEPT - DONE (it doesn't wait at all; changed "and does not receive" to "and has not received" so it doesn't imply waiting might occur)
6.8.2.1 SP1:OOB_COMINIT state
There is a problem with this state in that there is not indication as to the timing relationship between the receipt of COMINIT Transmitted and COMINIT Detected. This does not allow one to pick out which one of the three transitions to make. For example a COMINIT transmitted is received so how long does the state wait before determining that no COMINIT detected is going to occur? Or the reverse? This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
Figure 56
The statement << (to all states in the SP state machine causing transition to SP1:OOB_COMMINIT) >> should be changed to << causes all states to transition to SP1:OOB_COMMINIT) >>

Sequence number: 8
Author: IBM
Date: 1/24/2003 6:19:59 PM
Type: Circle
REJECT (per Jan WG)
Figure 56
The labels on the state transitions should be deleted and they don't necessarily give the complete reason for the transition.

Sequence number: 9
Author: INTC
Date: 1/9/2003 6:03:44 PM
Type: Highlight
REJECT (we're not trying to list all entry actions like timer controls...just signals to other state machines that may be generated)
6.8.2 OOB sequence states
Fig 56
Entry action is not listed as described in 6.8.2.2.1 on page 110.

Sequence number: 10
Author: INTC
Date: 1/8/2003 6:41:58 PM
Type: Highlight
REJECT (The state description below says "send this and wait..)
6.8.2 OOB sequence states
Fig 56
"Transmit COMSAS"
When should this action be executed? Clarify.

Sequence number: 11
Author: INTC
Date: 1/9/2003 6:04:08 PM
Type: Highlight
REJECT (we're not trying to list all entry actions like timer controls...just signals to other state machines that may be generated)
6.8.2 OOB sequence states
Fig 56
SP7:OOB_AwaitCOMSAS entry action is not listed as
described in 6.8.2.7.1 on page 111

Sequence number: 12
Author: INTC
Date: 1/9/2003 4:51:08 PM
Type: Highlight
REJECT (state description describes when... this just shows the signals that might come out of the states)
6.8.2 OOB sequence states
Fig 56
The "Broadcast Event Notify" transition looks like an
unconditional jump in the state diagram, but it
actually only transit if all the conditions list
in 6.8.2.7.2 are true.
It is very misleading as shown in the state diagram.

Sequence number: 13
Author: INTC
Date: 1/9/2003 6:06:01 PM
Type: Highlight
REJECT (we used to have Verilog style equations and output definitions, and the complaint was they were too informative. Now we have minimal text descriptions and get complaints from some that they're still too much and others that they're not enough.)
6.8.2 OOB sequence states
Fig 56 SAS phy (SP) state machine - OOB sequence states
With all the missing transition conditions and entry action
conditions, it makes this state diagram practically useless.
Add complete details or remove so as not to cause confusion.

Sequence number: 14
Author: INTC
Date: 1/8/2003 6:41:10 PM
Type: Highlight
REJECT (yes. The state description below says "send this and wait. That means send it one time upon entry.)
6.8.2 OOB sequence states
Fig 56
"Transmit COMINIT"
When should this action be executed? When entering SP1?

Sequence number: 15
Author: INTC
Date: 1/9/2003 4:50:36 PM
Type: Highlight
REJECT (state description describes when these are sent)
6.8.2 OOB sequence states
Fig 56
"PhyNotReady"
When should this action be executed?
When entering SP1?

Sequence number: 16
Author: FUJ
Date: 1/9/2003 4:48:12 PM
Type: Note
ACCEPT - DONE (removed "Phy layer" and changed "phy" to "phy layer")
FUJITSU-3
PDF page : 109
Section : 6.8.2 OOB sequence status
Figure/Table : Figure 56
Paragraph/sentense/row/colum : line 3
Comment : "Phy layer SAS phy (SP) state machine" / "SAS phy (SP) state
machine" unification of the term as "SAS phy layer (SP) state
machine"

Sequence number: 17
Author: SEG houlderg
Date: 1/10/2003 5:06:35 PM
Type: Note
REJECT (we don't show signals to trigger the timers... the state machine just somehow knows how to run them)
Figure 56 - SP OOB   (split from another comment)
 SP3:OOB_AwaitCOMINIT_Sent state: There is inconsistency between states: in SP1:OOB_COMINIT state, there is an output "Transmit COMINIT" indicating to the SP transmitter to start transmit COMINIT and wait for COMINIT to be transmitted and/or received. However, this is no output parameter in the SP7:OOB_AwaitCOMSAS state to start the COMSAS timer, or an output parameter in the SP2:OOB_AwaitCOMX to start the hotplug timer.

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/8/2003 6:47:17 PM
Type: Highlight
ACCEPT - DONE (global)

6.8.2.1 SP1:OOB_COMINIT state, 6.8.2.1.1 State description
Change "PhyNotReady" to "Phy Not Ready".

Sequence number: 2
Author: MXO Mark Evans
Date: 1/9/2003 6:02:33 PM
Type: Note
    ACCEPT - DONE (as "In expander devices,... Notify (Phy Not Ready) ...")
    6.8.2.1 SP1:OOB_COMINIT state, 6.8.2.1.1 State description
    Add "This state shall send a Broadcast Event Notify confirmation to the expander function."

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.2.3.1 State description
    The statement << This state is entered when a COMINIT sequence has been detected but the COMINIT initiated in
    SP1:OOB_COMINIT has not been completely transmitted. >> should be deleted as we do not describe entry conditions only exit
    conditions.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.2.4.1 State description
    The statement << This state is reached when a COMINIT has been transmitted and detected.>> should be deleted as we do not
    describe entry conditions only exit conditions.

Sequence number: 5
Author: IBM
Date: 1/10/2003 2:42:27 PM
Type: Highlight
    ACCEPT - DONE
    6.8.2.4.1 State description
    The statement << This state shall send a Transmit COMSAS parameter to the SP transmitter and wait for COMSAS to be
    transmitted and/or detected..>> should be << Upon entry into this state, this state shall request a COMSAS be transmitted by
    sending a Transmit COMSAS parameter to the SP transmitter then wait for the receipt of a COMSAS Transmitted parameter
    and/or a COMSAS Detected parameter. >>

Sequence number: 6
Author: IBM
Date: 1/10/2003 5:09:58 PM
Type: Highlight
    ACCEPT - DONE (changed "does not receive" to "has not received" to avoid any implication of waiting)
    6.8.2.4 SP4:OOB_COMSAS state
    There is a problem with this state in that there is not indication as to the timing relationship between the receipt of COMSAS
    Transmitted and COMSAS Detected. This does not allow one to pick out which one of the three transitions to make. For example
    a COMSAS Detected is received so how long does the state wait before determining that no COMSAS Transmitted is going to
    occur? The reverse? This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/10/2003 2:37:38 PM
Type: Highlight
    ACCEPT - DONE
    6.8.2.3.1 State description
    The statement << This state waits for COMINIT to be transmitted. >> should be << This state waits for receipt of a COMINIT
    Transmitted parameter. >>

Sequence number: 8
Author: INTC
Date: 1/9/2003 6:09:03 PM
Type: Highlight
    REJECT (when we had full equations this was specified. The text describes how multiple arcs are chosen when more than one is
    possible.)
    6.8.2.1.2 Transition SP1:OOB_COMINIT to SP2:OOB_AwaitCOMX
    "a COMINIT Transmitted parameter and does not receive
    a COMINIT Detected parameter."
    In Fig 56 on page 109, the transition condition

only listed "COMINIT Transmitted"parameter"

Sequence number: 9
Author: INTC
Date: 1/9/2003 6:09:11 PM
Type: Highlight
REJECT (when we had full equations this was specified. The text describes how multiple arcs are chosen when more than one is possible.)
6.8.2.1.3
"a COMINIT Detected parameter and does not receive a
COMINIT Transmitted parameter"
In Fig 56 on page 109, the transition condition only
listed " COMINIT Detected"

Sequence number: 10
Author: INTC
Date: 1/10/2003 2:38:28 PM
Type: Highlight
ACCEPT - DONE
6.8.2.2.1 State description
Ambiguous: COMINIT and COMSAS could be read as modifiers for 'timeout'.
Add 'detect' after each.

Sequence number: 11
Author: INTC
Date: 1/17/2003 2:18:32 PM
Type: Highlight
REJECT (figures don't show rules)
6.8.2.3.1 State description
"but the COMINIT initiated in
SP1:OOB_COMINIT has not been completely transmitted."
This condition is not shown in state diagram Fig 56 on page 109.

Sequence number: 12
Author: INTC
Date: 1/10/2003 2:43:04 PM
Type: Highlight
REJECT (when we had full equations this was specified. The text describes how multiple arcs are chosen when more than one is possible. However, did change "does not " to "has not".)
6.8.2.4.2 Transition SP4:OOB_COMSAS to SP5:OOB_AwaitCOMSAS_Sent
"and does not receive a COMSAS Transmitted parameter."
This condition is not listed in the transition in Fig. 56 on 109,
which may cause race condition in SM.

Sequence number: 13
Author: KnowledgeTek
Date: 1/22/2003 10:19:41 AM
Type: Highlight
REJECT (yes that is the intent for the first two; once a Transmit COMxxx is sent, COMxxx Transmitted ought to show up. The last one is waiting on COMSAS Completed after COMSAS Detected. If this hangs forever, it means the bus is hung sending ALIGN bursts. I think reset as the only out is acceptable.)
6.8.2.3 SP3:OOB_AwaitCOMINIT_Sent state
6.8.2.5 SP5:OOB_AwaitCOMSAS_Sent state
6.8.2.6 SP6:OOB_AwaitNoCOMSAS state
The above states have only one way out. If that event doesn't occur it appears the only way out is reset. Is that the intent???

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/10/2003 10:42:21 AM
Type: Highlight
ACCEPT - DONE
6.8.2.7.2 Transition SP7:OOB_AwaitCOMSAS to SP1:OOB_COMINIT
List item a) is missing the verb "is". It should read: "a) this device is in..."

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.2.6.1 State description
The statement << This state is entered when a COMSAS sequence has been both transmitted and detected. >> should be deleted as we do not describe entry conditions only exit conditions.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.2.7.1 State description
The statement << time out timer shall be initialized and enabled. >> should be << time out timer shall be set to it's initial value and enabled. >>

Sequence number: 4
Author: IBM
Date: 1/24/2003 6:24:52 PM
Type: Highlight
ACCEPT - DONE (moved the NOTE into an i.e.; split item d) into two)
6.8.2.7.2 Transition SP7:OOB_AwaitCOMSAS to SP1:OOB_COMINIT
The statements << If all of these conditions are true: ... this state shall send a Broadcast Event Notify (SATA Spinup Hold) confirmation to the expander function and perform this transition.
NOTE 11 In other words, SMP PHY CONTROL-based requests to reset the phy bypass spinup hold; all other resets honor it. >> should be changed to
<<This state shall send a Broadcast Event Notify (SATA Spinup Hold) confirmation to the expander function if: .... >> This deletes the note.

Sequence number: 5
Author: INTC
Date: 1/10/2003 2:43:11 PM
Type: Highlight
REJECT (when we had full equations this was specified. The text describes how multiple arcs are chosen when more than one is possible. However, did change "does not " to "has not")
6.8.2.4.4
"and does not receive a COMSAS Detected parameter."
This transition condition is not listed in Fig 56 on page 109

Sequence number: 6
Author: INTC
Date: 1/10/2003 2:26:58 PM
Type: Highlight
REJECT (this is the only one like this, and this sentence provides that warning)
6.8.2.6.2 (Page 111)
"The COMSAS Completed parameter may be received before
this state is entered."
How long does this COMSAS Completed
or other completed/transmitted/detected) signal stay valid
after the event?
Since this is the only place in this state machine description
where receiving "before" the state is OK. Does it mean that all
other detection/transmitted/etc. paramters are required to be valid
only after the corresponding state has been entered?

Sequence number: 7
Author: INTC
Date: 1/24/2003 6:25:45 PM
Type: Highlight
ACCEPT - DONE (reworded as "receipt of a COMSAS Detected parameter")
6.8.2.7.1 State description
In Fig 56 on page 109, it states "COMSAS detected",
is "received" the same as "detected?

Sequence number: 8
Author: PostLB
Date: 1/10/2003 5:11:59 PM
Type: Highlight
ACCEPT - DONE

6.8.2.6.1 State description (SP6)
Reword "waits for COMSAS to be completely received." like the others

Page: 112

Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/10/2003 5:13:35 PM
Type: Highlight
ACCEPT - DONE (changed to the new SP2 state)
6.8.2.7.5 Transition SP7:OOB_AwaitCOMSAS to SAS_AwaitNoCOMX
Where does this transition really go? The subclause title is missing the state descriptor. Figure 56 shows this transition going to
SP2:OOB_AwaitCOMx.

Sequence number: 2
Author: MXO Mark Evans
Date: 1/10/2003 5:13:12 PM
Type: Highlight
ACCEPT - DONE (changed to the new SP2 state)
6.8.2.7.5 Transition SP7:OOB_AwaitCOMSAS to SAS_AwaitNoCOMX
Based on a previous comment, this transition should be deleted (also, there is no SAS_AwaitNoCOMX state).

Sequence number: 3
Author: INTC
Date: 1/24/2003 6:27:06 PM
Type: Highlight
ACCEPT - DONE (now transitions to a new state based on other comments)
6.8.2.7.5 Transition SP7:OOB_AwaitCOMSAS to SAS_AwaitNoCOMX
Change "SAS_AwaitNoCOMX" to "SP2:SAS_AwaitCOMX"

Page: 113

Sequence number: 1
Author: SEG houlderg
Date: 1/11/2003 4:02:43 PM
Type: Note
REFER PROTOCOL WG (how should be specify sending "idle time" - a Transmit Idle parameter, or just say the SP transmitter
does that when not instructed to do anything else?)
The descriptions for SP8:SAS_Start and SP9:SAS_RateNotSupported indicated that the idle shall be transmitted during these
states. Some of the other state are self-explanatory. However, clearly defining whether idle should be transmitted for the
SP14:SAS_Fail or SP13:SAS_Pass would be helpful.

Sequence number: 2
Author: SEG wordenj
Date: 1/10/2003 5:16:23 PM
Type: Highlight
ACCEPT - DONE
6.8.3 SAS speed negotiation states
Figure 57 — SAS phy (SP) state machine - SAS speed negotiation states
change <Await_SNW> to
"AwaitSNW"
(will then be consistent with text)

Sequence number: 3
Author: IBM
Date: 1/10/2003 5:15:33 PM
Type: Highlight
ACCEPT - DONE
Figure 57
The term << window >> in 2 places should be << rate >>.

Sequence number: 4

Author: IBM
Date: 1/10/2003 5:15:01 PM
Type: Highlight
    ACCEPT - DONE (made a little shorter)
    Figure 57
    The << ALIGN1 Detected >> going into SP11 looks like it is coming from SP10.

Sequence number: 5
Author: IBM
Date: 1/24/2003 6:30:17 PM
Type: Circle
    REJECT (per Jan WG)
    Figure 57
    The labels on the state transitions should be deleted and they don't necessarily give the complete reason for the transition.

Sequence number: 6
Author: INTC
Date: 1/11/2003 3:57:57 PM
Type: Highlight
    REJECT (diagram just shows what signals come from what states, not when)
    Figure 57 (Page 113)
      When should "Transmit ALIGN1" should be sent?
      The text in 6.8.3.4.1 says "repeatedly send", but this is not
    reflected in this state diagram.

Sequence number: 7
Author: INTC
Date: 1/17/2003 2:18:03 PM
Type: Highlight
    ACCEPT - TODO (something that means "Failure with no recourse")
    6.8.3 SAS speed negotiation states
    Figure 57
    "No more rates" is not even close to what is
    described in 6.8.3.7.2 on page 116. Clarify.

Sequence number: 8
Author: SEG houlderg
Date: 1/24/2003 6:29:59 PM
Type: Note
    REJECT (per Jan WG; they were zero time states so didn't really represent hardware)
    Figure 57 - SP SAS state machine (split from another comment)
    Additionally, the states such as fallback state and inc_speed states defined in sas_r02.pdf make the speed negotiation state
    machine a lot more clear, but these states are removed in the current version.

Page: 114

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
    6.8.3 SP state machine
    Implement Editor's Note 1 about the interaction between SP and SP_DWS.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    Editor's Notes
    Global
    Obviously, the four editor's notes need to be resolved and removed.

Sequence number: 3
Author: SEG houlderg
Date: 1/11/2003 4:03:26 PM
Type: Highlight
    (1) SP19:AwiatALIGN should be SP19:SATA_AwiatALIGN [in the editor's note]

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.3.1.1 State description
    The following statement should be deleted as the information stated is already stated elsewhere << This allows time required for a transmitter to switch to either the next higher or next lower supported speed. >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.3.1.1 State description
    The following statement << This state marks the beginning of the SAS speed negotiation process. >> should be << This is the initial state of the SAS speed negotiation >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.3.1.1 State description
    The following statement should be deleted as the same information is duplicated in the last sentence of this section << It is used to transmit idle in between
    SAS speed negotiation windows. >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.3.1.1 State description
    The statement <<... RCD timer shall be initialized and >> should be << ... RCD timer shall be set to it's initial value and enabled..>>.

Sequence number: 8
Author: IBM
Date: 1/10/2003 10:44:47 AM
Type: Highlight
    ACCEPT - DONE
    6.8.3.1.2 Transition SP8:SAS_Start to SP10:SAS_AwaitALIGN
    The statement << speed negotiation window is supported. >> should be << speed negotiation rate is supported. >> It's not the window that's supported or not supported but the link rate for that window.

Sequence number: 9
Author: IBM
Date: 1/10/2003 10:44:53 AM
Type: Highlight
    ACCEPT - DONE
    6.8.3.1.3 Transition SP8:SAS_Start to SP9:SAS_RateNotSupported
    The statement << speed negotiation window is not supported. >> should be << speed negotiation rate is not supported. >> It's not the window that's supported or not supported but the link rate for that window.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    6.8.3.1.1 State description
    This should be an a.b.c list like this:
    Upon entering this state, this state shall:
    a) set the RCD timer to it's initial value;
    b) enable the RCD timer; and
    c) send the Set Rate parameter to the SP transmitter to select the next negotiated rate.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.3.1.1 State description
    The statement << During this state idle shall be transmitted. >> should be changed to << This state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to

the SP transmitter (see 7.3). >>

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.3.2.1 State description
The statement << During this state idle shall be transmitted. >> should be changed to << This state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to
the SP transmitter (see 7.3). >>

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << SNTT timer shall be initialized and enabled. >> should be << SNTT timer shall be set to it's initial value and enabled. >>

Sequence number: 14
Author: IBM
Date: 1/25/2003 4:44:32 PM
Type: Strikeout
ACCEPT - DONE
6.8.3.2.1 State description
This statement adds nothing but confusion and should be deleted << The state machine exits from this
state after the SNTT expires.>>

Sequence number: 15
Author: IBM
Date: 1/10/2003 10:44:05 AM
Type: Highlight
ACCEPT - DONE (after ..expires if...)
6.8.3.1.2 Transition SP8:SAS_Start to SP10:SAS_AwaitALIGN
The statement << occur if the RCD timer expires and the current >> should be << occur after the RCD timer expires if the current >>. The timer will always time out.

Sequence number: 16
Author: IBM
Date: 1/10/2003 10:44:10 AM
Type: Highlight
ACCEPT - DONE (after ..expires if...)
6.8.3.1.3 Transition SP8:SAS_Start to SP9:SAS_RateNotSupported
The statement << occur if the RCD timer expires and the current >> should be << occur after the RCD timer expires if the current >>. The timer will always time out.

Sequence number: 17
Author: IBM
Date: 1/10/2003 10:45:58 AM
Type: Highlight
ACCEPT - DONE
6.8.3.2.2 Transition SP9:SAS_RateNotSupported to SP14:SAS_Fail
The statement << if the >> should be <<after the >> as the timer will always time out.

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
6.8.3.3.1 State description
The following should be made into an a,b,c list << The state machine shall start transmitting ALIGN (0) primitives at the current rate (G1, G2, G3…).
Upon entering this state, the SNTT timer and SNLT timer shall be initialized and enabled. >> as follows:
<< Upon entering this state, this state shall:
a) request ALIGN (0) be transmitted at the current rate (e.g., G1, G2, G3) by repeatedly sending a Transmit ALIGN0 parameter to the SP transmitter; and
b) the SNTT timer and SNLT timer shall be set to their initial value and enabled. >>.

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM

Type: Highlight
    6.8.3.3.1 State description
    The statement << synchronization occurs before >> should be changed to << synchronization (i.e., ALIGN0 Detected parameter
    or ALIGN1 Detected parameter received) occurs before >>.

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.3.1.1 State description
    The statement << speed negotiation window received as an argument.>> should be changed to
    << SAS Speed Negotiation Window Rate argument. >>

Sequence number: 21
Author: INTC
Date: 1/17/2003 2:15:35 PM
Type: Highlight
    REJECT (See other idle comment)
    6.8.3.1.1 (Page 114)
    "During this state idle shall be transmitted."
    This requirement is not listed in the state diagram
    state SP8 in Fig 57 on page 113

Sequence number: 22
Author: INTC
Date: 1/17/2003 2:15:23 PM
Type: Highlight
    ACCEPT - TODO
    6.8.3.2.1 (Page 114)
    Clarify:
    Is "enabled" the same as "started"?

Sequence number: 23
Author: INTC
Date: 1/17/2003 2:15:14 PM
Type: Highlight
    REJECT (see other idle comment)
    6.8.3.2.1
    "During this state idle shall be transmitted."
    This requirement is not listed in the state diagram state
    SP8 in Fig 57 on page 113

Sequence number: 24
Author: INTC
Date: 1/17/2003 2:14:20 PM
Type: Highlight
    ACCEPT - TODO (have timers start not enable globally)
    6.8.3.3.1 (Page 114)
    Need clarification:
    Is "enabled" the same as "started"?

Sequence number: 25
Author: INTC
Date: 1/25/2003 4:45:02 PM
Type: Highlight
    ACCEPT - DONE (delete whole sentence)
    6.8.3.3.1 (Page 114) State description
    "if synchronization occurs before the SNLT expires."
      Need to clarify what "synchronization" means, I think it is trying
    to say either "ALIGN0 Detected" or "ALIGN1 Detected". Usually
    the word "synchronizatin" means something else. This sentence
    can be deleted because the same action is clearly described in
    6.8.3.3.2 and 6.8.3.3.3 .
      Also, missing transition if only SNLT expires and
    no "synchronization" in this state?

Sequence number: 26
Author: TI
Date: 12/30/2002 12:53:39 PM

Type: Note
    5. Technical 6.8.3.3.1, 9.2.4.5 and 9.2.3.9.1 still have an editors note,
    this should have been addressed before the letter ballot.

Sequence number: 27
Author: KnowledgeTek
Date: 12/28/2002 8:04:38 PM
Type: Highlight
    6.8.3.1.1 State description
    4th paragraph, item b)
    states:
    "to the value of the speed negotiation window received as an argument."
    This "argument" is not shown in the state diagram figure 57 nor is there an indication of where it comes from.

Sequence number: 28
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
    6.8.3.3 SP10:SAS_AwaitALIGN state
    page 114
    Agree with editor's note regarding the closer coordination between SP and DWS state machines to detect ALIGNs and ALIGN1s.
    Prefer that more than a single ALIGN or ALIGN1 required to advance SP, i.e. use filtering provided by the DWS process.

Sequence number: 29
Author: SEG houlderg
Date: 1/11/2003 4:03:47 PM
Type: Note
    [split from another comment]
    (2) This editor's note should be incorporated into the speed negotiation state machine. Additionally, this statement is not very clear
    whether the DWS state machine should be started for the speed negotiation window (G1 rate, G2 rate, G3 rate, G? rate
    (negotiated rate)), or the DWS state machine should be started only at the negotiated rate window?

Page: 115

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.3.4.1 State description
    Second paragraph should read: "This state shall repeatedly send a Transmit ALIGN1 parameter..."

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.3.4.3 Transition SP11:SAS_AwaitALIGN1 to SP14:SAS_ AwaitSNW
    Replace "SNTT" with "SNLT".
    Should we add a note to clarify that this transition is not taken if ALIGN1 is detected after SNLT expires and before SNTT expires?

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.3.5.2 Transition SP12:SAS_AwaitALIGN1 to SP13:SAS_Pass
    Replace "if" with "after".

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.3.6.2 Transition SP13:SAS_Pass to SP8:SAS_Start
    The term "fallen back" is not defined. Should it be defined as an SP14 to SP2 transition?
    "Fallen back" also appears in 6.8.3.6.3.

Sequence number: 5
Author: MXO Mark Evans

Date: 12/30/2002 10:07:32 AM
Type: Highlight
    6.8.3.4 SP11:SAS_AwaitALIGN1 state, 6.8.3.4.1 State description, second paragraph
    Change "ALIGN0" to "ALIGN1".

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.3.4.1 State description
    The statement << This state is reached after ALIGN (0) has been both transmitted and received. >> should be deleted as we do
    not describe entry conditions only exit conditions.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.3.4.1 State description
    The following statement << This state shall repeatedly send a Transmit ALIGN0 parameter to the SP transmitter.>> should be
    <<This state shall request ALIGN (0) be transmitted at the current rate (e.g., G1, G2, G3) by repeatedly sending a Transmit
    ALIGN0 parameter to the SP transmitter. >>

Sequence number: 8
Author: IBM
Date: 1/25/2003 4:47:57 PM
Type: Highlight
    REJECT (rewording implies an ominiscent state. This state can only based decisions on its inputs.)
    6.8.3.4.2 Transition SP11:SAS_AwaitALIGN1 to SP14:SAS_Fail
    The following statement << This transition shall occur if the SNTT timer expires. This indicates that the other phy has not been able
    to lock
    at the current rate. >> should be <<This transition shall occur if the other phy has not locked at the current rate and the SNTT timer
    times-out. >>

Sequence number: 9
Author: IBM
Date: 1/25/2003 4:46:51 PM
Type: Highlight
    REJECT (this state can only respond to its input signals, not to the state of some other phy.)
    6.8.3.4.3 Transition SP11:SAS_AwaitALIGN1 to SP14:SAS_ AwaitSNW
    The statement <<This transition shall occur if this state receives an ALIGN1 Detected parameter before the SNTT timer expires.
    This indicates that the other phy has been able to lock at the current rate. >> should be changed to << This transition shall occur if
    the other phy has locked (i.e., ALIGN1 Detected parameter received before the SNTT timer expires). >>

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.3.5.1 State description
    The statement << This state is reached after ALIGN (1) has been both transmitted and received. >> should be deleted as we do
    not describe entry conditions only exit conditions.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.3.5.1 State description
    The following statement << This state shall repeatedly send a Transmit ALIGN1 parameter to the SP transmitter.>> should be
    <<This state shall request ALIGN (1) be transmitted at the current rate (e.g., G1, G2, G3) by repeatedly sending a Transmit
    ALIGN1 parameter to the SP transmitter.>>.

Sequence number: 12
Author: IBM
Date: 1/10/2003 10:46:42 AM
Type: Highlight
    ACCEPT - DONE
    6.8.3.5.2 Transition SP12:SAS_AwaitALIGN1 to SP13:SAS_Pass
    The statement << if the >> should be << after the >>.

Sequence number: 13

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.3.6.2 Transition SP13:SAS_Pass to SP8:SAS_Start
The statement << which is sent as an argument to the SN_start state>> should be moved to the end of the section and restated as
<<This transition shall pass a SAS Speed Negotiation Window Rate argument to the SN_start state. >>.

Sequence number: 14
Author: INTC
Date: 1/17/2003 2:12:22 PM
Type: Highlight
ACCEPT - TODO
6.8.3.4.1
"This state is exited when the SNTT expires or when ALIGN (1)
primitives are received before the SNLT timer expires."
This same information is repeated at 6.8.3.4.2

Sequence number: 15
Author: INTC
Date: 1/17/2003 2:06:53 PM
Type: Highlight
6.8.3.5.1 (Page 115)
"This state is reached after ALIGN (1) has been both
transmitted and received."
This sentence is not describing the same behavior as
shown in the state diagram - Fig 57 on page 113.
Change to:
"This state is reached after ALIGN(1) has been recovered before the SNLT timer expires"

Sequence number: 16
Author: KnowledgeTek
Date: 12/31/2002 1:31:34 PM
Type: Highlight
ACCEPT - DONE
6.8.3.6.2 Transition SP13:SAS_Pass to SP8:SAS_Start
1st paragraph, item a)
SN_start state sb SP8:SAS_Start state.

Sequence number: 17
Author: PostLB
Date: 1/6/2003 9:29:43 AM
Type: Highlight
ACCEPT - DONE
6.8.3.5.2 Transition SP12:SAS_AwaitALIGN1 to ...
SP12:SAS_AwaitALIGN1 should be SP12:SAS_AwaitSNW
(from muikien_kirk@adaptec.com)

Sequence number: 18
Author: PostLB
Date: 1/6/2003 9:29:49 AM
Type: Highlight
ACCEPT - DONE
6.8.3.4.3 Transition SP11:SAS_AwaitALIGN1 to SAS_AwaitSNW
SP14:SAS_ AwaitSNW should be SP12:SAS_AwaitSNW (without the space and 14 changed to 12)
(from muikien_kirk@adaptec.com)

Sequence number: 19
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
6.8.3.4 SP11:SAS_AwaitALIGN1 state
page 114
Same comment as for 6.8.3.3.

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
6.8.3.8.1 State description
The last sentence of the last paragraph is redundant with the previous paragraph.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.3.7.3 Transition SP14:SAS_Fail to SP8:SAS_Start
The statement << Which speed negotiation window to use is sent as an argument with this transition. >> should be changed to
<<This transition shall pass which speed negotiation window to use in the SAS Speed Negotiation Window Rate argument to the
SN_start state. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.3.8.1 State description
The following << to provide rule checking for
dword synchronization and determination of link failure. >> should be deleted as the information is already in the DWS section. A
reference to DWS would be OK.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.3.8.1 State description
The statement << the receipt of a COMINIT; >> should be << the receipt of a COMINIT Detected parameter >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.3.8.1 State description
The statement << While in this state, dwords from the link layer are transmitted at
the negotiated physical link rate >> should be deleted as it is stated 2 times in this section.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.3.8.1 State description
The statement << from the link layer >> should be deleted as the general rule is that we do not state where things come from in
state diagrams.

Sequence number: 7
Author: INTC
Date: 1/17/2003 2:01:51 PM
Type: Highlight
ACCEPT - TODO ("at the rate established in the previous speed negotiation window.")
6.8.3.8.1
"While in this state dwords from the link layer are transmitted
at the negotiated physical link rate."
Who (in what state/state machine) is responsible to tell the
PHY what the negotiated link rate is? Clarify.

Page: 117

Sequence number: 1
Author: IBM
Date: 1/10/2003 10:55:14 AM
Type: Highlight
REJECT (but changed it to "if ...this state receives" to match other text)

6.8.3.8.2 Transition SP15:SAS_PHY_Ready to SP1:OOB_COMINIT
The statement << occur if: >> should be << occur after >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4 SATA host emulation states
The statement << the SAS device (an initiator device or expander device) has >> should be << a SAS initiator device or an expander device has >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.4 SATA host emulation states
The statement << During SATA host emulation, the SAS device transmits a COMWAKE sequence and then waits to receive a COMWAKE. Once the COMWAKE sequence is detected, the SAS device follows the speed negotiation sequence defined in SATA. >> should be deleted as the information in this statement is duplicate information.

Sequence number: 4
Author: KnowledgeTek
Date: 12/28/2002 9:41:23 PM
Type: Highlight
6.8.4 SATA host emulation states
1st paragragh
states:
...(an initiator device...
Is this allowed????

Page: 118

Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/8/2003 6:51:06 PM
Type: Highlight
ACCEPT - DONE
6.8.4 SATA host emulation states
Third paragraph: Replace "specification" with "standard".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
6.8.4 SATA host emulation states
Figure 58 - SAS phy (SP) state machine - SATA host emulation states
State SP16 needs a COMWAKE Transmitted input parameter (see 6.8.4.1.2).

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
6.8.4 SATA host emulation states
Figure 58 - SAS phy (SP) state machine - SATA host emulation states
State SP17 needs a COMWAKE Detected input parameter (see 6.8.4.2.2).

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
6.8.4 SATA host emulation states
Figure 58 - SAS phy (SP) state machine - SATA host emulation states
State SP18 needs a COMWAKE Completed input parameter (see 6.8.4.3.2).

Sequence number: 5
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 58
    The COMWAKE Transmitted parameter is missing as a input to SP16.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 58
    The COMWAKE Detected parameter is missing as a input to SP17.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 58
    The COMWAKE Completed parameter is missing as a input to SP18.

Sequence number: 8
Author: IBM
Date: 1/24/2003 6:31:38 PM
Type: Circle
    REJECT (per Jan WG)
    Figure 58
    The labels on the state transitions should be deleted and they don't necessarily give the complete reason for the transition.

Sequence number: 9
Author: INTC
Date: 1/17/2003 2:02:02 PM
Type: Highlight
    ACCEPT - TODO
    6.8.4 SATA host emulation states
    Figure 58
    SP16:SATA_COMWAKE
    Missing input parameter "COMWAKE Transmitted" with dotted
    line unfilled arrow into SP16.

Sequence number: 10
Author: INTC
Date: 1/17/2003 1:55:08 PM
Type: Highlight
    REJECT (text has the order)
    6.8.4 SATA host emulation states
    Figure 58 - SAS phy (SP) state machine - SATA host emulation states
    SP20: SATA_AdjustSpeed
    dotted unfilled arrow with parameter (Transmit D10.2)
        and
    dotted unfilled arrow with parameter (Set Rate)
      It seems it may have to send "Set Rate" parameter before
    "Transmit D10.2", please clarify.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/11/2003 4:06:41 PM
Type: Highlight
    6.8.4.4.1 State description
    In list item c, replace "ALIGN" with "ALIGN0".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight

6.8.4.4.1 State description
Should the last word of this subclause be "completed"? If not, define "deasserted".

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.2.2 Transition SP17:SATA_AwaitCOMWAKE to SP18:SATA_AawitNoCOMWAKE
There is a type in the SP18 state name. It should SATA_AwaitNoCOMWAKE.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.1.1 State description
The statement << wait for COMWAKE to be
transmitted. >> should be changed to << wait for a COMWAKE Completed parameter to be received. >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.3.1 State description
The statement << This state waits for COMWAKE to be fully received. >> should be << This state waits for a COMWAKE
Completed parameter to be received. >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.4.1 State description
The statement << repeatedly send a Transmit D10.2 parameter to the SP transmitter; >> should be <<request D10.2s be
transmitted by repeatedly sending a Transmit D10.2 parameter to the SP transmitter. >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.4.1 State description
The statement << start the ALIGN detect time out timer; >> should be << set the ALIGN detect timer to it's initial value and
enabled it; >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.4.1 State description
The statement <<ALIGN to be received or an ALIGN detect time out. >> should be << ALIGN0 Received parameter to be received
or an ALIGN detect time out to occur. >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.4.4.1 State description
The statement << The SAS device shall start transmitting D10.2 characters no later than 20 G1 dwords (i.e., 533 ns) after
COMWAKE was deasserted. >> should be deleted as it makes no sense here. It appears to be more of a transmitter requirement
rather than a requirement of this state. Also COMWAKE is not something that can be deasserted it is a sequence of signals.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.8.4.4.2 Transition SP19:SATA_AwaitALIGN to SP20:SATA_AdjustSpeed
The statement << at any of its supported physical link rates. >> should be deleted as it makes no sense here.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM

Type: Highlight
    6.8.4.5.1 State description
    The statement << This state shall repeatedly send Transmit D10.2 parameters to the SP transmitter >> should be <<This state
    shall request D10.2s be transmitted by repeatedly sending a Transmit D10.2 parameter to the SP transmitter >>

Sequence number: 12
Author: INTC
Date: 1/10/2003 10:49:18 AM
Type: Highlight
    REJECT (figure just shows the possible signals not the details. That's what this text is for)
    6.8.4.4.1 State description
    "a) repeatedly send a Transmit D10.2 parameter to the SP transmitter"
      "repeatedly send" is not shown in the state diagram in Fig 58
    as a condition required for transmitting D10.2

Sequence number: 13
Author: INTC
Date: 1/17/2003 1:52:27 PM
Type: Highlight
    REJECT (but will make timers stand out better in the text and may add timer arcs to figures in SAS-2)
    6.8.4.4.1 State description
    ***
    GLOBAL
    "b) start the ALIGN detect timeout timer"
      It looks like this is a state entry action and it
    is not listed in the state diagram in Fig 58
      THIS IS one of a pattern of incomplete definitions due to the
    assumption of hidden, underlying state machines. Need to explicitly
    identify these implicit state machines and the signals/messages they
    exchange with other SMs.

Sequence number: 14
Author: INTC
Date: 1/17/2003 1:53:04 PM
Type: Highlight
    ACCEPT/REJECT - TODO (split the comment)
    6.5.4.4.1 State description
    "The SAS device shall start transmitting D10.2 characters no
    later than 20 G1 dwords (i.e. 533 ns) after COMWAKE was deasserted"
      Use of COMWAKE is confusing - sometimes parms are received,
    sometimes CW is 'deasserted' - what is it?   [agree]
      This seems as a state entry action and it does not show the
    relation of transmitting D10.2 characters no later than 20 G1
    dwords after COMWAKE was deasserted in the state diagram in Fig 58. [reject]
      Since not all SAS implementation required to support G1 speed,
    this state should not specify requirement in "G1 dwords", instead
    it should just specify time - 533 ns. [accept; check what SATA intends]

Sequence number: 15
Author: INTC
Date: 1/22/2003 9:41:55 AM
Type: Highlight
    ACCEPT - DONE (made into an ordered list)
    must set the rate before transmitting the 10.2s

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.4.6.1 State description
    Replace "ALIGN0s" with "ALIGN0".

Sequence number: 2
Author: LSI John Lohmeyer

Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.4.7.3 Transition SP22:SATA_PHY_Ready to SP24:SATA_PM_Partial
    Change this subclause name to "Transition SP22:SATA_PHY_Ready to SP23:SATA_PM_Partial" (i.e., SP24 should be SP23).

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.4.7.4 Transition SP22:SATA_PHY_Ready to SP23:SATA_PM_Slumber
    Change this subclause name to "Transition SP22:SATA_PHY_Ready to SP24:SATA_PM_Slumber" (i.e., SP23 should be SP24).

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.4.7.2 Transition SP22:SATA_PHY_Ready to SP1:Reset
    Change this subclause name to "Transition SP22:SATA_PHY_Ready to SP1:OOB_COMINIT" (i.e., Reset should be
    OOB_COMINIT).

Sequence number: 5
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.4.8.2 Transition SP23:SATA_PM_Partial to SP16:SATA_COMWAKE
    Change the name of this subclause to "Transition SP23:SATA_PM_Partial to SP17:SATA_AwaitCOMWAKE".

Sequence number: 6
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.8.4.8.1 State description
    6.8.4.9.1 State description
    Replace "Exit from this state is driven from" with "This state is exited upon".

Sequence number: 7
Author: IBM
Date: 1/10/2003 10:50:49 AM
Type: Highlight
    ACCEPT - DONE (but left in "this state")
    6.8.4.5.2 Transition SP20:SATA_AdjustSpeed to SP21:SATA_TransmitALIGN
    This statement << when this state receives a Transmitter Ready parameter. >> should be <<after receiving a Transmitter Ready
    parameter. >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    6.8.4.6.1 State description
    The statement << This state shall repeatedly send the Transmit ALIGN0s parameter to the SP transmitter. >> should be << This
    state shall request ALIGN0s be transmitted by repeatedly sending a Transmit ALIGN0 parameter to the SP transmitter. >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    6.8.4.6.1 State description
    The statement << When the SP receiver detects three back-to-back non-ALIGNs, the state machine transitions to state
    SP22:SATA_PHY_Ready. >> should be deleted as all the information is in the transition description.

Sequence number: 10
Author: IBM
Date: 1/10/2003 10:55:44 AM
Type: Highlight
    REJECT (that doesn't follow the convention)
    6.8.4.7.4 Transition SP22:SATA_PHY_Ready to SP23:SATA_PM_Slumber
    The statement << if this state receives an Enter Slumber request. >> should be << if an Enter Slumber request is received.>>.

Sequence number: 11

Author: IBM
Date: 1/10/2003 10:55:38 AM
Type: Highlight
REJECT (that doesn't follow the convention)
6.8.4.7.4 Transition SP22:SATA_PHY_Ready to SP23:SATA_PM_Slumber
The statement << if this state receives an Enter Partial request. >> should be << if an Enter Partial request is received.>>

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.7.2 Transition SP22:SATA_PHY_Ready to SP1:Reset
In figure 58 this transition goes to SP1:OOB_COMMINIT but here it goes to SP1:Reset . Only one is correct. This needs to be fixed.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.7.2 Transition SP22:SATA_PHY_Ready to SP1:Reset
The statement << This transition shall occur if this state receives a COMINIT Received parameter or a DWS Reset parameter. >> makes no sense as there is not COMINIT Received or DWS Reset in figure 58. So it is not clear what causes this transition.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.7.1 State description
The statement << This state shall send a PhyReady (SATA) parameter to the SP_DWS state machine. >> should be
Upon entering this state, this state shall send a PhyReady (SATA) parameter to the SP_DWS state machine. >>.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.7.1 State description
The statement << In this state, the SP state machine hands control over dword transmission to the SP_DWS state machine. The SP receiver monitors the input dword stream looking for COMINIT. >> should be << This state sends RhyReady (SATA) parameter to the SP_DWS state machine to enable it. >> If this state needs to take some action if a COMINIT detected or complete happens then there needs to be a parameter input and a description as to what happens when the parameter is received.

Sequence number: 16
Author: IBM
Date: 1/10/2003 10:55:53 AM
Type: Highlight
REJECT (that doesn't follow the convention)
6.8.4.8.2 Transition SP23:SATA_PM_Partial to SP16:SATA_COMWAKE
The statement << if this state receives a Exit Partial request. >> should be << if an Exit Partial request is received. >>

Sequence number: 17
Author: IBM
Date: 1/10/2003 10:56:00 AM
Type: Highlight
REJECT (that doesn't follow the convention)
6.8.4.8.3 Transition SP23:SATA_PM_Partial to SP18:SATA_AwaitNoCOMWAKE
The statement << if this state receives a COMWAKE Detected parameter. >> should be << if a COMWAKE Detected parameter is received. >>.

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.8.4.8.1 State description
The statement << Exit from this state is driven from receipt of COMWAKE or by request of the link layer. >> should be << This state waits for a COMWAKE Detected parameter or a Exit Partial parameter to be received. >>

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight

6.8.4.9.1 State description
The statement << Exit from this state is driven from receipt of COMWAKE or by request of the link layer. >> should be << This state waits for a COMWAKE Detected parameter or a Exit Slumber parameter to be received. >>.

Sequence number: 20
Author: IBM
Date: 1/10/2003 10:56:04 AM
Type: Highlight
 REJECT (that doesn't follow the convention)
 6.8.4.9.2 Transition SP24:SATA_PM_Slumber to SP16:SATA_COMWAKE
 The statement << if this state receives a Exit Slumber request. >> should be << if an Exit Slumber request is received. >>

Sequence number: 21
Author: PostLB
Date: 1/11/2003 5:13:03 PM
Type: Highlight
 ACCEPT - DONE
 6.8.4.6.2 SP21:SATA_TransmitALIGN to SP22:SATA_PHY_Ready
 when should be if

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Sequence number: 1
Author: SEG Coomesj
Date: 1/21/2003 1:01:37 PM
Type: Highlight
 REJECT (fix in SAS-2)
 6.9 SAS phy dword synchronization (SP_DWS) state machine
 The DWS state machine starts with a state 0. Other state machines start with state 1.

Sequence number: 2
Author: IBM
Date: 1/10/2003 10:56:12 AM
Type: Highlight
 REJECT (that doesn't follow the convention)
 6.8.4.9.3 Transition SP24:SATA_PM_Slumber to SP18:SATA_AwaitNoCOMWAKE
 The statement << if this state receives a COMWAKE Detected parameter. >> should be << if a COMWAKE Detected parameter is received. >>.

Sequence number: 3
Author: IBM
Date: 1/9/2003 9:23:21 AM
Type: Highlight
 REJECT (they're sent/pushed here for action. received implies "pulled")
 6.9.1 Overview
 The statement << are sent to the SP_DWS machine >> should be << are received by the SP_DWS state machine >>.

Sequence number: 4
Author: IBM
Date: 1/10/2003 10:58:52 AM
Type: Circle
 ACCEPT (item c) above should have been "receiving Phy Not Ready" not PhyReady - that causes the state machine to start in DWS0)
 6.9.1 Overview
 There should be text here that states what happens when a PhyNotReady parameter is received.

Sequence number: 5
Author: IBM
Date: 1/11/2003 4:09:47 PM
Type: Note
 REFER PROTOCOL WG
 6.9.1 Overview
 It seems like there should a Dword Received parameter from the receiver that goes to all the states within this state machine. As a result there should be a green open arrow pointing to the edge of the SP_DWS state machine. The following text should be added here: All the states within the SP_DWS receive the Dword Receive parameter from the SP receiver.

Sequence number: 6
Author: IBM
Date: 1/10/2003 10:59:22 AM
Type: Strikeout
    REJECT (that rule is not for introductions)
    6.9.1 Overview
    The statement << from the SP state machine. >> should be deleted as the general rule is that we do not state where things come
    from in state diagrams.

Sequence number: 7
Author: IBM
Date: 1/10/2003 10:59:27 AM
Type: Strikeout
    REJECT (that rule is not for introductions)
    6.9.1 Overview
    The statement << from the SP state machine: >> should be deleted as the general rule is that we do not state where things come
    from in state diagrams.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 59
    There needs to be a cut-out so the PhyNotReady arrow points to the SP_DWS state machine. Also the text need not state that the
    parameter goes to all states. That is implied. The statement << (This parameter causes a transition to SP_DW0:AcquireSync) >>.

Sequence number: 2
Author: IBM
Date: 1/24/2003 6:31:59 PM
Type: Circle
    REJECT (per Jan WG)
    Figure 59
    The labels on the state transitions should be deleted and they don't necessarily give the complete reason for the transition.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/11/2003 4:08:39 PM
Type: Highlight
    ACCEPT - DONE
    6.9.2.1 State description
    Replace "upon power on loss or previous dword synchronization" with "upon power on or loss of previous dword synchronization."

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/24/2003 6:35:43 PM
Type: Note
    ACCEPT - DONE
    6.9.3 SP1_DWS1:Valid1 state
    This transition needs to be added to the text:
    6.9.3.3 Transition SP_DWS1:Valid1 to SP_DWS0:AcquireSync
    "This transition shall occur when an invalid dword is detected."

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    6.9.5.1 State description
    The text refers to a PhyReady (SAS) parameter and to a PhyReady (SATA) parameter as being inputs to this state. However,

neither is shown in figure 59. These parameters should be added to the figure.

Sequence number: 4
Author: MXO Mark Evans
Date: 1/24/2003 6:36:36 PM
Type: Note
ACCEPT - DONE
6.9.3 SP_DWS1:Valid1 state
There is a transition description missing. Add: "6.9.4.3 Transition SP_DWS1:Valid1 to SP_DWS0:AcquireSync, This transition shall occur when an invalid dword is detected."

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.9.2.1 State description
The statement << This state is entered upon power on loss or previous dword synchronization. >> should be deleted as we do not define entry conditions.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.2.1 State description
The statement << In this state, the receiver monitors the input data stream >> should be << This state monitors the Dwords received in the Dword Received parameter >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.2.1 State description
The statement << character it detects into the >> should be << character detected into the >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.2.2 Transition SP_DWS0:AcquireSync to SP_DWS1:Valid1
The statement << is detected. >> should be << is received >>.

Sequence number: 9
Author: IBM
Date: 1/10/2003 11:01:17 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.3.1 State description
The statement << This state is reached after one valid primitive has been detected. >> should be deleted as we do not describe entry conditions.

Sequence number: 10
Author: IBM
Date: 1/10/2003 11:01:23 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.4.1 State description
The statement << This state is reached after the receiver has detected two valid primitives. >> should be deleted as we do not describe entry conditions.

Sequence number: 11
Author: IBM
Date: 1/10/2003 11:01:30 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.5.1 State description
The statement << This state is reached when the receiver has detected three valid primitives without adjusting the dword synchronization. >> should be deleted as we do not describe entry conditions.

Sequence number: 12

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.3.1 State description
The statement <<In this state, the receiver shall monitor the
input data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter looking
>>

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.4.1 State description
The statement <<In this state, the receiver shall monitor the
input data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter looking
>>

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.5.1 State description
The statement << In this state, the receiver shall monitor the incoming data stream looking >> should be << This state shall
monitor the Dwords received in the Dword Received parameter looking >>

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.3.2 Transition SP_DWS1:Valid1 to SP_DWS2:Valid2
The statement << This transition shall occur when a valid primitive is detected. >>
should be << This transition shall occur after receiving a Dword Received parameter that contains a valid primitive. >>

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.4.2 Transition SP_DWS2:Valid2 to SP_DWS3:SyncAcquired
The statement << This transition shall occur when a valid primitive is detected. >>
should be << This transition shall occur after receiving a Dword Received parameter that contains a valid primitive. >>

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.4.3 Transition SP_DWS2:Valid2 to SP_DWS0:AcquireSync
The statement << This transition shall occur when a invalid dword is detected. >>
should be << This transition shall occur after receiving a Dword Received parameter that contains an invalid Dword.>>

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.5.2 Transition SP_DWS3:SyncAcquired to SP_DWS4:Lost1
The statement << This transition shall occur when an invalid dword (i.e., the first invalid dword) is detected.>> should be << This
transition shall occur after receiving a Dword Received parameter that contains an invalid Dword (i.e., the first invalid dword).>>

Sequence number: 19
Author: IBM
Date: 1/11/2003 4:07:53 PM
Type: Highlight
REFER PROTOCOL WG (we once had a tiny section after the XP state machine, easily overlooked. We decided to keep the
rules here and delete that section.)
6.9.5.2 Transition SP_DWS3:SyncAcquired to SP_DWS4:Lost1
The statement << An expander forwarding the dword to another phy shall replace the invalid dword with ERROR for a SAS
physical link or
SATA_ERROR for a SATA physical link. >> seems out of place here. This should be defined in the expander information that
describes the insertion of error primitives. As most there should be a reference to that information << For expander rules on invalid
Dwords replacement see x.x.x. >>

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
6.9.7.1 State description
6.9.9.1 State description
6.9.11.1 State description
Replace the first sentence with: "This state is reached if a valid dword is received while in the previous state. Receiving another valid dword in this state nullifies the previous invalid dword. "

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
6.9.6.1 State description
The statement << This state is reached when one invalid dword has been received and not nullified. >> should be deleted as we do not describe entry conditions.

Sequence number: 3
Author: IBM
Date: 1/10/2003 11:01:41 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.7.1 State description
The statement << This state is reached when a valid dword has been received, and another valid dword will nullify the previous invalid dword. >> should be deleted as we do not describe entry conditions.

Sequence number: 4
Author: IBM
Date: 1/10/2003 11:01:49 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.8.1 State description
The statement << This state is reached when two invalid dwords has been received and not nullified. >> should be deleted as we do not describe entry conditions.

Sequence number: 5
Author: IBM
Date: 1/10/2003 11:01:54 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.9.1 State description
The statement << This state is reached when a valid dword has been received, and another valid dword will nullify the previous invalid dword. >> should be deleted as we do not describe entry conditions.

Sequence number: 6
Author: IBM
Date: 1/10/2003 11:01:35 AM
Type: Highlight
REJECT (it explains the state name and is not a set of entry equations)
6.9.6.1 State description
The statement <<In this state, the receiver shall monitor the
incoming data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter looking >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.7.1 State description
The statement <<In this state, the receiver shall monitor the
incoming data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter looking >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.8.1 State description
   The statement <<In this state, the receiver shall monitor the
   incoming data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter
   looking >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.9.1 State description
   The statement <<In this state, the receiver shall monitor the
   incoming data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter
   looking >>

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.6.2 Transition SP_DWS4:Lost1 to SP_DWS5:Lost1Recovered
   The statement << This transition shall occur when a valid dword is detected. >>
   should be << This transition shall occur after receiving a Dword Received parameter that contains an valid Dword.>>

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.7.2 Transition SP_DWS5:Lost1Recovered to SP_DWS3:SyncAcquired
   The statement << This transition shall occur when a valid dword is detected. >>
   should be << This transition shall occur after receiving a Dword Received parameter that contains an valid Dword.>>

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.8.2 Transition SP_DWS6:Lost2 to SP_DWS7:Lost2Recovered
   The statement << This transition shall occur when a valid dword is detected. >>
   should be << This transition shall occur after receiving a Dword Received parameter that contains an valid Dword.>>

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.6.3 Transition SP_DWS4:Lost1 to SP_DWS6:Lost2
   The statement << This transition shall occur when an invalid dword is detected.>> should be << This transition shall occur after
   receiving a Dword Received parameter that contains an invalid Dword.>>

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.7.3 Transition SP_DWS5:Lost1Recovered to SP_DWS6:Lost2
   The statement << This transition shall occur when an invalid dword is detected.>> should be << This transition shall occur after
   receiving a Dword Received parameter that contains an invalid Dword.>>

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   6.9.8.3 Transition SP_DWS6:Lost2 to SP_DWS8:Lost3
   The statement << This transition shall occur when an invalid dword is detected.>> should be << This transition shall occur after
   receiving a Dword Received parameter that contains an invalid Dword.>>

Sequence number: 16
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.6.3 Transition SP_DWS4:Lost1 to SP_DWS6:Lost2
The statement << An expander forwarding the dword to another phy shall replace the invalid dword with ERROR for a SAS physical link or
SATA_ERROR for a SATA physical link. >> seems out of place here. This should be defined in the expander information that describes the insertion of error primitives. As most there should be a reference to that information << For expander rules on invalid Dwords replacement see x.x.x. >>

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.7.3 Transition SP_DWS5:Lost1Recovered to SP_DWS6:Lost2
The statement << An expander forwarding the dword to another phy shall replace the invalid dword with ERROR for a SAS physical link or
SATA_ERROR for a SATA physical link. >> seems out of place here. This should be defined in the expander information that describes the insertion of error primitives. As most there should be a reference to that information << For expander rules on invalid Dwords replacement see x.x.x. >>

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.8.3 Transition SP_DWS6:Lost2 to SP_DWS8:Lost3
The statement << An expander forwarding the dword to another phy shall replace the invalid dword with ERROR for a SAS physical link or
SATA_ERROR for a SATA physical link. >> seems out of place here. This should be defined in the expander information that describes the insertion of error primitives. As most there should be a reference to that information << For expander rules on invalid Dwords replacement see x.x.x. >>

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Sequence number: 1
Author: IBM
Date: 1/10/2003 11:02:02 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.10.1 State description
The statement << This state is reached when three invalid dwords has been received and not nullified. >> should be deleted as we do not describe entry conditions.

Sequence number: 2
Author: IBM
Date: 1/10/2003 11:02:21 AM
Type: Strikeout
REJECT (it explains the state name and is not a set of entry equations)
6.9.11.1 State description
The statement << This state is reached when a valid dword has been received, and another valid dword will nullify the previous invalid dword. >> should be deleted as we do not describe entry conditions.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.10.1 State description
The statement <<In this state, the receiver shall monitor the
incoming data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter looking >>

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.11.1 State description
The statement <<In this state, the receiver shall monitor the

incoming data stream looking >> should be << This state shall monitor the Dwords received in the Dword Received parameter looking >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.9.2 Transition SP_DWS7:Lost2Recovered to SP_DWS4:Lost1
The statement << This transition shall occur when a valid dword is detected. >>
should be << This transition shall occur after receiving a Dword Received parameter that contains an valid Dword.>>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.10.2 Transition SP_DWS8:Lost3 to SP_DWS9:Lost3Recovered
The statement << This transition shall occur when a valid dword is detected. >>
should be << This transition shall occur after receiving a Dword Received parameter that contains an valid Dword.>>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.11.2 Transition SP_DWS9:Lost3Recovered to SP_DWS6:Lost2
The statement << This transition shall occur when a valid dword is detected. >>
should be << This transition shall occur after receiving a Dword Received parameter that contains an valid Dword.>>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.9.3 Transition SP_DWS7:Lost2Recovered to SP_DWS8:Lost3
The statement << This transition shall occur when an invalid dword is detected.>> should be << This transition shall occur after receiving a Dword Received parameter that contains an invalid Dword.>>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.10.3 Transition SP_DWS8:Lost3 to SP_DWS0:AcquireSync
The statement << If an invalid dword (i.e., the fourth non-nullified invalid dword) is detected, this state shall send a DWS Reset parameter to the SP state machine and this transition shall occur. >> should be << This transition shall occur after receiving a Dword Received parameter that contains an invalid Dword (i.e., the fourth non-nullified invalid dword) and after sending a DWS Reset parameter to the SP state machine.>>

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.11.3 Transition SP_DWS9:Lost3Recovered to SP_DWS0:AcquireSync
The statement << If an invalid dword (i.e., the fourth non-nullified invalid dword) is detected, this state shall send a DWS Reset parameter to the SP state machine and this transition shall occur. >> should be << This transition shall occur after receiving a Dword Received parameter that contains an invalid Dword (i.e., the fourth non-nullified invalid dword) and after sending a DWS Reset parameter to the SP state machine.>>

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
6.9.9.3 Transition SP_DWS7:Lost2Recovered to SP_DWS8:Lost3
The statement << An expander forwarding the dword to another phy shall replace the invalid dword with ERROR for a SAS physical link or
SATA_ERROR for a SATA physical link. >> seems out of place here. This should be defined in the expander information that describes the insertion of error primitives. As most there should be a reference to that information << For expander rules on invalid Dwords replacement see x.x.x. >>

Sequence number: 12
Author: IBM
Date: 1/25/2003 11:24:27 AM

Type: Strikeout
    ACCEPT - DONE
    6.10 Spin-up
The statement << NOTE 12 A SATA target device with rotating media spins up:
a) automatically after power on (allowed by SATA);
b) after its phy is enabled (allowed by SATA);
c) after the reset sequence has completed (recommended by SATA); or
d) after the Power Up in Standby flag is cleared by an application (if the ATA Power Up in Standby feature is implemented).
The ATA Power Up in Standby feature is not widely implemented, since it requires the target device to include a nonvolatile memory to remember the state of the Power Up in Standby flag. Desktop-class disk drives do not typically have nonvolatile memory storage. >> has no value to this standard and should be deleted.

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/6/2003 1:20:23 PM
Type: Highlight
    REJECT - fine as is
    7.1.1 Primitives overview, first paragraph
    Change the second sentence to: "Primitives are neither big-endian nor little-endian; they shall be interpreted as first, second, third, and last bytes.

Sequence number: 2
Author: IBM
Date: 1/25/2003 11:24:39 AM
Type: Highlight
    REJECT
    Table 51
    The footnotes have to be on each split of the table not just the last one.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 1:22:34 PM
Type: Highlight
    ACCEPT - DONE
    7.1.2 Primitive summary
    Table 51
    Table 52
    Table 53
    Note c in the three primitive tables omits single primitive from the list of primitive types. Add "as a single primitive," to the list in note c for each table.

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Sequence number: 1
Author: SEG Coomesj
Date: 1/13/2003 4:53:56 PM
Type: Highlight
    REJECT (Jan WG)
    7.1.2 Primitive summary, Table 54
    REFER PROTOCOL WG
    It would be better if the 2nd character of the CLS primitives were unique from BREAK, ERROR, and HARD_RESET. Since there are multiple CLS primitives, the 3rd and 4th characters will be used to distinguish the types. It would be simpler for the hardware if the 2nd character for CLS (D02.0) was unique from the other primitives.

Sequence number: 2
Author: SEG Coomesj
Date: 1/24/2003 6:37:21 PM
Type: Highlight
    REJECT (Jan WG - too many OPEN_REJECTs to fit in one set of encodings)
    7.1.2 Primitive summary, Table 54
    It would be better if the 2nd character of the OPEN_REJECT primitives were the same rather than D31.4 and D29.7.

Sequence number: 3
Author: PostLB
Date: 1/24/2003 6:38:31 PM
Type: Highlight
    ACCEPT - DONE
    7.1 Primitives
    and global
    Change NOTIFY (ENABLE_SPINUP) to NOTIFY (ENABLE SPINUP) - the underscore is not used inside parenthesis

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Sequence number: 1
Author: SEG Coomesj
Date: 1/24/2003 6:38:43 PM
Type: Highlight
    REJECT (Jan WG)
    7.1.2 Primitive summary, Table 55
    It would be better if the 2nd character of the NAK primitives were unique from ACK, CREDIT_BLOCKED, and RRDY. Since there
    are multiple NAK primitives, the 3rd and 4th characters will be used to distinguish the types. It would be simpler for the hardware if
    the 2nd character for CLS was unique from the other primitives.

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Sequence number: 1
Author: IBM
Date: 1/16/2003 5:58:35 PM
Type: Strikeout
    ACCEPT - TODO (keep these 3 sentences here. Put a short reference in each of the _4_ sections below back to here - "ALIGNs
    may be sent inside primitive sequences as described in 7.1.3.1.")
    7.1.3.1 Primitive sequence overview
    The statement << ALIGNs may be sent inside primitive sequences without affecting the count or breaking the consecutiveness
    requirements. >> should be deleted as it is repeated in each of the next three sections.
    The other option would be to delete the text in all three sections and leave it here.

Sequence number: 2
Author: IBM
Date: 1/16/2003 6:18:31 PM
Type: Highlight
    ACCEPT - TODO (delete everything after "consecutively")
    7.1.3.4 Triple primitive sequence
    The statement << consecutively and followed by idle dwords until a response is received. >> should be <<consecutively followed
    by idle dwords. >> The statement << until a response is received >> is incomplete because it does not describe what the response
    is that is received. Either that has to be defined or the statement deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.1.3.3 Repeated primitive sequence
    The statement << until a response is received >> is incomplete because it does not describe what the response is that is received.
    Either that has to be defined or the statement deleted.

Sequence number: 4
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.1.3.4 Triple primitive sequence
    The statement << detect a triple primitive sequence by receiving the identical primitive in three consecutive dwords. >> should be
    << detect a triple primitive sequence after the identical primitive is received in three consecutive dwords. >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.1.3.5 Redundant primitive sequence
    The statement << shall be sent six times consecutively. >> should be << shall be sent six times consecutively followed by idle
    dwords.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.1.3.5 Redundant primitive sequence
    The statement << detect redundant primitive sequences by receiving an identical primitive for three consecutive
    dwords. >> should be << detect a redundant primitive sequence after the identical primitive is received in three consecutive
    dwords. >>

Sequence number: 7
Author: IBM
Date: 1/16/2003 6:05:16 PM
Type: Highlight
    ACCEPT - TODO (Change to "After receiving a triple primitive sequence, a receiver shall not detect a second instance of the same
    triple primitive sequence until")   Apply everywhere.
    7.1.3.4 Triple primitive sequence
    ***
    In the statement << receiver shall not detect primitive sequences a second time until it >> it is not clear if the primitive sequence
    that shall not be detected is this primitive sequence or any primitive sequence or any triple primitive sequence. This needs to be
    made clear.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.1.3.5 Redundant primitive sequence
    ***
    In the statement << receiver shall not detect primitive sequences a second time until it >> it is not clear if the primitive sequence
    that shall not be detected is this primitive sequence or any primitive sequence or any redundant primitive sequence. This needs to
    be made clear.

Sequence number: 9
Author: PostLB
Date: 1/16/2003 6:16:57 PM
Type: Note
    ACCEPT - TODO
    label the 3 CLOSEs only as the triple primitive sequence.
    Change CLOSE to "Triple type of primitive"
    idle to "another dword"
    show another 3 after them
    Then show only one or two idles and mark that the second ones aren't in a second example
    Do the same kind of changes for the redundant section

Sequence number: 10
Author: PostLB
Date: 1/24/2003 6:39:45 PM
Type: Highlight
    ACCEPT - DONE
    7.1.3.4 Triple primitive sequence
    CLOSE should be CLOSE (NORMAL))

Sequence number: 11
Author: PostLB
Date: 1/16/2003 6:22:58 PM
Type: Note

Note: back to back BROADCAST primitives are not detected
somehow...

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    ACCEPT - DONE
    7.1.4.2 ALIGN
    The statement << are used for >> should be deleted as it is duplicated in the sentence.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REVIEW PROTOCOL WG
    REJECT - highlights a difference with SATA
    7.1.4.2 ALIGN
    The statement << NOTE 14 SATA devices are allowed to decode every dword starting with a K28.5 as an ALIGN, since ALIGN is
    the only primitive defined starting with K28.5. >> as it contains no information that is relevant to this standard.

Sequence number: 3
Author: PostLB
Date: 1/16/2003 6:21:50 PM
Type: Note
    keep this picture simpler than the triple picture
    show where the receiver detects after 3
    don't use BROADCAST, use Redundant type of primitive

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Sequence number: 1
Author: HP relliott
Date: 1/13/2003 4:51:17 PM
Type: Note
    REJECT (Jan WG)
    7.1.4.4 BROADCAST
    Make one of the BROADCAST primitives BROADCAST (VENDOR SPECIFIC).

Sequence number: 2
Author: HP relliott
Date: 1/22/2003 10:17:23 AM
Type: Note
    ACCEPT - DONE (per Jan WG go ahead and use 8 broadcast codes. Keep existing encodings; pull next four from annex H for the
    new ones.)
    7.1.4.4 BROADCAST
    Increase the total number of broadcast primitives to 8. There are 4 more D04.7 codes available.
    broadcast (change)
    broadcast (rsvd change 0) (end devices treat as change)
    broadcast (rsvd change 1)
    broadcast (rsvd 0)
    broadcast (rsvd 1)
    broadcast (rsvd 2)
    broadcast (rsvd 3)
    broadcast (rsvd 4)

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/6/2003 1:29:35 PM
Type: Highlight

ACCEPT - DONE (reworded as "Processed the same... by end devices" to match other tables)
7.1.4.4 BROADCAST
Table 59 - BROADCAST primitives
Replace "process the same" with "process this primitive the same".

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.1.4.4 BROADCAST, second paragraph after Table 59 - BROADCAST primitives
In the last sentence change "dropped" to "ignored".

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.1.4.4 BROADCAST
Change << BROADCAST indications >> to << BROADCASTs >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.1.4.4 BROADCAST
Change << BROADCAST indication >> to << BROADCAST >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.1.4.4 BROADCAST
Change << second indication >> to << second BROADCAST >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
Table 60
The term << initiator affiliation. >> is not used anywhere else in this standard. So I have no idea as to what it is. It needs to be defined or changed to a term that is defined.

Sequence number: 9
Author: INTC
Date: 1/22/2003 9:48:47 AM
Type: Highlight
ACCEPT - DONE (change "init sequence" to "link reset sequence". This is not concerned with the higher level software.)
7.1.4.4 BROADCAST
If an expander's routing tables are configured by initiators,
how does an expander know the initialization sequence has
completed? Clarify.

Sequence number: 10
Author: IBM
Date: 1/13/2003 10:37:47 AM
Type: Highlight
ACCEPT - TODO (Jan WG treat like CLOSE (NORMAL) when received in SSP or SMP connection)
7.1.4.5 CLOSE
***
There is no indication as to what a device should do if it does not support STP and receives a CLOSE (CLEAR AFFILIATION). I suggest the description should be changed to << Close an open STP connection and clear the initiator affiliation. If a device does not support STP it shall process the CLOSE (CLEAR AFFILIATION) the same as CLOSE (NORMAL). >>

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Sequence number: 1
Author: LSI John Lohmeyer

Date: 1/6/2003 1:31:46 PM
Type: Highlight
    ACCEPT - DONE
    7.1.4.6 EOAF (End of address frame)
    The link to 7.4 is wrong. Replace it with a link to 7.7.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 1:34:55 PM
Type: Strikeout
    ACCEPT - DONE
    7.1.4.9 NOTIFY
    Last sentence of third paragraph. Delete "as described in TBD" or fill in a valid TBD.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/6/2003 1:34:45 PM
Type: Highlight
    REJECT - there's no real prohibition against sending it to other types of SAS devices. Only SSP targets require it.
    7.1.4.9 NOTIFY
    In the fourth paragraph, replace "while" with "only while".

Sequence number: 4
Author: MXO Mark Evans
Date: 1/8/2003 1:04:19 PM
Type: Highlight
    REFER EDITORS WG
    7.1.4.9 NOTIFY, first paragraph
    It could be problematic to send a NOTIFY during the phy reset sequence. Therefore, change the first sentence to: "A NOTIFY may
    be sent in place of an ALIGN during rate matching and clock skew management (i.e., a NOTIFY shall not be sent in place of an
    ALIGN during character and dword alignment during the phy reset sequence."

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 11:21:04 AM
Type: Highlight
    ACCEPT - DONE
    7.1.4.6 EOAF (End of address frame)
    change <7.4> to "7.7"
    (section 7.4 is about crc)

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 11:21:48 AM
Type: Highlight
    REJECT - The SP_DWS state machine has the text that says bad dwords are replaced by ERROR primitives, and is the correct
    reference.
    7.1.4.7 ERROR
    change <6.9> t o ????
    (6.9 about SAS DWORD synchronization)

Sequence number: 7
Author: SEG wordenj
Date: 1/6/2003 1:31:21 PM
Type: Highlight
    ACCEPT - DONE
    7.1.4.9 NOTIFY
    change <TBD> to a real reference
    (Should be no TBD's in the spec.)

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    7.1.4.9 NOTIFY
    The TBD needs to be replaced with a reference.

Sequence number: 9

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
　　REFER EDITORS WG - it says "is only valid" during that time, is it necessary to say ignored otherwise?
　　7.1.4.8 HARD_RESET
　　There should be a statement that states that the HARD_RESET shall be ignored if received at any time other than after a phy
　　reset sequence and before the identification sequence.

Sequence number: 10
Author: IBM
Date: 1/8/2003 1:04:01 PM
Type: Highlight
　　ACCEPT - DONE
　　7.1.4.9 NOTIFY
　　The statement << devices shall transmit NOTIFY (ENABLE_SPINUP) >> should changed to << devices shall use NOTIFY
　　(ENABLE_SPINUP) >>. The rules for usage do follow in this paragraph but the use of the word << transmit >> in this sentence
　　makes the sentence seem incomplete.

Sequence number: 11
Author: IBM
Date: 1/16/2003 6:32:32 PM
Type: Note
　　REJECT - TODO (Either ALIGN or NOTIFY fulfills the 2048 dwords.)
　　7.1.4.9 NOTIFY
　　****
　　The way this is now it is possible that the receiver may not get an ALIGN within the 2048 dwords if a NOTIFY replaces an ALIGN.
　　There needs to be a rule that when sending NOTIFYs the transmitter is still required to send ALIGNs at least once every 2048
　　dwords.

Sequence number: 12
Author: INTC
Date: 1/6/2003 1:31:04 PM
Type: Highlight
　　ACCEPT - DONE
　　7.1.4.9 NOTIFY
　　NOTIFY (ENABLE_SPINUP)
　　Add correct reference for TBD.

Sequence number: 13
Author: INTC
Date: 1/22/2003 9:48:13 AM
Type: Highlight
　　ACCEPT - DONE (change "accept" to "honor" and "all target ports equivalently")
　　7.1.4.9 Notify
　　Meaning of 'accept' here requires clarification.

Sequence number: 14
Author: DSS
Date: 1/6/2003 3:13:32 PM
Type: Note
　　ACCEPT - DONE
　　10. (E) Section 7.1.4.6, second paragraph. Reference is wrong - should be
　　7.7.

Sequence number: 15
Author: ADPT
Date: 1/8/2003 1:02:38 PM
Type: Note
　　ACCEPT - DONE
　　23.0 P138, 7.1.4.9, 4th para - TBD?

Sequence number: 16
Author: Vixel
Date: 1/8/2003 9:28:41 AM
Type: Highlight
　　ACCEPT - DONE
　　Clause 7.1.4.6
　　Clause 7.1.4.12
　　Change reference to clause 7.7 .

Sequence number: 17
Author: LSI Brian Day
Date: 1/8/2003 9:43:33 AM
Type: Note
ACCEPT - DONE (should ALIGN have a table too?)
7.1.4.9 NOTIFY
page 138.
The NOTIFY does not have a table as the other primitives, and should be added.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
7.1.4.11 OPEN_REJECT, Table 61 - OPEN_REJECT abandon primitives, description for OPEN_REJECT (CONNECTION RATE NOT SUPPORTED)
Add a parenthetical something like the following to the last sentence, "(the connection shall be retried as described in 4.5)."

Sequence number: 2
Author: MXO Mark Evans
Date: 1/17/2003 12:12:28 PM
Type: Highlight
ACCEPT - TODO ("would have to be routed")
7.1.4.11 OPEN_REJECT, Table 61 - OPEN_REJECT abandon primitives
In the description of OPEN_REJECT (BAD DESTINATION) change "needs to be routed" to "is to be routed".

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
Table 61
The term << affiliation >> needs to be defined.

Sequence number: 4
Author: FUJ
Date: 1/22/2003 10:06:45 AM
Type: Highlight
ACCEPT - DONE (change "response" to "the result of")
FUJITSU-4
PDF page : 139
Section : 7.1.4.11 OPEN_REJECT
Figure/Table :
Paragraph/sentense/row/colum line 2
Comment : "The response to some OPEN_REJECTs is to abandon the connection
request and the response to other OPEN_REJECTs is to retry the
connection request."   This "response" makes confusion as RESPONSE
to the originator of OPEN_REJECT. An "action" seems better to
understanding.

Sequence number: 5
Author: FUJ
Date: 1/17/2003 6:23:27 PM
Type: Highlight
ACCEPT - TODO (change "Any device" to "any phy" (check other tables nearby). This does not only apply to expanders. The last
sentence in the description describes the direct-connect situation which does not include an expander.)
FUJITSU-5
PDF page : 139
Section : 7.1.4.11 OPEN_REJECT
Figure/Table :Table 61
Paragraph/sentense/row/colum: 2nd row
Comment : OPEN_REJECT (CONNECTION RATE NOT SUPPORTED) by "Any device".
No Expander case, this is a mistake of OOB speed matching
sequence.
But how to communicate using different speed?

So, this is the case of only Expander.

Sequence number: 6
Author: FUJ
Date: 1/17/2003 6:10:30 PM
Type: Note
    REJECT (no change requested)
    FUJITSU-6
    PDF page : 139
    Section : 7.1.4.11 OPEN_REJECT
    Figure/Table : Table 61
    Paragraph/sentense/row/colum : 1st, last row
    Comment : In case of BAD/WRONG destination, Initiator can report to Upper Application, but device can do nothing except to terminate the
    command. This kind of logical error should be reported on
    appropriate method.

Sequence number: 7
Author: PostLB
Date: 1/13/2003 10:41:51 AM
Type: Note
    ACCEPT - TODO (Jan WG treat as OPEN_REJECT (WRONG DESTINATION))
    what if OPEN_REJECT (STP RESOURCES BUSY) is the reply to an SSP or SMP request?

Sequence number: 8
Author: PostLB
Date: 1/13/2003 12:42:15 PM
Type: Highlight
    originator could be destination phy for a native STP target

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/16/2003 6:42:44 PM
Type: Highlight
    ACCEPT - TODO (Either:
    a) no such destination device; or
    b) the SAS address is valid for a SATA target device attached to an expander device, but the initial Register FIS has not been successfully received.
)
    7.1.4.11 OPEN_REJECT
    Table 62 - OPEN_REJECT retry primitives
    The wording in the description of OPEN_REJECT (NO DESTINATION) is confusing. I think you should replace "devices" with "device" in the third line, but perhaps there is a better change.

Sequence number: 2
Author: SEG wordenj
Date: 1/8/2003 1:08:00 PM
Type: Highlight
    ACCEPT - DONE
    7.1.4.11 OPEN_REJECT
    Table 62 — OPEN_REJECT retry primitives
    change <devices> to "device"

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    ACCEPT - DONE
    Table 62
    There needs to be a double line between the body and footer.

Sequence number: 4
Author: LSI Tim Hoglund
Date: 1/8/2003 1:07:27 PM

Type: Note
    REVIEW PROTOCOL WG
    REJECT (the "or"ed ones can never happen simultaneously so placing a priority requirement on them is going too far.)
    7.1.4.11 OPEN_REJECT
    page 140
    Priority list for expander devices transmitting OPEN_REJECT is ambiguous.
    Clarify using the following priorities:
    1) OPEN_REJECT(BAD DESTINATION)
    2) OPEN_REJECT(NO DESTINATION)
    3) OPEN_REJECT(CONNECTION RATE NOT SUPPORTED)
    4) OPEN_REJECT(STP RESOURCES BUSY)
    5) OPEN_REJECT(PATHWAY BLOCKED)

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 1:40:57 PM
Type: Highlight
    ACCEPT - DONE
    7.1.4.12 SOAF (Start of address frame)
    The link to 7.4 is wrong. Replace it with a link to 7.7.

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 11:22:34 AM
Type: Highlight
    ACCEPT - DONE
    7.1.4.12 SOAF (Start of address frame)
    change <7.4> to "7.7"

Sequence number: 3
Author: IBM
Date: 1/17/2003 1:28:01 PM
Type: Square
    ACCEPT - TODO
    Table 63
    The statement << Timed out waiting for an ACK or NAK. The ACK/NAK count does not match the frame count. Transmitter is going to transmit
    BREAK in 1 ms unless DONE is received prior to that. >>
    should be
    << The SSP state machine timed out waiting for an ACK or NAK (see 7.16.7.2) and the transmitter is going to transmit BREAK unless a DONE is received within 1 ms of transmitting the DONE (ACK/NAK TIMEOUT).

Sequence number: 4
Author: INTC
Date: 1/17/2003 1:46:21 PM
Type: Highlight
    ACCEPT - TODO (see IBM comment)
    7.1.5.3 DONE
    Table 63
    Ack/NAK TIMEOUT
    "is going to" Sentence s/b xref to where the behavior is defined

Sequence number: 5
Author: DSS
Date: 1/6/2003 3:13:56 PM
Type: Note
    ACCEPT - DONE
    11. (E) Section 7.1.4.12, second paragraph. Reference is wrong - should be
    7.7.

Page: 142

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 11:24:04 AM
Type: Strikeout
    ACCEPT - DONE
    7.1.5.6 RRDY (Receiver ready)
    Remove:
    "RRDY (RESERVED 2) Reserved. Processed the same as RRDY (NORMAL)."
    There is no primitive code assigned for this.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 1:52:54 PM
Type: Highlight
    REJECT - no, normal ERROR is used in that case
    7.1.6.1 SATA_ERROR
    In the first paragraph, isn't SATA_ERROR also sent when forwarding dwords from a SATA link to a SAS link and an invalid dword
    is received?

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/6/2003 1:52:16 PM
Type: Highlight
    ACCEPT - DONE
    7.1.6.2 SATA_PMACK, SATA_PMNAK, SATA_PMREQ_P, and SATA_PMREQ_S (Power management
    acknowledgements and requests)
    The link to 7.4 is not correct. I think 7.9 is the correct link.

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 11:23:57 AM
Type: Highlight
    ACCEPT - DONE
    7.1.5.6 RRDY (Receiver ready), Table 65 - RRDY primitives
    Delete RRDY (RESERVED 2) as there is no such primitive.

Sequence number: 5
Author: SEG wordenj
Date: 1/6/2003 1:41:48 PM
Type: Highlight
    ACCEPT - DONE
    7.1.6.2 SATA_PMACK, SATA_PMNAK, SATA_PMREQ_P, and SATA_PMREQ_S (Power management
    acknowledgements and requests)
    change <7.4> to ????
    (7.4 is about CRC)

Sequence number: 6
Author: INTC
Date: 1/6/2003 1:42:19 PM
Type: Highlight
    ACCEPT - DONE
    7.1.6.3 SATA_HOLD and SATA_HOLDA
    "...transmitting a SATA_HOLD." should be changed to
    "...receiving an SATA_HOLD"

Sequence number: 7
Author: PostLB
Date: 1/14/2003 5:05:23 PM
Type: Note
    REFER EDITORS WG (ACCEPT Jan WG TODO)
    7.1.6.3 SATA_HOLD and HOLDA
    SATA's 20 dwords is too loose. Should we mandate stopping transmitting within 19 to meet a receiver expectation of 20?
    26.667 ns for one primitive (At 1.5 Gbps)
    5 ns/m delay   10 m external cable => 2 dwords at 1.5 Gbps; 4 at 3.0 Gbps
    Receive buffer approach:
    1. STP data receivers shall accept (20 + 4n) dwords after sending HOLD (4n = 8 at 3 Gbps, 4 at 1.5 Gbps)
    2. STP data transmitters shall send no more than 20 dwords after receiving HOLD
    Mention that round-trip is used to select 4. This also/mostly goes into 7.17.2.

outside the scope: SATA link from expander to SATA drive follows SATA rules (should transmit only 19 dwords and receive 21 to be safe)

Sequence number: 8
Author: LSI Brian Day
Date: 1/8/2003 1:16:52 PM
Type: Note
    REFER PROTOCOL WG (Added "When transmitting a frame, " to head the sentence and fixed transmitting to receiving. Also may need to describe "when receiving a frame" but don't want to restate the SATA standard.)
    7.1.6.3 SATA_HOLD and SATA_HOLDA
    page 142
    The first sentence is incorrect. Replace sentence with "An expander device running SATA protocol shall transmit a SATA_HOLDA within 20 dwords of receiving a SATA_HOLD when it is the source of the data dwords of the frame."

Sequence number: 9
Author: PostLB
Date: 1/14/2003 1:31:46 PM
Type: Highlight
    7.1.6.3 and global
    Change SATA protocol to just SATA

Page: 143

Sequence number: 1
Author: HP relliott
Date: 1/6/2003 1:45:56 PM
Type: Note
    ACCEPT - DONE
    7.2 Clock skew management
    Remove blank line after second paragraph

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 1:46:08 PM
Type: Highlight
    ACCEPT - DONE
    7.2 Clock skew management
    In the second paragraph, replace "To solve this," with "To solve this problem,".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.2 Clock skew management
    In the second paragraph, replace "strip it out" with "strip them out".

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.2 Clock skew management
    In the second paragraph, replace "make it to" with "are placed into".

Sequence number: 5
Author: SEG Coomesj
Date: 1/6/2003 1:46:31 PM
Type: Highlight
    ACCEPT - DONE (with transmitting not originating)
    7.2 Clock skew management
    Change: "devices" to: "originating devices"

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (joined two sentences with and)

7.2 Clock skew management
The statement << This is used when transmitting data >> should be << The internal clock is used when transmitting data >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REFER PROTOCOL WG - it's really concerned with bits, not dwords here. Data is a good generic term.
7.2 Clock skew management
The statement << data needs to be latched based >> should be << dwords need to be latched based >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.2 Clock skew management
The statement << receive data
and not be able to >> should be << receive dwords and not be able to

Sequence number: 9
Author: IBM
Date: 1/16/2003 6:36:03 PM
Type: Highlight
ACCEPT - TODO (change all these "data" to "dwords". In the figure, "clock derived from serial bitstream")
7.2 Clock skew management
The statement << have data when needed >> should be << have dwords when needed >>.

Sequence number: 10
Author: IBM
Date: 1/8/2003 1:18:12 PM
Type: Highlight
REVIEW EDITORS WG
REJECT (this is a valid use of "will")
7.1.6.3 SATA_HOLD and SATA_HOLDA (Hold and hold acknowledge)
The statement << SATA_HOLDA will arrive within >> should be << SATA_HOLDA arrives within >>.

Sequence number: 11
Author: ADPT
Date: 1/8/2003 1:18:00 PM
Type: Note
ACCEPT - DONE
24.0 P143, 7.1.6.5, delete "used as"

Sequence number: 12
Author: LSI Brian Day
Date: 1/22/2003 9:51:51 AM
Type: Note
ACCEPT - DONE (change to "shall not transmit SATA_X_RDY or SATA_R_RDY on the SATA physical link until...")
7.1.6.4 SATA_R_RDY and SATA_X_RDY
page 143
Last sentence should start "Expander or initiator devices..."

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 1:55:38 PM
Type: Strikeout
ACCEPT - DONE (added "a phy" before "that is" so it doesn't look like i.e. is being replicated)
7.2 Clock skew management
Paragraph above Table 66. Change "(i.e., that is not..." to "(i.e., not...".

Sequence number: 2
Author: MXO Mark Evans
Date: 1/16/2003 7:07:27 PM
Type: Highlight

REJECT - TODO (this is correct as written, but the transmit rule needs to say that's for transmitting to SATA only. Add "The ALIGNs received by the expander device containing the STP/SATA bridge may not arrive in pairs" to start the note. Pull the the last sentence out of the note into the paragraph above.
7.2 Clock skew management, note 19
Delete this note. An expander device may delete all ALIGNs only so long as the rules described in Table 66 are met.

Sequence number: 3
Author: SEG Coomesj
Date: 12/30/2002 11:25:07 AM
Type: Highlight
    ACCEPT - DONE
    7.4.1 CRC Overview
    3rd paragraph
    "Annex B contains. . ."
    s.b.
    "Annex C contains. . ."

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    ACCEPT - DONE
    Table 66
    Make the information << Original source of data
    SSP initiator phy or target phy in SSP connection, SMP initiator phy or SMP target phy in SMP connection, Any phy outside connections, or
    STP target phy in an STP connection >> into a left aligned a,b,c list.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.2 Clock skew management
    The term << amongst >> should << through >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.3 Idle links
    ACCEPT - DONE (slightly different)
    The statement << While no connection is open and a physical link is idle, or while an SSP or SMP connection is open and the physical link is idle, SAS phys shall transmit idle dwords. >> should be << SAS phys shall transmit idle words if:
    a) no connection is open and a physical link is idle;
    b) an SSP connection is open and the physical link is idle; or
    c) an SMP connection is open and the physical link is idle. >>

Sequence number: 7
Author: PostLB
Date: 1/25/2003 11:02:23 AM
Type: Highlight
    ACCEPT - DONE
    dwords (i.e., is not the original source of the data)

Sequence number: 8
Author: PostLB
Date: 1/16/2003 6:51:43 PM
Type: Highlight
    data sb dword all over on this page

Sequence number: 9
Author: PostLB
Date: 1/25/2003 11:01:51 AM
Type: Highlight
    ACCEPT - DONE
    7.2 clock skew management
    for expander devices forwarding dwords from SAS phys to SAS phys

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/8/2003 1:18:56 PM
Type: Strikeout
> ACCEPT - DONE
> 7.4.2 CRC generation, NOTE 21
> Delete the word "simply".

Sequence number: 2
Author: SEG Coomesj
Date: 1/6/2003 1:58:13 PM
Type: Highlight
> REJECT - such an "initial value" assumes a certain implementation. This section has generic equations which do assume any implementation.
> 7.4.2 CRC generation
> Add a subclause:
> 7.4.x CRC initial value
> The CRC value shall be initialized with a value of FFFFFFFFh before the calculation begins.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> REJECT - there's no overlap between lines, and the suggested setting adds awkward look extra space to some of the lines but not all
> Table 67
> The paragraphs within the definitions should have the paragraph designer, basic, line spacing, fixed box unchecked. This will remove the superscripts running into the line above.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 2:00:19 PM
Type: Highlight
> ACCEPT - DONE
> 7.4.2 CRC generation
> In the sentence above 7.4.3, the link to 6.5 is wrong. I think it should be to 7.6, Bit order of CRC and Scrambler.

Sequence number: 2
Author: SEG wordenj
Date: 1/6/2003 2:00:33 PM
Type: Highlight
> ACCEPT - DONE (should be 7.6)
> 7.4.2 CRC generation
> (last sentence)
> change <6.5> to correct reference
> (reference should be to dword flow, 6.5 is about OOB signals)

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> ACCEPT - DONE
> 7.4.2 CRC generation
> The statement << order - the bits within each byte of the data dword are transposed to match the implicit transposition in the 8b10b encoding process. >> should be << order (i.e., the bits within each byte of the data dword are transposed to match the implicit transposition in the 8b10b encoding process). >>.

Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 2:02:12 PM
Type: Highlight
    ACCEPT - DONE
    7.4.3 CRC checking
    In the penultimate paragraph, the link to 6.5 is wrong. I think it should be to 7.6, Bit order of CRC and Scrambler.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 2:02:01 PM
Type: Highlight
    ACCEPT - DONE (removed paragraph)
    7.4.3 CRC checking
    In the last paragraph, the link to Annex B is wrong. I think it should be to Annex C, CRC.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/8/2003 1:29:50 PM
Type: Highlight
    ACCEPT - DONE
    7.5 Scrambling
    In the paragraph above table 69, the reference to 6.5 is wrong. I think it should be to 7.6, Bit order of CRC and Scrambler.

Sequence number: 4
Author: LSI John Lohmeyer
Date: 1/8/2003 1:29:39 PM
Type: Highlight
    ACCEPT - DONE
    7.5 Scrambling
    In the first paragraph, second sentence, replace "issues" with "EMI issues".

Sequence number: 5
Author: MXO Mark Evans
Date: 1/6/2003 2:01:15 PM
Type: Strikeout
    ACCEPT - DONE
    7.4.3 CRC checking
    Delete the last paragraph ("Annex B contains examples of CRC generation/checker implementations.") as this is already stated in
    the Overview clause (see 7.4.1).

Sequence number: 6
Author: SEG wordenj
Date: 1/6/2003 2:01:45 PM
Type: Highlight
    ACCEPT - DONE
    7.4.3 CRC checking
    change <6.5> to correct reference
    (reference should be to dword flow, 6.5 is about OOB signals)

Sequence number: 7
Author: SEG wordenj
Date: 1/8/2003 1:29:12 PM
Type: Highlight
    ACCEPT - DONE (reference is to 7.6 Bit order)
    7.5 Scrambling
    change <6.5> to correct reference
    (reference should be to dword flow, 6.5 is about OOB signals)

Sequence number: 8
Author: SEG Coomesj
Date: 1/25/2003 11:09:12 AM
Type: Highlight
    ACCEPT - DONE (Replace paragraph and table with: The polynomial shall be applied to the lower 16 bits of the 32-bit dword

being transmitted or received first; the polynomial is then applied to the upper 16 bits. See 7.6 for details on how ... Move the STP bit ordering figures into 7.6 from the informative annex. Move the STP CRC figure into 7.x too.)
7.5 Scrambling
There is no endianness to the scrambling process. Scrambling operates on the parallel 32 bits of a dword. Both SAS and SATA process the bits of a dword without regard to the byte significates the same way, lower 16 bits followed by the upper 16 bits. Delete this sentence and Table 69— Scrambling endianness.

Sequence number: 9
Author: SEG Coomesj
Date: 1/6/2003 2:02:50 PM
Type: Highlight
    ACCEPT - DONE (removed paragraph)
    7.4.3 CRC Checking
    "Annex B contains. . ."
    s.b.
    "Annex C contains. . ."

Sequence number: 10
Author: SEG Coomesj
Date: 1/25/2003 11:09:42 AM
Type: Highlight
    ACCEPT - DONE (Jan WG: accept without the e.g.)
    7.5 Scrambling
    Srambling works for all repeating patterns.
    Change:
    long strings of zeros or ones
    To:
    long strings of repeating patterns, e.g., all zeros and ones,

Sequence number: 11
Author: SEG Coomesj
Date: 1/6/2003 2:05:16 PM
Type: Highlight
    ACCEPT - DONE (deleted entire i.e. since it's hard to describe all the cases)
    7.5 Scrambling
    change
    (i.e., between
    frames),
    to:
    (i.e., between
    frames and not seding primitives)

Sequence number: 12
Author: SEG Coomesj
Date: 1/17/2003 11:13:39 AM
Type: Highlight
    REFER PROTOCOL WG (Jim Coomes will investigate how to word this in mathematical equations)
    7.5 Scrambling
    The initialize value is determined by the scrambler implementation, serial or parallel. Also, a clarification:
    Change to:
    The data scrambling value shall be initialized at each SOF, SOAF, and SATA_SOF by both the transmitter and receiver. The data being transmitted shall be XORed with the data scrambling value by the transmitter, and the data being received shall be XORed with the data scrambling value by the receiver. The initial value is selected to produce the required scramblilng value for the first value following a reset , e.g., any SOF or device reset (see Annex E). For a given dword displacement from the last data scrambling value reset , the data scrambling value is the same.

Sequence number: 13
Author: IBM
Date: 1/17/2003 11:28:23 AM
Type: Highlight
    REJECT (but sentence being deleted)
    7.5 Scrambling
    The statement << Table 69 shows when the scrambling logic shall treat data as big-endian and when it shall treat data as little-endian. >> should be << Table 69 shows when the scrambling logic shall handle data as big-endian and when it shall handle data as little-endian. >> .

Sequence number: 14
Author: IBM
Date: 1/17/2003 11:05:07 AM

Type: Highlight
ACCEPT - TODO (delete second sentence)
7.5 Scrambling
The statement << These patterns can cause issues in the physical >> should be << These patterns may cause issues in the physical >>.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
ACCEPT - DONE
7.7.1 Address frames overview
The statement << Primitives may be inserted in the address frame. >> is no longer valid and needs to be deleted.

Sequence number: 2
Author: LSI Brian Day
Date: 1/8/2003 1:31:47 PM
Type: Note
ACCEPT - DONE (per other comment, just removed that sentence.)
7.7.1 Address frame overview
page 149.
Only ALIGNS should be allowed inside address frames. Change third sentence to "Except for ALIGN, primitives may not be inserted in the address frame."

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/8/2003 1:32:07 PM
Type: Highlight
REJECT (if we put the range here it's bound to change)
7.7.1 Address frames overview
In the paragraph below table 71, replace "entire address frame" with "address frame (bytes 0 through 27)".

Sequence number: 2
Author: IBM
Date: 1/24/2003 7:13:10 PM
Type: Strikeout
ACCEPT - DONE
7.7.2 IDENTIFY address frame
The statement << The recipient shall ignore reserved and ignored fields in the IDENTIFY address frame. >> should be deleted as the information is already stated in the keywords definitions.

Sequence number: 3
Author: PostLB
Date: 1/24/2003 7:12:51 PM
Type: Highlight
ACCEPT - DONE (actually Restricted)
Make this Ignored

Sequence number: 4
Author: PostLB
Date: 1/24/2003 7:10:17 PM
Type: Note
ACCEPT - DONE
change Ignored fields to Restricted. The IDENTIFY frame is the source for them, and should set them to 0 so other data structures can fill them in.

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Sequence number: 1
Author: HP relliott
Date: 1/6/2003 2:10:19 PM
Type: Highlight
ACCEPT - DONE (changed device to port)
7.7.2 IDENTIFY address frame
"The SAS ADDRESS field indicates the SAS address of the device transmitting the IDENTIFY address frame."
It's really the SAS address of the port, not the device.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 3:48:20 PM
Type: Highlight
ACCEPT - DONE
7.7.2 IDENTIFY address frame
Reorder the paragraphs below Table 73 - Device types such that the descriptions of the fields are in the common-practice order of their appearance in the table (i.e., top to bottom and left to right).

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 3:48:04 PM
Type: Note
ACCEPT - DONE
7.7.2 IDENTIFY address frame
Add the following paragraph after Table 73 - Device types: "The ADDRESS FRAME TYPE field shall be set to 0h."

Sequence number: 4
Author: DSS
Date: 1/8/2003 1:32:39 PM
Type: Note
ACCEPT - DONE
12. (T) Section 7.7.2, seventh paragraph after table 73. Shouldn't this be
"the SAS Address of the port
transmitting the IDENTIFY address frame"?

Sequence number: 5
Author: ADPT
Date: 1/24/2003 7:15:16 PM
Type: Note
ACCEPT - DONE (changed all "device" to "port" and made sure all are defined in ch3)
25.0 P151, clarify what is a SMP target/initiator?

Sequence number: 6
Author: PostLB
Date: 1/24/2003 7:08:29 PM
Type: Note
ACCEPT - DONE
7.7.3 OPEN address frame
Add CRC field paragraph.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 3:48:56 PM
Type: Note
ACCEPT - DONE
7.7.3 OPEN address frame
The descriptions of the fields in table 74 should be re-ordered to match the order of the fields in the table.

Sequence number: 2
Author: MXO Mark Evans

Date: 12/30/2002 3:48:38 PM
Type: Note
    ACCEPT - DONE
    7.7.3 OPEN address frame
    Reorder the paragraphs below Table 74 - OPEN address frame format such that the descriptions of the fields are in the
    common-practice order of their appearance in the table (i.e., top to bottom and left to right).

Sequence number: 3
Author: IBM
Date: 1/16/2003 7:28:57 PM
Type: Strikeout
    ACCEPT - TODO (Move all the reasons for OPEN REJECT into the OPEN REJECT table in 7.7.early.)
    7.7.3 OPEN address frame
    The statement << The destination device shall reject the connection request with OPEN_REJECT (PROTOCOL NOT
    SUPPORTED) if the PROTOCOL field is set to a value it does not support. >> should be deleted as this information is already
    stated in the state machines.

Sequence number: 4
Author: PostLB
Date: 1/24/2003 7:03:09 PM
Type: Highlight
    ACCEPT - DONE
    7.7.3 OPEN address frame
    Table 74 - OPEN address frame format
    Delete (MSB) and (LSB)

Sequence number: 5
Author: PostLB
Date: 1/24/2003 7:05:47 PM
Type: Highlight
    ACCEPT - DONE (per Jan WG)
    Change all Reserved fields here to COMPATIBLE FEATURES
    Transmitters shall set these to zero.
    Recipient shall not check these fields.

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Sequence number: 1
Author: SEG Coomesj
Date: 1/21/2003 1:14:19 PM
Type: Highlight
    ACCEPT - TODO (in 4.1.11 Connections, add an introduction to connection rate and include this rule with Jim's comment. Point to
    4.1.11 from here and from 7.15 Rate matching).
    7.7.3 OPEN address frame
    for clarification add:
    This support may use rate matching.

Sequence number: 2
Author: IBM
Date: 1/21/2003 1:05:31 PM
Type: Strikeout
    (move to 7.15)
    7.7.3 OPEN address frame
    The statement << Every phy shall support the 1,5 Gbps connection rate at every physical link rate. >> should be deleted as this is
    not the place to put link speed requirements.

Sequence number: 3
Author: IBM
Date: 1/24/2003 7:18:31 PM
Type: Strikeout
    ACCEPT - DONE (changing Reserved to Compatible Features; shall set to zero, receivers shall not check. This is NOT the normal
    definition of reserved.)
    The statement << The destination device shall ignore the contents of reserved fields in the OPEN address frame. >> should be
    deleted as it is already stated in the keywords definitions section.

Sequence number: 4

Author: IBM
Date: 1/24/2003 7:17:57 PM
Type: Strikeout
REFER PROTOCOL WG
7.7.3 OPEN address frame
The statement << The INITIATOR CONNECTION TAG field is used for SSP and STP connection requests to provide an initiator port
an easier context lookup when the target port originates a connection request. >> states no requires or options and should be deleted.

Sequence number: 5
Author: LSI Brian Day
Date: 1/13/2003 5:57:47 PM
Type: Note
REJECT (but deleted the conflicting paragraph in 7.15)
REFER PROTOCOL WG (I think 7.15 should be fixed and this paragraph is correct. If there is one possible 3 Gbps path, the initiator should be allowed to request it, even if 1.5 Gbps paths might be available along the way. It may request 1.5 if it cares more about connecting that getting a certain rate.)
7.7.3 OPEN address frame
page 153.
Middle of page, sentence starting "When requesting a connection to a target port..." conflicts with section 7.15. Change sentence to "When requesting a connection to a target port, an initiator port shall set the CONNECTION RATE field to the slowest negotiated physical link rate on any potential intermediate physical link."

Sequence number: 6
Author: PostLB
Date: 1/21/2003 1:29:45 PM
Type: Note
ACCEPT - TODO
check use of pathway vs. wide links
Is pathway only one physical link in the wide link (implied by ch4), or is it all the physical links in the wide link (implied by here)?
ch4 wins.
"to a value supported by a potential pathway. For each wide link in a potential pathway, ..."
Use potential pathway throughout where needed

Sequence number: 7
Author: PostLB
Date: 1/24/2003 7:17:23 PM
Type: Strikeout
ACCEPT - DONE (Per 1/21 SAS call, delete this sentence.)
"The requested connection rate shall not exceed the slowest negotiated physical link rate along the pathway."

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 2:12:42 PM
Type: Highlight
ACCEPT - DONE
7.8.1 Overview
In the penultimate paragraph, replace "it" with "the additional IDENTFY address frame".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
7.8.2 Initiator device specific rules
7.8.3 Fanout expander device specific rules
7.8.4 Edge expander device specific rules
Delete "specific" from each of these subclause titles.

Sequence number: 3
Author: SEG Coomesj
Date: 1/24/2003 7:30:46 PM
Type: Highlight
ACCEPT - DONE (keep this wording. Make a table with 0000, 7FFF, 8000, maybe 8001h, and FFFFh values in it.. Check rest of

document for SCALE bit and AWT field references.)
7.7.3 OPEN address frame
The concept of the scale bit is confusing to implementors. Suggest dropping the scale bit and describing the behavior of a 16 bit AWT by range:
The ARBITRATION WAIT TIME field indicates how long the port transmitting the OPEN address frame has been waiting for a connection request to be accepted. For values from 0000h to 7FFFh the AWT increments in 1 usec steps. For values from 8000h to FFFFh the AWT increments in 1 msec steps. The maximum value represents 32 767 ms + 32 768 µs.
Also, delete table 77, the scale bit in table 74.

Sequence number: 4
Author: IBM
Date: 1/24/2003 7:24:19 PM
Type: Highlight
  REFER PROTOCOL WG
  REJECT (shall expect is a rule, which we are trying to establish here)
  7.8.1 Overview
  The statement << Each phy shall also expect to receive an >> should be << Each phy receives an >>.

Sequence number: 5
Author: IBM
Date: 1/24/2003 7:23:13 PM
Type: Highlight
  ACCEPT - DONE (this IS the definition of it. Nevertheless, pointed to 4.4.1 the reset overview)
  7.8.1 Overview
  The statement << link reset sequence. >> should be << link reset sequence (see x.x.x.) >>.

Sequence number: 6
Author: DSS
Date: 1/24/2003 7:21:34 PM
Type: Note
  ACCEPT - DONE (changed other text indicating the address is for the device. It's for the port.)
  13. (T) Section 7.8.1, forth paragraph. In section 7.7.2, the SAS ADDRESS
  field is defined as belonging to the device, not the port. Here it looks like the port's SAS Address. If it is not the port's SAS address, but is in fact the devices SAS Address, this statement is incorrect and it is not possible to
  detect that multiple Phys are attached to the same port using the SAS
  Address. If instead a Phy is supposed to report the SAS Address of the port it is attached to, then expander devices will need to assign a unique SAS Address to each port.

Sequence number: 7
Author: Vixel
Date: 1/17/2003 3:06:50 PM
Type: Highlight
  ACCEPT - TODO (use "SMP initiator port" and management application client)
  Clause 7.8.2
  Does this requirement preclude an expander from performing the discover process? Does this require an expander to implement a full SCSI initiator if it only intends to perform the discover process?
  If so, this needs to be clarified so that an expander can perform the discover process without implementing a full SCSI initiator.

Sequence number: 8
Author: PostLB
Date: 1/24/2003 7:08:11 PM
Type: Note
  ACCEPT - DONE
  7.7.3 OPEN address frame
  Add CRC field paragraph.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
  7.8.2 Initiator device specific rules
  Replace the second paragraph with "When the discover process is done after a link reset sequence, the application client within an initiator device discovers all the devices in the SAS domain. When the discover process is done after a BROADCAST (CHANGE), the application client within an initiator device determines what has changed in the SAS domain.".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
7.8.4 Edge expander device specific rules
Assuming my previous comment on the 7.8.2 title is accepted, delete "specific" in the second paragraph of this subclause.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/24/2003 7:40:57 PM
Type: Strikeout
ACCEPT - DONE
7.8.5.1 Overview
Delete reference to 7.8; we are already in subclause 7.8.

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.8.2 Initiator device specific rules, second paragraph
Reword this to: "When a discover process is performed after a link reset sequence, the application client may discover all of the devices in the SAS domain. When a discover process is performed after a BROADCAST (CHANGE), the application client may determine what has changed in the SAS domain."

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.8.2 Initiator device specific rules, fourth paragraph
Reword this to: "If during the discover process (see 4.6.11.5) the application client detects two ports with the same SAS address, it has found a routing loop. To break the loop the application client shall use the CONFIGURE ROUTE INFORMATION function (see 10.3.1.8) to disable the expander port through which the duplicate SAS address was detected."

Sequence number: 6
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.8.3 Fanout expander device specific rules
The identify sequence completes of a port by port basis and there is no global indication of when it complete for all ports on the expander.
Suggest:
"After completing the identify sequence on a port, the expander connection manager within a fanout expander device shall be capable of processing connection requests from the attached device on the port. The connection manager may return OPEN_REJECT (NO DESTINATION) if configuration is not complete."

Sequence number: 7
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.8.4 Edge expander device specific rules
same comment as for 7.8.3 -The identify sequence completes of a port by port basis and there is no global indication of when it complete for all ports on the expander.
Suggest:
"After completing the identify sequence on a port, the expander connection manager within a edge expander device shall be capable of processing connection requests from the attached device on the port. The connection manager may return OPEN_REJECT (NO DESTINATION) if configuration is not complete."

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.2 Initiator device specific rules
The statement << When this is done after a link reset sequence, this allows the application client within an initiator device to discover all the devices in the SAS domain. When this is done after a BROADCAST (CHANGE), this allows the application client within an initiator device to determine what has changed in the SAS domain. >> should be << If an application client initiates the discover process after a link reset sequence then on completion of the discovery that application client has discovered all the devices within the SAS domain. If the application client initiates the discovery process after a BROADCAST (CHANGE) then on completion of the discovery that application client has discovered any devices that have been removed or inserted into the SAS

domain. >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.2 Initiator device specific rules
The statement << a routing loop. It shall disable routing >> should be << a routing loop then the application client shall disable routing >> .

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.2 Initiator device specific rules
The statement << function request is used to disable the expander port of an expander device. >> should be << function request shall be used to disable the expander port of an expander device. >>

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
7.8.5.1 Overview
The statements << The SL_IR state machine sends the following parameters to the SL_IR transmitter:
a) Transmit IDENTIFY; and
b) Transmit HARD_RESET.
The SL_IR state machine receives the following parameters:
a) SOAF Received;
b) Data Dword Received;
c) EOAF Received; and
d) HARD_RESET Received. >> should be placed in section 7.8.6 as that is where the transmitter and receiver information is defined. That way it is all in one place.

Sequence number: 12
Author: IBM
Date: 1/24/2003 7:39:31 PM
Type: Note
ACCEPT - DONE
7.8.5.1 Overview
There needs to be an item << c) Transmit Idle Dword >> added to the SL_IR transmitter list.

Sequence number: 13
Author: IBM
Date: 1/24/2003 7:38:46 PM
Type: Note
ACCEPT - DONE
7.8.5.1 Overview
There needs to be an items << e) IDENTIFY Transmitted
f) HARD_RESET Transmitted >> add to the SL_IR receiver list.

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/24/2003 7:43:08 PM
Type: Highlight
REVIEW PROTOCOL WG
REJECT (this state machine is not used for SATA; SATA spec covers that mode)
7.8.5 Identification and hard reset (SL_IR) state machines, 7.8.5.1 Overview, Figure 67 - SAS link layer identification and hard reset (SL_IR) state machines
In the SL_IR_TIR1 state: delete "(SAS Enable)" as the argument for this confirmation may be either (SAS Enable) or (SATA Enable).

Sequence number: 2
Author: MXO Mark Evans
Date: 1/24/2003 7:43:03 PM

Type: Highlight
    REVIEW PROTOCOL WG
    REJECT (this state machine is not used for SATA; SATA spec covers that mode)
    7.8.5 Identification and hard reset (SL_IR) state machines, 7.8.5.1 Overview, Figure 67 - SAS link layer identification and hard reset (SL_IR) state machines
    In the SL_IR_RIF1 state: delete "(SAS Enable)" as the argument for this confirmation may be either (SAS Enable) or (SATA Enable).

Sequence number: 3
Author: MXO Mark Evans
Date: 1/24/2003 7:43:13 PM
Type: Highlight
    REVIEW PROTOCOL WG
    REJECT (this state machine is not used for SATA; SATA spec covers that mode)
    7.8.5 Identification and hard reset (SL_IR) state machines, 7.8.5.1 Overview, Figure 67 - SAS link layer identification and hard reset (SL_IR) state machines
    In the SL_IR_IRC1 state: delete "(SAS Enable)" as the argument for this confirmation may be either (SAS Enable) or (SATA Enable).

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    7.8.5 Identification and hard reset (SL_IR) state machines, 7.8.5.1 Overview, Figure 67 - SAS link layer identification and hard reset (SL_IR) state machines
    In the SL_IR_IRC2 state: Add a "HARD_RESET Received" confirmation from this state to the upper layers. This is already partly in the text for this state, and another Maxtor comment to the text clarifies this.

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    7.8.5 Identification and hard reset (SL_IR) state machines, 7.8.5.1 Overview, Figure 67 - SAS link layer identification and hard reset (SL_IR) state machines
    In the SL_IR_IRC2 state: add the "Identification Sequence Complete" confirmation to the management application layer. This is described in the corresponding text for this state.

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
    7.8.5 Identification and hard reset (SL_IR) state machines
    7.8.5.1 Overview
    Figure 67 — SAS link layer identification and hard reset (SL_IR) state machines
    Add a pink "out arrow up" with the text "HARD_RESET Received"
    This will agree with Table 18

Sequence number: 7
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
    7.8.5 Identification and hard reset (SL_IR) state machines
    7.8.5.1 Overview
    Figure 67 — SAS link layer identification and hard reset (SL_IR) state machines
    Add a pink "out arrow up" with the text "Identify Sequence Complete"
    (this will agree with the text in section 7.8.6.3.3.1 and table 18)

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 67
    Figure 67
    The << Enable Disable Link Layer (Disable) >> confirmation needs to point into each of the 3 state machines. The statement << (to all states in all state machines, causing transition to Idle state) >> should be changed to << ((This parameter causes a transition to SL_IR_xxx1:Idle) >> replace xxx with TIR, RIF, and IRC on the appropriate arrow.

Sequence number: 9
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 67
    Several of the green arrows look like they are originating from other states. They should be shortened to avoid confusion.

Sequence number: 10
Author: IBM
Date: 1/24/2003 7:41:52 PM
Type: Circle
    ACCEPT - DONE
    Figure 67
    The << Enable Disable SAS Link (Enable) >> should indicate it goes to SL or XL.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.8.6 SL_IR transmitter and receiver
    In the paragraph below the list, what should the SL_IR transmitter do if a primitive is requested to be transmitted while sending an
    IDENTIFY address frame? Discard the primitive or store it until the EOAF?

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.8.6 SL_IR transmitter and receiver
    The last sentence of the last paragraph is not clear. We need to explain what is magical about the 8th data dword.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.8.6 SL_IR transmitter and receiver, third paragraph
    Reword this to: "The SL_IR receiver shall ignore any primitives received inside an OPEN address frame (i.e., after an SOAF but
    before the subsequent EOAF) except SOAF and BREAK. If a receiver receives a second SOAF after receiving an SOAF but
    before receiving a subsequent EOAF, then the receiver shall ignore the dwords before the second SOAF (i.e., the receiver shall
    consider the second SOAF as the start of a new IDENTIFY address frame). If a receiver receives a BREAK after receiving an
    SOAF but before receiving a subsequent EOAF, then the receiver shall ignore the dwords before the BREAK (i.e., ignore the
    IDENTIFY address frame)."

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.8.6 SL_IR transmitter and receiver
    change <shall not transmit the indicated primitive>
    to "shall transmit the indicated primitive"
    (section 7.7.1says that primitives may be inserted inside an address frame)

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.8.6 SL_IR transmitter and receiver
    The statement << SOAF/IDENTIFY address frame/EOAF; >> has a problem in that the name of the parameter that causes the
    transmission is called << Transmit IDENTIFY >>. Those two names are enough different so it is not obvious one is a result of the
    other. One solution would be to add << (i.e., Transmit IDENTIFY parameter) >> to item b).

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.8.6 SL_IR transmitter and receiver
    The statement << The SL_IR receiver shall ignore any primitive received inside an IDENTIFY address frame. In this case, a data

dword shall be considered inside a frame when it is received after an SOAF and before an EOAF if the primitive is received after the 8th data dword following the SOAF. >> seems to be confusing. Changing it to the following may help << The SL_IR receiver shall ignore any primitive received inside an IDENTIFY address frame. In this case, a primitive shall be considered inside a frame when it is received within the first eight data dwords after an SOAF. >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.8.6 SL_IR transmitter and receiver
There needs to be a new paragraph that describes what the SL_IR receiver receives. Something like << When the SL_IR receiver receives a dword the SL_IR receiver notifies the SL_IR state machine of the receipt of those dwords. The following are the only received dwords that the SL_IR transmitter shall send notifications on:
a) SOAF;
b) Data Dword;
c) EOAF; or
d) HARD_RESET. >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.8.6.1.1 Overview
The statement << This is the only state machine in the SL_IR state machines that transmits dwords on the physical link. >> Is obvious and not necessary.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.1.2.1 State description
The statement << This state shall repeatedly send Transmit Idle Dword to the SL_IR transmitter. >> should be
<< This state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to the SL_IR transmitter (see 7.3). >>

Sequence number: 10
Author: IBM
Date: 1/24/2003 7:45:48 PM
Type: Highlight
ACCEPT - DONE
7.8.6.1.2.2 Transition SL_IR_TIR1:Idle to SL_IR_TIR2:Transmit_Identify
The statement << when both: >> should be changed to << after >>.

Sequence number: 11
Author: IBM
Date: 1/24/2003 7:45:54 PM
Type: Highlight
ACCEPT - DONE
7.8.6.1.2.3 Transition SL_IR_TIR1:Idle to SL_IR_TIR3:Transmit_Hard_Reset
The statement << when both: >> should be changed to << after >>.

Sequence number: 12
Author: IBM
Date: 1/24/2003 7:45:09 PM
Type: Highlight
ACCEPT - DONE
7.8.6.1.3.1 State description
The statement << This state shall send a Transmit IDENTIFY parameter to the SL_IR transmitter. >> should be << Upon entry into this state, this state shall send a Transmit IDENTIFY parameter to the SL_IR transmitter. >>

Sequence number: 13
Author: DSS
Date: 1/6/2003 3:15:56 PM
Type: Note
14. (E) Section 7.8.6. Hanging paragraphs, add a level 3 subclause heading.

Sequence number: 14
Author: DSS
Date: 1/6/2003 3:16:13 PM

Type: Note
    15. (E) Section 7.8.6, last paragraph. The wording of the second sentence is
    unclear, and it occurs at least
    twice in the document. I think it is trying to limit the frame length for
    the purpose of ignoring
    primitives to cover the case where the EOAF is missed. Better wording is:
    "For the purpose of
    ignoring primitives, IDENTIFY frames consist of a SOAF followed by a maximum
    of 8 dwords and an
    EOAF.

Sequence number: 15
Author: DSS
Date: 1/11/2003 5:02:20 PM
Type: Note
    REFER PROTOCOL WG (I agree)
    16. (T) Section 7.8.6.1.2.1. States can't take action. The state machine can take action while in a state or
    when entering or leaving a state. Even better, the port can take an action when the state machine is in a
    state, or when it (the state machine) transitions into or out of a state. This issue is prevalent in these state machine descriptions.

Sequence number: 16
Author: LSI Brian Day
Date: 1/21/2003 11:28:12 AM
Type: Note
    TODO (globally check "any primitive". Only mention that ALIGNs/NOTIFYs are ignored in the clock skew mgmt/rate
    matching/ALIGN prim/NOTIFY prim/XYZ receiver sections. Make sure each link layer state machine has a receiver section to
    include such a rule.)
    7.8.6 SL_IR transmitter and receiver
    page 157
    ALIGNs are allowed inside of address frames. Change wording in second paragraph to "... a primitive other than ALIGN is
    requested ...".
    Change wording in third paragraph to "... shall ignore any primitive other than ALIGN received inside ..."

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.8.6.1.4.2 Transition SL_IR_TIR3:Transmit_Hard_Reset to SL_IR_TIR3:Completed
    Replace "SL_IR_TIR3:Completed" with "SL_IR_TIR4:Completed" in the title of this subclause.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.8.6.1.3.2 Transition SL_IR_TIR2:Transmit_Identify to SL_IR_TIR4:Completed
    The statement << This transition shall occur after this state has sent an Identify Transmitted parameter. >> should be << This
    transition shall occur after:
    a) receiving a IDENTIFY Transmitted parameter; and
    b) sending an Identify Transmitted parameter to the IRC state machine. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.8.6.1.3.1 State description
    The statement << When this state receives >> should be << After this state receives >>.

Sequence number: 4
Author: IBM
Date: 1/24/2003 7:46:49 PM
Type: Highlight
    ACCEPT - DONE
    7.8.6.1.4.1 State description
    The statement << This state shall send a >> should be << Upon entry into this state, this state shall send a >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.1.4.1 State description
The statement << When this state receives >> should be << After this state receives >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.1.4.2 Transition SL_IR_TIR3:Transmit_Hard_Reset to SL_IR_TIR3:Completed
The statement << This transition shall occur after sending a HARD_RESET Transmitted confirmation. >> should be << This
transition shall occur after:
a) receiving a HARD_RESET Transmitted parameter; and
b) sending a HARD_RESET Transmitted confirmation to the management application layer. >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.1.5 SL_IR_TIR4:Completed state
The statement << This state shall repeatedly send the Transmit Idle Dword parameter to the SL_IR transmitter. >> should be <<
This state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to
the SL_IR transmitter (see 7.3). >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.2.2.1 State description
The statement << This state waits for an SOAF to be received from the physical link, indicating an address frame is arriving. >>
should be << This state waits for an address frame to be received. >>

Sequence number: 9
Author: IBM
Date: 1/24/2003 7:47:20 PM
Type: Highlight
ACCEPT - DONE
7.8.6.2.2.2 Transition SL_IR_RIF1:Idle to SL_IR_RIF2:Receive_Identify_Frame
The statement << when both: >> should be changed to << after >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.2.3.1 State description
The statement << After receiving the frame, it shall check if it is a correct IDENTIFY address frame. >> should be << After
receiving the address frame, this state shall check if it is a valid IDENTIFY address frame. >>

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.2.1 Overview
The statement << an IDENTIFY address frame from the physical link and checks the IDENTIFY address >> should be << an
IDENTIFY address frame and checks that IDENTIFY address >>.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.8.6.2.3.1 State description

In the last paragraph, replace "illegal" with "invalid".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.8.6.3.2 SL_IR_IRC1:Idle state
The state diagram (figure 67) shows an identify 'Timeout' parameter confirmation leaving this state, but it is not described. I think it was moved to the SL_IR_IRC2 state and should be deleted from this state in the state diagram.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.2.3.2 Transition SL_IR_RIF2:Receive_Identify_Frame to SL_IR_RIF3:Completed
The statement << This transition shall occur after receiving an EOAF and sending the Identify Received parameter or Address Frame Failed confirmation. >> should be << This transition shall occur after:
a) receiving an EOAF Received parameter; and
b) sending the Identify Received parameter or Address Frame Failed confirmation. >>

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.2.4 SL_IR_RIF3:Completed state
The statement << This state does nothing except wait for >> should be << This state waits for >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.1 Overview
The statement << state machines function is to ensure IDENTIFY address >> should be << state machine ensures IDENTIFY address >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.2.1 State description
The statement << This state shall >> should be << Upon entry into this state, this state shall: >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.8.6.3.2.1 State description
There is not description of when the << Identify Time out >> confirmation is send out. That confirmation is in figure 67 as an output from the SL_IR_IRC1 state. This needs to fixed.

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
7.9 Power management
Change "If the primitives arrives" to "If the primitive arrives"

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.8.6.3.3.1 State description
The first list item talks about an "Identify Sequence Complete confirmation". However this confirmation does not appear in figure 67. Please add it to the figure.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.8.6.3.3.1 State description
The penultimate paragraph talks about an "Identify Received parameter". However this parameter does not appear in figure 67.
Please add it to the figure.

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.8.6.3.3.1 State description
The penultimate paragraph talks about an "HARD_RESET Received confirmation". However this confirmation appears under the
SL_IR_IRC1:Idle state in figure 67. Please move it to the SL_IR_IRC2:Wait state in the figure.

Sequence number: 5
Author: LSI John Lohmeyer
Date: 1/25/2003 11:26:08 AM
Type: Highlight
ACCEPT - DONE
7.9 Power management
Replace the last sentence of the third paragraph with "If one of these primitives arrives while an STP connection is open, it may
forward the primitive to the STP initiator port.".

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.8.6.3.3 SL_IR_IRC2:Wait state, 7.8.6.3.3.1 State description, fourth paragraph
Change "management application layer" to "port layer". Other Maxtor comments have the port layer sending this to the transport
layer, then to the application layer.

Sequence number: 7
Author: IBM
Date: 1/24/2003 7:48:07 PM
Type: Highlight
ACCEPT - DONE (removed)
7.10 Near-end analog loopback test
***
This section should be deleted as it causes implantation problems and is of little or no use in real life.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.8.6.3.3.1 State description
The statement << from the Transmit IDENTIFY or HARD_RESET
state machine, >> should be deleted as we do not state were things come from.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.3.1 State description
The statement << initialize a receive identify time out >> should be << initialize the receive identify time out >> .

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.3.1 State description
The statement << time out timer is
exceeded, this state shall: >> should be << time out timer times out, this state shall >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM

Type: Highlight
7.8.6.3.3.1 State description
The << Identify Sequence Complete >> confirmation is not shown in figure 67. This needs to be fixed.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.3.1 State description
The << HARD_RESET Received >> confirmation is not shown in figure 67. This needs to be fixed.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << time out timer is exceeded before >> should be << time out timer times out before >> .

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.3.2 Transition SL_IR_IRC2:Wait to SL_IR_IRC3:Completed
The statement << This transition shall occur after sending a HARD_RESET Received confirmation, Identify Timeout confirmation, or Identify Sequence Complete confirmation to the management application layer. >> should be << This transition shall occur:
a) if an Identify Received parameter and an Identify Transmitter parameter are received, and after sending:
     A) an Identify Sequence Complete confirmation to the   management application layer;
     B) in an expander device, a Broadcast Event Notify (Identification Sequence Complete) confirmation to the expander function;
     C) a Phy Enabled confirmation to the port layer and the   management application layer; and
     D) an Enable Disable SAS Link (Enable) parameter to the SL state machine (see 7.13) in initiator devices and target devices or the XL state machine (see 7.14) in expander devices;
b) if a HARD_RESET Received parameter is received and after sending a HARD_RESET Received confirmation to the management application layer; or
c) if the identify timer times out and after sending an Identify Timeout confirmation to the management application layer.>>

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.8.6.3.4 SL_IR_IRC3:Completed state
The statement << This state does nothing except wait for >> should be << This state waits for >>.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
The statement << SATA interface power management is not supported in SAS. >> should be deleted. For something that is not supported there seems to be a lot of discussion in this section.

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.8.6.3.3.1 State description
The statement << from the Receive IDENTIFY Address Frame state machine >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Page: 161

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
7.11 Domain changes
Assuming my previous comment regarding the title of subclause 7.8.2 is accepted, delete "specific" from the 5th paragraph.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
    7.11 Domain changes
    Assuming my previous comment regarding the title of subclause 7.8.3 is accepted, delete "specific" from the 6th paragraph.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
    7.11 Domain changes
    Assuming my previous comment regarding the title of subclause 7.8.4 is accepted, delete "specific" from the 7th paragraph.

Sequence number: 4
Author: MXO Mark Evans
Date: 1/22/2003 5:26:10 PM
Type: Highlight
    ACCEPT - DONE (request THAT an expander device set) (but whole section deleted)
    7.10 Near-end analog loopback test, second paragraph after Figure 68 - Test modes
    Change "...device set..." to "...device to set..."

Sequence number: 5
Author: MXO Mark Evans
Date: 1/22/2003 5:26:27 PM
Type: Highlight
    REJECT (whole section deleted)
    7.10 Near-end analog loopback test, third paragraph after Figure 68 - Test modes
    Change "...the application client shall transmit a BREAK or CLOSE..." to "...the application client shall request that a BREAK or CLOSE be transmitted..."

Sequence number: 6
Author: SEG Coomesj
Date: 1/21/2003 1:39:22 PM
Type: Highlight
    REJECT (Jan WG removed NEA altogether)
    7.10 Near-end analog loopback test
    Targets should be allowed to perform loopback also.
    change to:
    "This test mode may be invoked in initiator or target devices using vendor-specific means."
    also add a paragraph:
    "Once the test is completed in a target device, the target phy shall start a phy reset sequence."

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.11 Domain changes
    The statement << domain with a discover process (see 4.6.11.5) >> should be << domain using the discover process (see 4.6.11.5) >>

Sequence number: 8
Author: ADPT
Date: 1/22/2003 5:27:09 PM
Type: Note
    REJECT (whole section deleted)(comment is correct; if left in, need to show gating off the output and input)
    26.0 P161, Figure 68 - the figure does not match the verbage on the previous page - sub-clause 7.10.

Page: 162

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
    7.12.2.1 Connection request
    "If none of the

prospective intermediate physical links does not support the requested connection rate,"
should be
"If one of the ..."
[from hcurley@indra.com]

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.12.2.1 Connection request
In the last paragraph, second sentence, replace "does not support" with "supports".

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.2.1 Connection request, third paragraph
Delete the clause "but they may do so" at the end of the third sentence.

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.2.1 Connection request, second paragraph
Change the last phrase in the second sentence from "...decides to abandon the connection request with BREAK." to "...abandons the connection request with BREAK."

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.2.1 Connection request, fourth paragraph
The second sentence is incorrect. Change it to: "If none of the intermediate physical links support the requested connection rate, the expander device shall return OPEN_REJECT (CONNECTION RATE NOT SUPPORTED)."

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << communication can begin. >> should be << any communication begins >>.

Sequence number: 7
Author: IBM
Date: 1/25/2003 4:48:54 PM
Type: Highlight
7.12.2.1 Connection request
The statement << After transmitting an OPEN address frame, the source phy shall initialize an open time out timer to 1 ms and start the timer. Whenever an AIP is received, the source phy shall reinitialize and restart the timer. Source phys are not required to enforce a limit on the number of AIPs received before abandoning the connection request, but they may do so. When any connection response is received, the source phy shall reinitialize the timer. If the timer expires before a connection response is received, the source phy may assume the destination port does not exist and shall transmit BREAK to abandon the connection request. >>
is a duplicate of the information that is in the state machines and should be deleted.

Sequence number: 8
Author: INTC
Date: 1/22/2003 9:47:11 AM
Type: Highlight
ACCEPT - DONE ("If any of the prospective... does not support")
7.12.2.1 Connection Request
"If none of the prospective intermediate physical links [does not]
support the requested connection rate, ..."
  Remove "does not"

Sequence number: 9
Author: DSS
Date: 1/6/2003 3:17:05 PM
Type: Note

17. (E) Section 7.12.1, second paragraph. What about XFER_RDY?

Sequence number: 10
Author: DSS
Date: 1/6/2003 3:17:30 PM
Type: Note
18. (E) Section 7.12.2.1, third paragraph. The term "connection response" is used in this paragraph
without definition. The term "connection request response" is defined in the next subclause. Are these
the same?

Sequence number: 11
Author: DSS
Date: 1/6/2003 3:17:47 PM
Type: Note
19. (E) Section 7.12.2.1, third paragraph. The method of performing timeouts is vendor specific and
should not be specified this way. Fix the wording so that timeout periods are used rather than timers.

Sequence number: 12
Author: DSS
Date: 1/6/2003 3:18:49 PM
Type: Note
20. (E) Section 7.12.2.1, forth paragraph. There is a double negative in the second sentence that confuses
the meaning.

Sequence number: 13
Author: DSS
Date: 1/17/2003 1:20:25 PM
Type: Note
21. (E) Section 7.12.2.1, forth paragraph, last sentence. Change "Rate matching is used on any..." to "Rate
matching shall be used on any..."

Page: 163

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
7.12.2.2 Connection request responses
BREAK is effectively referenced twice by table 81 since it shows up here, and this table shows up in table 81
Need to differentiate between originated and received BREAKs (the latter need responses) too

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.12.2.2 Connection request responses
Table 78 - Connection request responses
In the description of AIP, the sentence beginning with "While the expander..." is not worded correctly. The number of expander
devices (plural) does not match it (singular). Replace "it returns an AIP" with "they return AIPs".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
7.12.2.2 Connection request responses
Is there an order of precedence to the list future connection rates in the penultimate paragraph?

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM

Type: Note
7.12.2.2 Connection request responses
Last paragraph. Shouldn't the list of reasons to transmit OPEN_ACCEPT include that the INITIATOR bit is in an acceptable state as documented in 7.7.3?

Sequence number: 5
Author: LSI John Lohmeyer
Date: 1/25/2003 11:37:38 AM
Type: Highlight
ACCEPT - TODO (add definitions of deadlock and livelock to ch3)
7.12.3 Arbitration fairness
Fourth paragraph, last word. The term "livelocks" should either be eliminated (it is only used here) or a definition should be included.

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.3 Arbitration fairness, second paragraph
Change "arbitration wait timer" to "AWT timer."

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.3 Arbitration fairness, second paragraph
Change "arbitration wait timer" to "AWT timer."

Sequence number: 8
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.3 Arbitration fairness, third paragraph
Change "arbitration wait timer" to "AWT timer."

Sequence number: 9
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.3 Arbitration fairness, third paragraph
Change "arbitration wait timer" to "AWT timer."

Sequence number: 10
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.3 Arbitration fairness, fourth paragraph
Change "arbitration wait timer" to "AWT timer."

Sequence number: 11
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.2.2 Connection request responses, third paragraph
Change "...the target port shall set the connection rate for future requests..." to "...the source port shall set the connection rate for future requests..."

Sequence number: 12
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.12.2.2 Connection request responses
The OPEN may require a rate match that is not support by the recepient.
Add: "if the requested connection rate is supported."

Sequence number: 13
Author: SEG Coomesj
Date: 1/25/2003 11:10:22 AM
Type: Highlight

ACCEPT - DONE (make it required for everyone)
7.12.3 Arbitration fairness
may should be shall. Optional implementation may/will lead to non-interoperable devices. Also if optional, the behavior has to be described in the rest of the document.

Sequence number: 14
Author: SEG Coomesj
Date: 1/25/2003 11:32:37 AM
Type: Highlight
    ACCEPT - DONE (but weakened the shall set to zero since unfairness is allowed)
    7.12.3 Arbitration fairness
    The AWT has to be mandatory.
    Chnane to:
    Initiator ports and target ports shall set the arbitration wait timer to zero for fair operation and start the timer when they transmit the first OPEN address frame for the connection request.

Sequence number: 15
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    7.12.3 Arbitration fairness
    This is duplicated in 7.7.3. Delete here.
    The arbitration wait timer shall count in microseconds from 0 µs to 32 767 µs and in milliseconds from 32 768 µs to 32 767 ms + 32 768 µs.

Sequence number: 16
Author: SEG Coomesj
Date: 1/25/2003 11:34:04 AM
Type: Highlight
    ACCEPT - DONE (but as >= 8000h rather than > 7FFFh)
    7.12.3 Arbitration fairness
    In conjunction with a comment in 7.7.3 to rmove the scale bit:
    Change to:
    However, unfair ports shall not set the ARBITRATION WAIT TIME field to a value greater than 7FFFh; this limits the amount of unfairness and helps prevent livelocks.

Sequence number: 17
Author: SEG Coomesj
Date: 1/25/2003 11:38:00 AM
Type: Highlight
    ACCEPT - DONE (per Jan WG)
    7.12.2.2 Connection request responses
    ***The retry delay timer greatly complicates selecting another transfer request for a queue. If a request to a different destination has to be selected, a good deal of hardware is required. If done by a processor, the performance would be poor.
    Suggest deleting the retry delay. If the expander gets congested, buy more capacity.

Sequence number: 18
Author: IBM
Date: 1/25/2003 11:38:31 AM
Type: Highlight
    REJECT (the OPEN address frame is mentioned in the first sentence in this paragraph)
    7.12.3 Arbitration fairness
    The statement << the SCALE bit to one; >> should be << the SCALE bit in the OPEN address frame to one; >>.

Sequence number: 19
Author: IBM
Date: 1/25/2003 11:40:24 AM
Type: Highlight
    ACCEPT - DONE (deleted retry delay so this is moot; responses would have been 1) this IS the definition of retry delay 2) it was supposed to be a shall; 3) agree it should be a minimum)
    7.12.2.2 Connection request responses
    ***
    The text << the source port shall wait a retry delay of 15 µs before >> has more than one problem.
    One is that the term retry delay should be defined as a specific time (i.e., retry delay = 15usec) the 15 usec would then be dropped from the text. Or the the statement needs to change to << the source port shall wait 15 µs before >>.
    The next problem is that this is a shall when it should be a should.
    The last problem is that there is no tolerance on the value. It should be stated as << shall (should) wait a minimum of 15 us before >>.

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.12.2.2 Connection request responses
The term << possible >> should be deleted.

Sequence number: 21
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.2.2 Connection request responses
global
The statement << I_T_L_Q >> should be << I_T_L_Q nexus >>. In all cases I_T, I_T_L, and I_T_L_Q should be I_T nexus, I_T_L nexus, and I_T_L_Q nexus.

Sequence number: 22
Author: IBM
Date: 1/25/2003 11:30:02 AM
Type: Highlight
ACCEPT - DONE (with which rather than that; it's not a subset)
7.12.3 Arbitration fairness
The statement << wait timer counting the >> should be << wait timer that counts the >>.

Sequence number: 23
Author: IBM
Date: 1/25/2003 11:33:17 AM
Type: Highlight
ACCEPT - DONE
7.12.3 Arbitration fairness
The statement << may be unfair, setting the >> should be << may be unfair by setting the >>.

Sequence number: 24
Author: IBM
Date: 1/25/2003 11:40:35 AM
Type: Highlight
ACCEPT - TODO
7.12.3 Arbitration fairness
The term <<livelocks.>> needs to be added to the glossary.

Sequence number: 25
Author: IBM
Date: 1/25/2003 11:34:47 AM
Type: Strikeout
REJECT (a hint that livelocks exist if the AWT is rendered ineffective seems appropriate here)
7.12.3 Arbitration fairness
The statement << and helps prevent livelocks. >> should be deleted.

Sequence number: 26
Author: FUJ
Date: 1/17/2003 6:15:57 PM
Type: Highlight
ACCEPT - TODO (point to where arbitration fairness selects the winner when OPENs cross)
FUJITSU-7
PDF page : 163
Section : 7.12.2.2 Connection request responses
Figure/Table : Table 78
Paragraph/sentense/row/colum : 4th row
Comment : "OPEN address frame" "indicates two connection requests crossing
on the physical link." In no expander case, the action should be
defined to avoid racing condition or ping-pong condition. For
instance, Initiator implicitly abandon the connection request,
and
Target proceeds operation.

Sequence number: 27
Author: FUJ
Date: 1/17/2003 6:15:48 PM
Type: Note

REJECT (the device sending OPEN is not the only one that could send a BREAK. The other side could send it first.)
FUJITSU-8
PDF page : 163
Section : 7.12.2.2 Connection request response
Figure/Table : Table 78
Paragraph/sentense/row/colum : row 5 BREAK
Comment : According to 7.12.5 and 7.12.6, BREAK is used by originator at
first. If BREAK is responded for Connection (OPEN address
frame),
this is a protocol error. So, "The destination port or expander
port may reply with BREAK indicating the connection is not being
established." is not correct. BREAK is the response of the BREAK
of open requester not correct response of Connection request
(OPEN
address frame).

Sequence number: 28
Author: DSS
Date: 1/6/2003 3:19:35 PM
Type: Note
    22. (T) Section 7.12.2.2, last paragraph. The first paragraph in subclause
    7.16.1 describes another reason
    for sending an OPEN_REJECT.

Sequence number: 29
Author: LSI Brian Day
Date: 1/22/2003 9:54:13 AM
Type: Note
    ACCEPT - DONE (Jan WG agreed AWT should be mandatory)
    7.12.3 Arbitration fairness
    page 163
    AWT is mandatory. Change start of second paragraph to "Each initiator port, target port, and expander port shall include an
    arbitration wait timer ..."
    Change start of third paragraph to "Initiator ports and target ports shall implement arbitration wait timers. They shall set the
    timer ..."

Sequence number: 30
Author: LSI John Lohmeyer
Date: 1/25/2003 11:28:41 AM
Type: Note
    ACCEPT - DONE (made subsequent section at the same level)
    7.12.3 Arbitration fairness
    page 163
    Hanging paragraph.

Sequence number: 31
Author: LSI Tim Hoglund
Date: 1/25/2003 11:29:20 AM
Type: Note
    ACCEPT - DONE (shall wins)
    7.12.3 Arbitration fairness
    pages 163-164
    Resolve apparent inconsistency between Paragraph 2 which states expander port may include an arbitration wait timer and
    Paragraph 5 which states that expander ports shall include arbitration wait timers.

Sequence number: 32
Author: IBM
Date: 1/25/2003 11:36:12 AM
Type: Highlight
    ACCEPT - DONE (Jan WG remove totally; also removed the single reference to retry delay in the port layer)
    7.12.2.2 Connection request responses
    ***
    The requirement << After receiving an OPEN_REJECT that indicates a retry may be performed (see table 62), the source port
    shall wait a retry delay of 15 μs before issuing another connection request to the same destination port. >> should be removed as it
    only adds needless complexity to targets and initiators. It's also not clear the reason for this requirement as the open/reject
    functionally will most likely be contained totally in hardware.

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.12.3 Arbitration fairness
    Paragraph 6. Do we also need to specify that the INITIATOR field is compatible with the role we were requesting?

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.12.3 Arbitration fairness, fifth paragraph
    Change "arbitration wait timer" to "AWT timer."

Sequence number: 3
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    7.12.2.2 Connection request responses
    change:
    matching PROTOCOL and CONNECTION RATE fields.
    to:
    a matching PROTOCOL field and a supported connection rate.

Sequence number: 4
Author: SEG Coomesj
Date: 1/25/2003 11:41:05 AM
Type: Highlight
    ACCEPT - DONE
    7.12.3 Arbitration fairness
    Change:
    the timer
    To:
    The arbitration wait timer

Sequence number: 5
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    7.12.3.1.1 Arbitration overview
    This subclause uses "primitive" in a different meaning than the rest of the draft. Also, it is an overview and should not present the attribute/confirmation details. Suggest a rewrite to:
    The expander connection manager shall arbitrate and assign or deny path resources for connection attempts requested by each expander phy in response to receiving valid OPEN address frames.
    Arbitration includes adherence to the SAS arbitration fairness algorithm and path recovery. Path recovery is used to avoid potential deadlock scenarios within the SAS topology by deterministically choosing which partial pathway(s) to tear down to allow at least one connection to complete.
    The expander connection manager responds to connection request with arbitration won, lost, and reject to the requesting phy.
    Each path request contains the Arbitration Wait Time and the Source SAS Address arguments from the received OPEN address frame.
    If two path requests contend, the winner shall be determined by comparing OPEN address frame field values in this order:
    1) largest Arbitration Wait Time;
    2) largest Source SAS Address; and
    3) largest Connection Rate.
    The expander connection shall generate the arbitration reject response when any of the following conditions are met:
    a) the request does not map to a valid phy;
    b) the request specifies an unsupported connection rate; or
    c) the request specifies a destination port which contains at least one partial pathway and pathway recovery rules require this connection request to release path resources.
    When two phys receive an OPEN address frame destined for each other, the expander connection manager shall provide an arbitration lost response to the phy that received the lowest priority OPEN address frame when all of the following conditions are met:
    a) the request is for an available phy at a supported connection rate; and
    b) the destination phy of this connection request has received a higher priority OPEN address frame with this phy as its destination.
    The expander connection manager shall generate the arbitration won response when all of the following conditions are met:
    a) the request maps to an available phy at a supported connection rate; and

b) no higher priority connection requests are present with this phy as the destination.

Sequence number: 6
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.12.3 Arbitration fairness
The AWT is not reset on OPEN_REJECT (PATHWAY BLOCKED). This appears to be the only exception to reseting the timer.
Add:
(except OPEN_REJECT (PATHWAY BLOCKED))

Sequence number: 7
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.12.3.1.1 Arbitration overview
Why is largest Connection Rate used for compare? Does this mean that AWT and Source SAS address are the same?

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.3 Arbitration fairness
Note 22 states << of the time a device must wait after receiving OPEN_REJECT (PATHWAY BLOCKED) >> which has two problems one is the word must is used. If that is changed to a shall which seems logical then problem two occurs in that now you have a requirement in a note which is not allowed. This needs to be fixed.

Sequence number: 9
Author: IBM
Date: 1/25/2003 11:41:35 AM
Type: Highlight
REJECT - "by" implies there might be other ways to win arbitration
7.12.3 Arbitration fairness
The statement << wins arbitration, receiving either >> should be << wins arbitration by receiving either >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.3 Arbitration fairness
The statement << arbitration request, receiving an OPEN address frame from the destination port with matching PROTOCOL and CONNECTION RATE fields. >>
should be << arbitration request if an OPEN address frame from the destination port with matching PROTOCOL and CONNECTION RATE fields was received. >>

Sequence number: 11
Author: IBM
Date: 1/25/2003 11:42:36 AM
Type: Highlight
ACCEPT - DONE
7.12.3 Arbitration fairness
The statement << values in this order: >> should be << values in the following order: >>.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.3.1.1 Arbitration overview
The statement << values in this order: >> should be << values in the following order: >>.

Page: 165

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Note

7.12.3.1.4 Pathway Recovery
This comparison should also include the connection rate as the lowest priority bits, so two requests from a wide port (which have the same source address) resolve consistently
This parallels the normal arbitration fields specified in 7.12.3.1.1 (which uses AWT, source address, connection rate)

Sequence number: 2
Author: SEG Coomesj
Date: 1/25/2003 11:43:28 AM
Type: Highlight
    ACCEPT - DONE
    7.12.3.1.2 Arbitration status
    Change: value
    To: type

Sequence number: 3
Author: IBM
Date: 1/25/2003 11:44:48 AM
Type: Highlight
    REJECT (SAM has a status called CONDITION MET; what's wrong with that term?)
    7.12.3.1.1 Arbitration overview
    The statement << conditions are met: >> should be << conditions occur >>.

Sequence number: 4
Author: IBM
Date: 1/25/2003 11:44:40 AM
Type: Highlight
    REJECT (SAM has a status called CONDITION MET; what's wrong with that term?)
    7.12.3.1.1 Arbitration overview
    The statement << conditions are met: >> should be << conditions occur >>.

Sequence number: 5
Author: IBM
Date: 1/25/2003 11:44:36 AM
Type: Highlight
    REJECT (SAM has a status called CONDITION MET; what's wrong with that term?)
    7.12.3.1.1 Arbitration overview
    The statement << conditions are met: >> should be << conditions occur >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.12.3.1.1 Arbitration overview
    The statement << port which contains >> should be << port that contains >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.12.3.1.1 Arbitration overview
    The statement << destination (this case occurs >> should be << destination (i.e., occurs >>

Sequence number: 8
Author: IBM
Date: 1/25/2003 11:45:04 AM
Type: Highlight
    REJECT (SAM has a status called CONDITION MET; what's wrong with that term?)
    7.12.3.1.3 Partial Pathway Timer
    The statement << conditions are met: >> should be << conditions occur >>.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.12.3.1.3 Partial Pathway Timer
    The statement << above are not met, the >> should be << above do not occur, the >>.

Sequence number: 10
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.12.3.1.3 Partial Pathway Timer
Delete the statement << until reaching zero, >> and place the following statement in this section <<The expander connection manager shall stop decrementing the PPT timer when it reaches zero. >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << manager shall hold the PPT timer at an initial value set to the partial pathway time out value. >> does not make sense. This needs to be fixed.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.3.1.4 Pathway Recovery
The statement << requests in order to prevent deadlock using Pathway Recovery Priority comparisons. >> should be << requests using Pathway Recovery Priority comparisons. >>.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.3.1.4 Pathway Recovery
The statement << fields within the OPEN >> should be << fields from the OPEN >>.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.12.3.1.4 Pathway Recovery
The statement << as follows: >> should be deleted as there is no list that follows.

Sequence number: 15
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
7.12.3.1.3 Partial Pathway Timer
page 165
Partial Pathway Timeout timers are maintained by each expander phy, not by the expander connection manager. Replace expander connection manager with expander phy.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.4.1 All expander devices
The statement << frame will win >> should be << frame shall will >> or << frame wins >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.12.3.1.4 Pathway Recovery
The term << effectively >> should be deleted as it adds nothing.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.3.1.4 Pathway Recovery
The statement << only with the SOURCE SAS >> should be << only on the SOURCE SAS >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.4.1 All expander devices
In the statement << frame unless it has higher >> it is not clear what the it is referring to. This needs to be fixed.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.4.1 All expander devices
The statement << three AIPs consecutively >> should be << three consecutive AIPs >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.4.1 All expander devices
The term << immediately >> does not give enough information as to how soon immediately is. This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/17/2003 1:10:00 PM
Type: Strikeout
ACCEPT - TODO
7.12.4.2 Edge expander devices
The statement << this means >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/17/2003 1:09:36 PM
Type: Highlight
ACCEPT - TODO
7.12.4.2 Edge expander devices
The statement << When two edge expander >> should be << If two edge expander >>.

Sequence number: 9
Author: IBM
Date: 1/17/2003 1:09:48 PM
Type: Highlight
ACCEPT - TODO
7.12.4.2 Edge expander devices
The statement << When a fanout expander >> should be << If a fanout expander >>.

Sequence number: 10
Author: INTC
Date: 1/17/2003 1:19:04 PM
Type: Highlight
ACCEPT - TODO (requests to devices not in the fanout expander routing tables cause the fanout expander to returns NO DEST, and requests to devices in the fanout tables but not currently attached to an edge expander return BAD DEST)
7.12.4.2 Edge Expander Devices
Par. 5, last sentence
"When a fanout expander device is in the domain, an
OPEN_REJECT (NO DESTINATION) is returned."
"is returned" - who returns?

Sequence number: 11
Author: INTC
Date: 1/17/2003 1:07:38 PM
Type: Highlight
ACCEPT - TODO (delete this table. Chapter 4 has much more details on the model for routing tables. Add cross reference to Ch 4. Check all the paragraphs here looking for out of date text.)
7.12.4.2 Edge expander devices
The simple edge expander device routing table described
in table 80 needs to be reconciled with the expander
routing table described in "4.6.11.3 Expander route table."

Text needs to describe when it's appropriate to use the simpler
table vs. the more complex table and what the restrictions are
if a simpler approach is used.

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/17/2003 6:22:20 PM
Type: Highlight
ACCEPT - TODO
7.12.5 Abandoning a connection request, Table 81 - Abandon connection request responses, second row
Change the entry in the Response column to "Open response (see 7.12.2)". Change the entry in the Description column to "An
open response arrived after the BREAK was sent. The originator shall ignore the response."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.4.3 Fanout expander devices
There are too many "its" (and other wrongness) in this clause. Change it to be something like: "When a fanout expander device
receives a connection request, the fanout expander shall determine if a pathway exists to the destination device by comparing the
destination SAS address of the request to the SAS addresses of the devices to which the fanout expander's phys are attached.
For all phys that are attached to edge expander devices, the fanout expander shall compare the destination SAS address to all of
the enabled SAS addresses in the expander route table.
[new paragraph] If the expander device discovers that there are one or more pathways to the device having the destination SAS
address, then the expander device shall arbitrate for access and forward the connection request. [new paragraph] If the expander
device does not discover a pathway to the device having the destination SAS address, then the expander device shall reply to the
source of the connection request with OPEN_REJECT (NO DESTINATION). If the destination phy is in the same expander port as
the source phy, the expander device shall reply to the source with OPEN_REJECT (BAD DESTINATION)."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.12.5 Abandoning a connection request, first paragraph after Table 81 - Abandon connection request responses
Change the last phrase from "...not the target port." to "...not the destination port."

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.4.3 Fanout expander devices
The statement << phys which are >> should be << phys that are >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.4.3 Fanout expander devices
In the statement << it shall compare >> it is not clear what the it is. This needs to be fixed.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.12.4.3 Fanout expander devices
There are a whole bunch of << it >> s in this section where it is not clear what the it is. This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.12.5 Abandoning a connection request
The statement << After transmitting BREAK, the source port shall initialize a break time out timer to 1 ms and start the timer. If the
timer expires before a break response is received, the source port may assume the physical link is

unusable. >> should be deleted as it is duplicated in the state machine descriptions.

Sequence number: 8
Author: IBM
Date: 1/17/2003 6:22:41 PM
Type: Circle
    ACCEPT - TODO (see MXO comment - switching to ignore)
    This confirms that the connection request has been abandoned.
    Table 81
    The statement << The BREAK was too late and an open response arrived late. The originator shall honor this as a response to the
    open request it was attempting to abandon. >> is not clear and the reference to 7.12.2 does not help in understanding this. This
    needs to be fixed.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.12.5 Abandoning a connection request
    The statement << the target port. >> should be << the destination port >> as a BREAK can be sent from both targets and initiators .

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.12.5 Abandoning a connection request
    The term << possible >> should be deleted.

Sequence number: 11
Author: FUJ
Date: 1/17/2003 6:22:57 PM
Type: Highlight
    ACCEPT - TODO (see MXO comment; switching to ignore)
    FUJITSU-9
    PDF page : 167
    Section : 7.12.5 Abandoning a connection request
    Figure/Table : Table 81
    Paragraph/sentense/row/colum : row 3 No response and timer expires
    Comment : In case of response time out of BREAK, there should be clear
    action definition. Since BREAK is used for AIP timeout, the
    response timeout of BREAK is double timeout condition. Link
    Initialization or something to recover or terminate queue action
    should be taken. (Then, the other path action should be taken on
    multiple port devices in future.)

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.12.5 Abandoning a connection request
    The paragraph just below table 81 and above figure 69 breaks unnaturally across a page boundary, with the last two lines on the
    next page even though there is plenty of space on the previous page.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.12.5 Abandoning a connection request
    The statement << that an open response will not occur. >> should be << that an open response shall not occur >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    Figure 69

The order of the BREAKs in this figure is not clear. They should be numbered in the time order they will occur.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 11:46:04 AM
Type: Highlight
REJECT - the title is "breaking a connection"
7.12.5 Abandoning a connection request
The statement << BREAK to break the connection. >> should be << BREAK to end the connection >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.6 Breaking a connection
The statement << to break a connection, >> should be << to end a connection, >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.12.6 Breaking a connection
The term << possible >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.6 Breaking a connection
The statement << may be broken as the >> should be ended as the >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.6 Breaking a connection
The statement << to a broken connection: >> should be << to a connection that has ended do to a BREAK: >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.6 Breaking a connection
The statement << the broken connection; >> should be << to a connection that has ended do to a BREAK: >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.6 Breaking a connection
The statement << a broken connection >> should be << a connection that has ended do to a BREAK >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.12.6 Breaking a connection
The statement << a broken connection >> should be << a connection that has ended do to a BREAK >>.

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Sequence number: 1
Author: SEG Coomesj
Date: 1/25/2003 11:46:34 AM
Type: Highlight
　REJECT
　7.13 SAS link layer state machine for initiator phys and target phys (SL)
　The SL state machine starts with 0 state. Most others start with 1.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
　7.12.7 Closing a connection
　The statement << when the connection was opened. >> does not seem necessary and is unclear. It should be deleted.

Sequence number: 3
Author: IBM
Date: 1/25/2003 11:46:22 AM
Type: Highlight
　7.12.7 Closing a connection
　The statement << If an expander that supports attachment of a SATA target >> should start a new paragraph.
　[also expander should be expander device]

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
　Figure 71
　It is not at all clear what the purpose of the ACK and RRDY indications from the transmitter is all about. This needs to be fixed.

Sequence number: 5
Author: DSS
Date: 1/6/2003 3:20:01 PM
Type: Note
　23. (T) Section 7.13 and 7.14. The state machines described in subclauses
　7.13 and 7.14 are
　implementation details that are vendor specific and should not be included as
　normative text within a
　T10 standard. This standard should be limited to specifying observable
　behavior and refrain from
　specifying implementation.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
　7.13.1 Overview
　The statement << from the SL_IR state machines >> should be deleted as the general rule is that we do not state where things
　come from in state diagrams.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
　7.13.1 Overview
　The statement << from the SSP, STP, and SMP link layer state
　machines: >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
　7.13.1 Overview
　The statement << from the SL_IR state machines >> should be deleted as the general rule is that we do not state where things

come from in state diagrams.

Sequence number: 4
Author: PostLB
Date: 1/14/2003 8:27:52 PM
Type: Note
    add open timeout timer, close timeout timer, and break timeout timer to a list in front of this state machine?

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 72
    The << Enable Disable Link Layer (Disable) >> confirmation needs to touch the edge of the state machine box. The statement <<
    (to all states in all state machines, causing transition to SL0:Idle) >> should be changed to << (This parameter causes a transition
    to SL0:Idle) >>.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    7.13.2 SL transmitter and receiver
    There should be a list of inputs and outputs from the SL transmitter listed in this section. Something like this should be added. <<
    The SL state machine sends the following parameters to the SL transmitter:
    a, b, c list of outputs
    The SL state machine receives the following parameters from the SL receiver:
    a, b, c list of inputs

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
    7.13.2 SL transmitter and receiver
    The last two paragraphs of this subclause are nearly identical to the last two paragraphs in 7.8.6 and thus have the same issues
    identified there. These paragraphs need similar changes.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.13.3.1 State description
    In the third paragraph, neither of the confirmations listed are shown in figure 72. Please add them to the figure.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.13.2 SL transmitter and receiver, third paragraph
    Reword this paragraph to: "The SL receiver shall ignore any primitives received inside an OPEN address frame (i.e., after an
    SOAF but before the subsequent EOAF) except SOAF and BREAK. If a receiver receives a second SOAF after receiving an
    SOAF but before receiving a subsequent EOAF, then the receiver shall ignore the dwords before the second SOAF (i.e., the
    receiver shall consider the second SOAF as the start of a new IDENTIFY address frame). If a receiver receives a BREAK after
    receiving an SOAF but before receiving a subsequent EOAF, then the receiver shall ignore the dwords before the BREAK (i.e.,

ignore the IDENTIFY address frame)."

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.13.2 SL transmitter and receiver
    change <shall not transmit the indicated primitive>
    to "shall transmit the indicated primitive"
    (section 7.7.1 says you can)

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.13.3 SL0:Idle state
    7.13.3.1 State description
    <After an Enable Disable SSP Link (Enable) confirmation is received this state shall send an Enable Disable
    SSP Link (Enable) confirmation to the port layer.>
    Three things:
    1) Fig 72 says "SAS Link" (not SSP) and
    2) these say confirmations and if so should be denoted by pink up and down arrows in figure 72
    3) This confirmation is not on the Port layer state machines or mentioned in th eport layer writeup.

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.13.2 SL transmitter and receiver
    <shall send a Change Received
    confirmation>
    (this confirmation is not listed in table 18 - Confirmations between ... or application layer)

Sequence number: 7
Author: IBM
Date: 1/17/2003 12:58:35 PM
Type: Highlight
    7.13.2 SL transmitter and receiver
    The statement << The SL receiver shall ignore any primitive received inside an OPEN address frame. In this case, a dword shall
    be considered inside a frame when it is received after an SOAF and before an EOAF if the primitive is received after the 8th data
    dword following the SOAF. >> seems to be confusing.
    Changing it to the following may help
    << The SL receiver shall ignore any primitive received inside an OPEN address frame. In this case, a primitive shall be considered
    inside a frame when it is received within the first eight data dwords after an SOAF. >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.13.3.1 State description
    The statement << SSP Link (Enable) confirmation is received >> should be << SSP Link (Enable) parameter is received >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.13.3.1 State description
    The statement << that is used when the SL state machine is activated and there is no active connection >> should be << that is
    used when the SL state machine is activated and there is no pending or active connection >>. This should be the same wording
    that is used in the XL0 state description in 7.14.2.1.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.13.3.1 State description
    The statement << The SL0:Idle state is the >> should be << This state is the >>.

Sequence number: 11

Author: INTC
Date: 1/17/2003 1:04:23 PM
Type: Highlight
REJECT (missing SOAFs just mean the frame data looks like idle dwords. The EOAF is then ignored.)
7.13.3.1 State Description
par. 7 . (i.e) Explanation missing regarding what should be done about
data dwords transmitted between consecutive EOAFs. SOAFs is clear.
(Multiple occurrences)

Sequence number: 12
Author: LSI Brian Day
Date: 1/21/2003 11:29:27 AM
Type: Note
TODO (see other comment)
7.13.2 SL transmitter and receiver
page 174
ALIGNs are allowed inside of address frames.
Change wording in second paragraph to "... a primitive other than ALIGN is requested ...".
Change wording in third paragraph to "... shall ignore any primitive other than ALIGN received inside ..."

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Sequence number: 1
Author: IBM
Date: 1/11/2003 5:25:44 PM
Type: Highlight
ACCEPT - DONE
7.13.4.1 State description
The statement << c) If the frame is discarded then no further action is taken by this state relating to the invalid address
frame. >> should not have a c). It should just be a sentence.

Sequence number: 2
Author: LSI Brian Day
Date: 1/11/2003 5:25:36 PM
Type: Note
ACCEPT - DONE
7.13.4.1 State description
page 175
Last paragraph has a misformatted sentence with c).

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.13.4.4 Transition SL1:ArbSel to SL3:Connected, second paragraph
Delete the comma in "(STP, Source Opened)".

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.13.4.4 Transition SL1:ArbSel to SL3:Connected, third paragraph
Delete the comma in "(SSP, Source Opened)".

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.13.4.4 Transition SL1:ArbSel to SL3:Connected, fourth paragraph
Delete the comma in "(SMP, Source Opened)".

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
  7.13.5.1 State description
  Replace "by by" by "by" in the second paragraph.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
  7.13.5.2 Transition SL2:Selected to SL0:Idle
  Each of the 4 conditions has an English problem with the phrase ", then after". The problem can be corrected by replacing ", then" with " and" in four places.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
  7.13.5.3 Transition SL2:Selected to SL3:Connected, first bulleted list
  In item b): delete the comma in "(SSP, Destination Opened)".

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
  7.13.5.3 Transition SL2:Selected to SL3:Connected, second bulleted list
  In item b): delete the comma in "(SMP, Destination Opened)".

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
  7.13.5.3 Transition SL2:Selected to SL3:Connected, third bulleted list
  In item b): delete the comma in "(STP, Destination Opened)".

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
  7.13.5.2 Transition SL2:Selected to SL0:Idle
  The statement in 1, 2, 3, and 4 << then after this >> should be changed to << and after this >> . This change should make the statements more clear that they are currently.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/24/2003 7:50:06 PM
Type: Highlight
  ACCEPT - DONE
  7.13.6.1 State description
  Add either "(see SATA)" or "(see 7.17.4)" at the end of the fourth paragraph.

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Sequence number: 1
Author: IBM
Date: 1/24/2003 7:50:55 PM
Type: Highlight
REJECT (mentioning both the parent and the two children are important here)
7.14.1 Overview
The statement << facilitated by the expander function - specifically the expander connection manager and expander connection router. >> should be << facilitated by the expander connection manager and the expander connection router. >>

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
7.14.1 Overview
In the paragraph after the first list, delete "an after receiving".

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
7.14 SAS link layer state machine for expander phys (XL)
7.14.1 Overview
remove <by receiving an>
(third paragraph - after k))

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.1 Overview
The statement << The XL state machine shall be activated after the completion of the phy reset sequence by receiving an after receiving an Enable Disable SAS Link (Disable) parameter from the SL_IR state machines (see 7.8.5). >> should be changed to << The state machine shall start in the XL0:Idle state. The state machine shall transition to the XL0:Idle state from any other state after receiving an Enable Disable SAS Link (Disable) parameter from the SL_IR state machines (see 7.8.5). >>

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.1 Overview
The statement << from the expander connection manager: >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.1 Overview
The statement << from the broadcast primitive processor: >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.1 Overview
The statement << from the SL_IR state machine: >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 7
Author: Vixel
Date: 1/11/2003 5:10:43 PM
Type: Strikeout
ACCEPT - DONE

Clause 7.14.1
Extraneous, remove.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
Figure 74
The << Enable Disable Link Layer (Disable) >> confirmation needs a cut out from the XL state machine and it needs to touch the edge of the state machine box. The statement << (to all states in all state machines, causing transition to XL0:Idle) >> should be changed to << (This parameter causes a transition to XL0:Idle) >>.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
Figure 75
The << Enable Disable Link Layer (Disable) >> confirmation needs a cut out from the XL state machine and it needs to touch the edge of the state machine box. The statement << (to all states in all state machines, causing transition to XL0:Idle) >> should be changed to << (This parameter causes a transition to XL0:Idle) >>.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
Figure 76
The << Enable Disable Link Layer (Disable) >> confirmation needs a cut out from the XL state machine and it needs to touch the edge of the state machine box. The statement << (to all states in all state machines, causing transition to XL0:Idle) >> should be changed to << (This parameter causes a transition to XL0:Idle) >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.14.2 XL0:Idle state (before this section)
There needs to be a section added here they gives the XL transmitter and XL receiver information (i.e., the green arrows). This section would be very similar to 7.13.2 SL transmitter and receiver.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.14.2.2 Transition XL0:Idle to XL1:Request_Path
Item b) references a Transmit Break indication, but the indication does not appear as an input to the XL0:Idle state in figure 74. Please add it.

Sequence number: 2
Author: LSI John Lohmeyer

Date: 12/30/2002 10:07:04 AM
Type: Highlight
　　7.14.2.2 Transition XL0:Idle to XL1:Request_Path
　　Item a) references a Transmit Open indication, but the indication does not appear as an input to the XL0:Idle state in figure 74.
　　Please add it.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
　　7.14.3.1 State description
　　Should the second list include the INITIATOR bit?

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　7.14.2.1 State description
　　The statement << Otherwise, this state shall repeatedly send a Transmit Idle Dword parameter to the XL transmitter. >> should be
　　<< This state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to
　　the XL transmitter (see 7.3). >> and should be it's own paragraph.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　7.14.2.1 State description
　　The statement << that occurs when there is no pending or active connection >> should be << that is used when the XL state
　　machine is activated and there is no pending or active connection >>. This should be the same wording that is used in the SL0
　　state description in 7.13.3.1.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　7.14.2.1 State description
　　The statement << Transmit Broadcast Primitive parameter >> should be << Transmit Broadcast Primitive request >> .

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　7.14.2.1 State description
　　The statement << this state shall send a Transmit BROADCAST parameter to the XL transmitter. >> should be << this state shall
　　request a BROADCAST be transmitted by sending a Transmit BROADCAST parameter to the XL transmitter. >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
　　7.14.2 XL0:Idle state
　　There is not description of what occurs when the Enable Disable SAS Link (Enable) parameter is received. This needs to be fixed.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
　　7.14.2 XL0:Idle state
　　There is not description of what causes an Open Address Frame parameter to be sent to the XL5 state. This needs to be fixed.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　7.14.2.2 Transition XL0:Idle to XL1:Request_Path
　　The statement << shall occur when the following conditions are met: >> should be << shall occur if: >>.

Sequence number: 11
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Circle
    7.14.2.2 Transition XL0:Idle to XL1:Request_Path
    The is nothing in figure 74 that shows a Transmit Open or a
    Transmit Break. This needs to be fixed.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.2.2 Transition XL0:Idle to XL1:Request_Path
    The following should be deleted << from another phy via the expander connection router >> as the general rule is that we do not
    state where things come from in state diagrams.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.2.2 Transition XL0:Idle to XL1:Request_Path
    The following should be deleted << from another phy via the expander connection router >> as the general rule is that we do not
    state where things come from in state diagrams. Several of the deletions I am suggesting in 7.14 look like they should reference a
    section that describes the interaction between expander objects

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.2.3 Transition XL0:Idle to XL5:Forward_Open
    The following should be deleted << from another phy via the expander connection router >> as the general rule is that we do not
    state where things come from in state diagrams.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.2.3 Transition XL0:Idle to XL5:Forward_Open
    The following should be deleted << from another XL state machine via the expander connection
    router >> as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.2.3 Transition XL0:Idle to XL5:Forward_Open
    The statement << shall occur when the following conditions are met: >> should be << shall occur if: >>.

Sequence number: 17
Author: IBM
Date: 1/24/2003 7:52:22 PM
Type: Highlight
    ACCEPT - DONE
    7.14.2.4 Transition XL0:Idle to XL9:Break
    The statement << shall occur when a BREAK Received parameter is received. >> should be << shall occur after receiving a
    BREAK Received parameter. >>

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.2.5 Transition XL0:Idle to XL10:Break_Wait
    The statement << shall occur when a Transmit Break indication is received from another XL state machine via the expander
    connection router. >> should be << shall occur after receiving a Transmit Break indication. >>.

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.3.1 State description
    The statements << This state shall send the following parameters to the XL transmitter:

a) Transmit AIP (WAITING ON PARTIAL) when an Arbitrating (Waiting On Partial) confirmation is received from the expander connection manager;

b) Transmit AIP (WAITING ON PARTIAL) when an Arbitrating (Blocked On Partial) confirmation is received from the expander connection manager;

c) Transmit AIP (WAITING ON CONNECTION) when an Arbitrating (Waiting On Connection) confirmation is received from the expander connection manager; or

d) Transmit AIP (NORMAL). >> should be << This state shall request:

a) an AIP (WAITING ON PARTIAL) be transmitted by sending a Transmit AIP (WAITING ON PARTIAL) parameter to the XL transmitter if an Arbitrating (Waiting On Partial) confirmation is received;

b)an AIP (WAITING ON PARTIAL) be transmitted by sending a Transmit AIP (WAITING ON PARTIAL) parameter to the XL transmitter if an Arbitrating (WBlocked On Partial) confirmation is received;

c)an AIP (WAITING ON CONNECTION) be transmitted by sending a Transmit AIP (WAITING ON CONNECTION) parameter to the XL transmitter if an Arbitrating (Waiting On Connection) confirmation is received;

d)an AIP (NORMAL) be transmitted by sending a Transmit AIP(NORMAL) if an ????? is received;

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.3.1 State description
The statement << Request Path request >> should be << Request Path confirmation >>.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.14.4.1 State description
In the second paragraph, the Transmit Idle Dword parameter is referenced, but it does not appear for this state in figure 75. Please add it to the figure.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.14.4.1 State description
In the third paragraph, the Transmit Open request is referenced, but it does not appear for this state in figure 75. Please add it to the figure.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.14.3 XL1:Request_Path state
The way Arbitrating (Block On Partial) is used is not consistent with the way confirmations and parameters are used in the rest of this standard. It is acting more like a signal is this description. This needs to be fixed. There needs to be two arguments; one for Blocked On Partial and another called something like Partial Cleared.
The descriptions would then say that the timer starts on Arbitration (Blocked On Partial) and if no Arbitrating (Partial Cleared) is received before the timer timers out then xyz happens.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.3.1 State description
The statement << status is conveyed to the expander >> should be << status is sent to the expander >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.14.3 XL1:Request_Path state
There was no description of the Arb Reject parameter shown in figure 74 in this section.

Sequence number: 6

Author: IBM
Date: 1/24/2003 7:54:17 PM
Type: Strikeout
    ACCEPT - DONE
    7.14.3.2 Transition XL1:Request_Path to XL2:Request_Open
    The following should be deleted << from the expander connection manager. >> should be deleted as the general rule is that we
    do not state where things come from in state diagrams.

Sequence number: 7
Author: IBM
Date: 1/24/2003 7:54:22 PM
Type: Strikeout
    ACCEPT - DONE
    7.14.3.2 Transition XL1:Request_Path to XL2:Request_Open
    The following should be deleted << from the expander connection manager. >> should be deleted as the general rule is that we
    do not state where things come from in state diagrams.

Sequence number: 8
Author: IBM
Date: 1/24/2003 7:54:27 PM
Type: Strikeout
    ACCEPT - DONE
    7.14.3.2 Transition XL1:Request_Path to XL2:Request_Open
    The following should be deleted << from the expander connection manager. >> should be deleted as the general rule is that we do
    not state where things come from in state diagrams.

Sequence number: 9
Author: IBM
Date: 1/24/2003 7:53:00 PM
Type: Circle
    ACCEPT - DONE
    7.14.3.2 Transition XL1:Request_Path to XL2:Request_Open
    7.14.3.3 Transition XL1:Request_Path to XL4:Open_Reject
    7.14.3.4 Transition XL1:Request_Path to XL0:Idle
    7.14.3.5 Transition XL1:Request_Path to XL9:Break
    The term < when >> should be << after >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.4.1 State description
    The statement << This state shall repeatedly send a Transmit Idle Dword parameter to the XL transmitter. >> should be << This
    state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to
    the XL transmitter (see 7.3). >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    7.14.4 XL2:Request_Open state
    The Transmit Idle Dword parameter, the Transmit Open request (?), and Transmit Open indication (?) are missing from figure 75.
    This needs to be fixed.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.4.1 State description
    The statement << This state shall send a Transmit >> give no indication as to when this is supposed to happen. I am guessing the
    statement should be << Upon entry into this state, this state shall send a Transmit >>.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.4.1 State description
    The statement << received by the destination phy as a Transmit Open indication. >> should be deleted.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.4 XL2:Request_Open state
The statement << Transmit Open request/indication >> should be << Transmit Open request >>.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.4.2 Transition XL2:Request_Open to XL3:Open_Confirm_Wait
The statement << This transition shall occur after the OPEN address frame has been forwarded to a destination phy. >> should be
<< This transition shall occur after sending an OPEN address frame transmitted by sending a Transmit OPEN Address Frame
parameter to the XL transmitter of a destination phy. >>

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.3.1 State description
The statement << from the expander connection manager. >> should be deleted as the general rule is that we do not state where
things come from in state diagrams.

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Sequence number: 1
Author: SEG Coomesj
Date: 1/10/2003 11:23:43 AM
Type: Highlight
ACCEPT - DONE
7.14.6.1 State description
Spelling:
Thist should be "This"

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.5.3 Transition XL3:Open_Confirm_Wait to XL7:Connected
There is no << OPEN_ACCEPT Transmitted >> parameter in figure 75.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
7.14.5.1 State description
Most of what is in the following statements should be placed in the section that describe the transitions as the receipt of the various
confirmation (if they really are configurations) and parameter cause the state transitions It also needs to be reworded to match the
wording used in the other state diagram sections << This state shall send the following parameters to the XL transmitter:
a) Transmit AIP (NORMAL) when an Arb Status (Normal) confirmation is received;
b) Transmit AIP (WAITING ON PARTIAL) when an Arb Status (Waiting On Partial) confirmation is received;
c) Transmit AIP (WAITING ON CONNECTION) when an Arb Status (Waiting On Connection) confirmation is received;
d) Transmit AIP (WAITING ON DEVICE) when an Arb Status (Waiting On Device) confirmation is received;
e) Transmit OPEN_ACCEPT when an Open Accept confirmation is received;
f) Transmit OPEN_REJECT when an Open Reject confirmation is received; or
g) Transmit Idle Dword when none of the previous conditions are present.
This state shall send a Transmit Break request to a destination phy when a BREAK Received parameter is received. >>

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.5.1 State description
The statement << g) Transmit Idle Dword when none of the previous conditions are present. >> should be << This state shall
request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to

the XL transmitter (see 7.3). >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.5.1 State description
    The statement << Arb Status (Waiting on Partial) is received, >> should be << Arb Status (Waiting on Partial) request is received, >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.5.1 State description
    The statement << Otherwise, this state shall send a Phy Status (Partial Pathway) confirmation to the expander connection manager. >> Is not precise in that it gives no information as to when the Phy Status (Partial Pathway) confirmation is to be sent.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.5.2 Transition XL3:Open_Confirm_Wait to XL0:Idle
    The statement << from a destination phy, >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.5.2 Transition XL3:Open_Confirm_Wait to XL0:Idle
    The statement << from a destination phy, >> should be deleted.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.5.2 Transition XL3:Open_Confirm_Wait to XL0:Idle
    The statement << from a destination phy, >> should be deleted.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    77.14.5.3 Transition XL3:Open_Confirm_Wait to XL7:Connected
    The statement << from a destination phy, >> should be deleted.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.5.5 Transition XL3:Open_Confirm_Wait to XL10:Break_Wait
    The statement << from a destination phy, >> should be deleted.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    7.14.5.2 Transition XL3:Open_Confirm_Wait to XL0:Idle
    7.14.5.3 Transition XL3:Open_Confirm_Wait to XL7:Connected
    According to Figure 75 the term << confirmation >> in these sections should be << request >>.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    7.14.5.2 Transition XL3:Open_Confirm_Wait to XL0:Idle
    There is no parameter in figure 75 that shows anything about << path resources >> being released. This needs to be fixed.

Sequence number: 14

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.5.4 Transition XL3:Open_Confirm_Wait to XL9:Break
The statement << after a BREAK Received parameter is received and a Transmit Break request has been sent to a destination phy. >> should be << after receiving BREAK Received parameter and requesting a BREAK be transmitted by sending a Transmit BREAK parameter to the XL transmitter of a destination phy. >>

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.5.5 Transition XL3:Open_Confirm_Wait to XL10:Break_Wait
The statement << occur when a Transmit Break indication is received >> should be << occur after receiving a Transmit Break request. >>.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.14.6.1 State description
There is no Arb Reject confirmation in figure 74. There is an Arb Reject parameter passed from the XL1 state. But that is not described in the XL1 state. This needs to be fixed.

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.14.6.1 State description
Most of what is in the following statements should be placed in the section that describe the transitions as the receipt of the various confirmation (if they really are configurations) and parameter cause the state transitions It also needs to be reworded to match the wording used in the other state diagram sections << This state shall send the following parameters to the XL transmitter:
a) Transmit OPEN_REJECT (NO DESTINATION) when an Arb Reject (No Destination) confirmation is received from the expander connection manager;
b) Transmit OPEN_REJECT (BAD DESTINATION) when an Arb Reject (Bad Destination) confirmation is received from the expander connection manager;
c) Transmit OPEN_REJECT (CONNECTION RATE NOT SUPPORTED) when an Arb Reject (Bad Connection Rate) confirmation is received from the expander connection manager;
d) Transmit OPEN_REJECT (PATHWAY BLOCKED) when an Arb Reject (Pathway Blocked) confirmation is received from the expander connection manager. >>

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.6.1 State description
The statement << This state shall >> should be << This state shall >>

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.6.1 State description
The statement << from the expander connection manager;>> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.6.1 State description
The statement << from the expander connection manager; >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.14.7.1 State description
In the first paragraph, the Transmit Open indication is referenced, but it does not appear in figure 75 for this state. Please add it to the figure.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
7.14.7 XL5:Forward_Open state
The is an << Open Address Frame >> parameter and a << Transmit Idle Dword >> parameter in figure 75 for this state that are not described in this section. That needs to be fixed.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.7.1 State description
The statement << frame indicated by the Transmit Open indication received from a source phy >> does not make any sense. I'm not sure how to fix it but it must be fixed.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.7.1 State description
There is no << Transmit Open indication >> shown in figure 75. This needs to be fixed.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.7.1 State description
The statement << This state shall send a Transmit OPEN Address Frame parameter to the XL transmitter with the fields set to the values specified by the >> has some problems. There is no indication as to where or what event causes what is stated to occur. This needs be fixed. Then it needs to be reworded to something like << After (trigger event) this state shall request an OPEN address frame be transmitted by sending a Transmit OPEN Address Frame parameter to the XL transmitter. The Transmit OPEN Address Frame arguments shall be set to the values specified by the Transmit Open indication. >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
How does this state know when an << OPEN address frame has been transmitted. >> when there are no Open Address Frame Transmitted parameters as inputs? This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.8.1 State description
The statement << This state shall transmit idle dwords. >> >> should be << This state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to
the XL transmitter (see 7.3). >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
7.14.8.1 State description
There is no OPEN_ACCEPT or OPEN_REJECT parameters shown in figure 75. This needs to be corrected.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square

7.14.8.1 State description
Most of what is in the following statements should be placed in the section that describe the transitions as the receipt of the various confirmation (if they really are configurations) and parameter cause the state transitions It also needs to be reworded to match the wording used in the other state diagram sections
<< This state shall send the following responses through the expander connection router to a source phy,
received by the source phy as confirmations:
a) Open Accept when OPEN_ACCEPT is received;
b) Open Reject when OPEN_REJECT is received;
c) Backoff Retry when a higher priority OPEN address frame is received (see 7.12.3) and the source SAS address and connection rate of the received OPEN address frame are not equal to the destination
SAS address and connection rate of the transmitted OPEN address frame; or
d) Backoff Reverse Path when a higher priority OPEN address frame is received (see 7.12.3) and the source SAS address and connection rate of the received OPEN address frame are equal to the destination
SAS address and connection rate of the transmitted OPEN address frame.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.8.1 State description
The statement << This state shall send the following arbitration responses through the expander connection router to a source phy, received by the source phy as confirmations:
a) Arb Status (Waiting On Device) when an AIP Received parameter has not been received;
b) Arb Status (Normal) when an AIP (NORMAL) Received parameter is received;
c) Arb Status (Waiting On Partial) when an AIP (WAITING ON PARTIAL) Received parameter is received;
d) Arb Status (Waiting On Connection) when an AIP (WAITING ON CONNECTION) Received parameter is received; and
e) Arb Status (Waiting On Device) when an AIP (WAITING ON DEVICE) Received parameter is received.
>> should be << This state shall request:
a) an Arb Status (Waiting On Device) be transmitted by sending an Arb Status (Waiting On Device) parameter to the XL transmitter if an AIP Received parameter is not received; >>This gives no indication as to when the parameter that is not received is checked or under what conditions it is considered not received <<
b)an Arb Status (Normal) be transmitted by sending an Arb Status (Normal) parameter to the XL transmitter if an AIP (NORMAL) Received parameter is received;
c)an Arb Status (Waiting On Partial) be transmitted by sending an Arb Status (Waiting On Partial) parameter to the XL transmitter if an AIP (WAITING ON PARTIAL) Received parameter is received;
d)an Arb Status (Waiting On Connection) be transmitted by sending an Arb Status (Waiting On Connection) if an AIP (WAITING ON CONNECTION) Received parameter is received; and
e)an Arb Status (Waiting On Device) be transmitted by sending an Arb Status (Waiting On Device) if an AIP (WAITING ON DEVICE) Received parameter is received. >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.6.1 State description
The statement << from the expander connection manager; >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.14.6.1 State description
The statement << from the expander connection manager; >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.14.8.2 Transition XL6:Open_Response_Wait to XL0:Idle
The link (see 7.12.3) does not work.

Sequence number: 2

Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.14.8.3 Transition XL6:Open_Response_Wait to XL2:Request_Open
    The link (see 7.12.3) does not work.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/14/2003 8:40:46 PM
Type: Highlight
    TODO (this really needs to point to the DWS state machine)
    7.14.9.1 State description
    In the fourth paragraph, replace "section 7.12.4" with "subclause 7.12.4." Also, make the link work.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.1 State description
    The statement << Otherwise, this state shall send a Phy Status (Partial Pathway) confirmation to the expander connection
    manager. >> Is not precise in that it gives no information as to when the Phy Status (Partial Pathway) confirmation is to be sent.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.1 State description
    The statement << Arb Status (Waiting on Partial) is received, >> should be << Arb Status (Waiting on Partial) request is received,
    >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.1 State description
    The statement << This state shall send a Transmit Break request to a source phy when a BREAK Received parameter is
    received. >> needs to be moved into the relevant state transition. And reworded to the standard wording.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.2 Transition XL6:Open_Response_Wait to XL0:Idle
    The statement << The XL7:XL0 transition shall occur after one of the following conditions are met: >> should be << This transition
    shall occur after: >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.2 Transition XL6:Open_Response_Wait to XL0:Idle
    The statement << OPEN_REJECT is received, Open Reject response has been sent to a source phy, and path resources have
    been released; >> should be << an OPEN_REJECT is received, and after requesting an Open Reject be transmitted by sending
    an Open Reject response to the XL transmitter of a source phy and after path resources have been released >>
    Also, there is nothing in figure 75 that would indicate what parameter is used to determine that << resources have been released
    >>.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.2 Transition XL6:Open_Response_Wait to XL0:Idle
    The statement << received OPEN address frame >> should be << received OPEN Address Frame Received parameter >>

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.2 Transition XL6:Open_Response_Wait to XL0:Idle

The statement << a Backoff Retry response has been sent
to a source phy, and path resources have been released. >> should be << and after requesting an Backoff Retry be transmitted by
sending a Backoff Retry response to the XL transmitter of a source phy and after path resources have been released >>
Also, there is nothing in figure 75 that would indicate what parameter is used to determine that << resources have been released
>>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.3 Transition XL6:Open_Response_Wait to XL2:Request_Open
    The statement << received OPEN address frame >> should be << received OPEN Address Frame Received parameter >>

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.3 Transition XL6:Open_Response_Wait to XL2:Request_Open
    The statement << and Backoff Reverse Path response has been sent to a source phy.>> should be << and after requesting a
    Backoff Reverse Path be transmitted by sending a Backoff Reverse Path response to the XL transmitter of a source phy >>

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.5 Transition XL6:Open_Response_
    The statement << occur after a BREAK is received and Transmit Break response is sent to a source phy. >> should be << after
    receiving BREAK Received parameter and requesting a BREAK be transmitted by sending a Transmit BREAK parameter to the
    XL transmitter of a source phy. >>

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.8.6 Transition XL6:Open_Response_Wait to XL10:Break_Wait
    The statement << occur when a Transmit Break indication is received >> should be << occur after receiving a Transmit Break
    request. >>.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.14.8.6 Transition XL6:Open_Response_Wait to XL10:Break_Wait
    The statement << from a source phy. >> should be deleted.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.9.1 State description
    The statement << This state shall send a Transmit Break request to a connected phy when a BREAK Received parameter is
    received.. >> needs to be moved into the relevant state transition. And reworded to the standard wording.

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.14.9.1 State description
    The statement << This state shall send a Transmit Close request to a connected phy when a CLOSE Received parameter is
    received >> needs to be moved into the relevant state transition. And reworded to the standard wording.

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    7.14.9.1 State description
    The statements << This state shall transmit all dwords received by the Transmit Dword indication from a connected phy via the
    expander connection router.
    This state shall send all valid dwords received by the SAS phy through the expander connection router to a connected phy using

the Transmit Dword request with the exception of BREAK and CLOSEes. >> are very confusing. The indications, responses, and parameters need to be more clearly defined as to which cause what action. This needs to be fixed.

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
> 7.14.9.2 Transition XL7:Connected to XL8:Close_Wait
> The statement << from a connected phy via the expander connection router. >> needs to be deleted.

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 7.14.9.1 State description
> The statement << Tis transition shall occur when a Transmit Close indication is received >> should be This transition shall occur after receiving a Transmit Close indication and after requesting a Transmit Close be transmitted by sending a Transmit Close parameter to the XL transmitter of a connected phy. >>

Sequence number: 21
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 7.14.9.1 State description
> The statement << This state shall send a Phy Status (Connected) confirmation to the expander connection manager. >> gives no indication as to what event triggers the confirmation being sent. This needs to be fixed.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 7.14.9.3 Transition XL7:Connected to XL9:Break
> The statement << occur when a BREAK Received parameter is received. >> should be << after receiving BREAK Received parameter and requesting a BREAK be transmitted by sending a Transmit BREAK parameter to the XL transmitter. >>

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 7.14.9.4 Transition XL7:Connected to XL10:Break_Wait
> The statement << occur when a Transmit Break indication is received >> should be << occur after receiving a Transmit Break request. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
> 7.14.9.4 Transition XL7:Connected to XL10:Break_Wait
> The statement << from a connected phy via the
> expander connection router. >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
> 7.14.10.4 Transition XL8:Close_Wait to XL10:Break_Wait
> The statement << from a connected phy via the
> expander connection router. >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 7.14.10.4 Transition XL8:Close_Wait to XL10:Break_Wait

The statement << occur when a Transmit Break indication is received >> should be << occur after receiving a Transmit Break request. >>

Sequence number: 6
Author: IBM
Date: 1/24/2003 7:57:04 PM
Type: Highlight
ACCEPT - DONE (but it's a Transmit Break request to the internals, not a Transmit Break to the XL transmitter)
7.14.10.3 Transition XL8:Close_Wait to XL9:Break
The statement << occur when a BREAK Received parameter is received. >> should be << after receiving BREAK Received parameter and requesting a BREAK be transmitted by sending a Transmit BREAK parameter to the XL transmitter. >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.10.2 Transition XL8:Close_Wait to XL0:Idle
The statement << after a CLOSE has been both transmitted and received and after path resources
have been released for this connection. >> should be << after receiving a Close Received parameter, after requesting a CLOSE be transmitted by sending a Transmit Close to the XL transmitter of a connected phy, and after sending a Transmit Close request to the ???? . The expander device shall transmit the same CLOSE primitive that was received (e.g. CLOSE (NORMAL) forwarded as CLOSE (NORMAL)). >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.10.1 State description
The statement << This state shall send a Transmit Break request to a connected phy when a BREAK Received parameter is received. >> needs to be moved into the relevant state transition. And reworded to the standard wording.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << This state shall send a Transmit Close request to a connected phy when a CLOSE Received parameter is received. The expander device shall transmit the same CLOSE primitive that was received (e.g. CLOSE (NORMAL) forwarded as CLOSE (NORMAL)). >> needs to be moved into the relevant state transition. And reworded to the standard wording.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << This state shall send a Transmit >> gives no indication as to when this is supposed to occur. This needs to be fixed.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.10.1 State description
The statement << then shall repeatedly send a
Transmit Idle Dword parameter to the XL transmitter. >> should be << then this state shall request idle dwords be transmitted by repeatedly sending a Transmit Idle Dword parameter to
the XL transmitter (see 7.3). >>.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.10.1 State description
The statement << This state shall send a Phy Status (Connected) confirmation to the expander connection manager. >> gives no indication as to what event triggers the confirmation being sent. This needs to be fixed.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square

7.14.10.1 State description
The statements << This state shall send all valid dwords received by the SAS phy through the expander connection router to a connected phy using the Transmit Dword request with the exception of BREAK and CLOSEes. >> are very confusing. The indications, responses, and parameters need to be more clearly defined as to which cause what action. This needs to be fixed.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.11.1 State description
How does this happen? << releases any path resources. >>

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.11.1 State description
The statement << This state shall send a Transmit BREAK parameter to the XL transmitter. >> needs to be moved into the relevant state transition. And reworded to the standard wording.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << This transition shall occur after transmitting a BREAK. >> should be << This transition shall occur after requesting a BREAK be transmitted by sending a Transmit BREAK parameter to the XL transmitter. >>

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.14.12.1 State description
How does this happen? << releases any path resources. >>

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << send a Transmit BREAK parameter to the XL transmitter. >> should be << request a BREAK be transmitted by sending a Transmit BREAK parameter to the XL transmitter.

Sequence number: 19
Author: PostLB
Date: 1/14/2003 8:44:30 PM
Type: Note
ACCEPT - TODO
7.14.10.1 XL8:Close_Wait needs to mention invalid dwords too
pull out ERROR stuff from DWS; just have it output valid dword or invalid dword.
Let this state machine convert invalid dwords to ERROR or SATA_ERROR as appropriate.

Sequence number: 20
Author: PostLB
Date: 1/15/2003 7:33:15 PM
Type: Highlight
millisecond should be ms

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.15 Rate matching, first paragraph
Change the first part of the first sentence from "Initiator ports shall use SMP to discover the negotiated physical link rate..." to "Initiator ports shall discover the negotiated physical link rate..." There are other methods besides SMP that an initiator may use, and targets are not required to support SMP.

Sequence number: 2
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    7.15 Rate matching
    The termination of inserting ALIGNs is not covered.
    Add a sentence:
    The source shall stop inserting ALIGNs for rate matching with the first dword of CLOSE.

Sequence number: 3
Author: IBM
Date: 1/25/2003 4:12:38 PM
Type: Strikeout
    ACCEPT - DONE
    7.14.12.2 Transition XL10:Break_Wait to XL0:Idle
    The statement << whichever occurs first. >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.15 Rate matching
    The statement << on any potential
    intermediate physical link. >> should be << on any physical link that makes up any potential pathway >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.15 Rate matching
    The statement << to reduce EMI. >> should be deleted. As that information is not needed.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
    Figure 77
    This figure would be clearer if the phy-expander-phy boxes where removed and the arrows from the text point to the correct blobs.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.15 Rate matching
    The term << immediately >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    The statement << after seeing an OPEN_ACCEPT. >> should be << after transmitting (receiving ??) an OPEN_ACCEPT >>. I'm
    not sure which is correct but I don't think expanders are going to have eyes that will see things.

Sequence number: 9
Author: IBM
Date: 1/16/2003 7:39:07 PM
Type: Note
    ACCEPT - TODO (require the first dword after the OPEN address frame be one of the rate matching ALIGNs.)
    7.15 Rate matching
    ****
    There is no description about when the source is supposed to start transmitting at the link rate sent in the OPEN. This needs to be
    specified here.

Sequence number: 10
Author: Vixel
Date: 1/17/2003 3:02:49 PM
Type: Highlight
    ACCEPT - TODO (add another level of expanders ... sample picture will be provided. Add a sentence mentioning that receivers

just discard extra ALIGNs that show up.)
Clause 7.15
It's ambiguous which faster phy does the insertion. Should be the transmitting faster phy?
Also doesn't mention removal of ALIGNs. This should be described.

Sequence number: 11
Author: LSI Brian Day
Date: 1/22/2003 9:55:00 AM
Type: Note
    ACCEPT - DONE (globally fixed "an SATA" to "a SATA")
    7.15 Rate matching
    page 190
    Last paragraph should read "... port discovers a SATA target ..." (change "an" to "a")

Sequence number: 12
Author: PostLB
Date: 1/13/2003 5:58:17 PM
Type: Note
    ACCEPT - TODO
    Delete this paragraph, which conflicts with 7.7.3 (Brian Day's comment)

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Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Strikeout
    7.16.3 SSP frame transmission
    Delete:
    NAK means the frame was received with an error;
    NAK (CRC ERROR) is the only defined NAK.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.16.2 Full duplex
    The statement << so the DONE (NORMAL) may be followed
    by RRDYs, ACKs, and NAKs. >> should be << allowing RRDYs, ACKs, and NAK to follow a DONE (NORMAL). >>

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.16.3 SSP frame transmission
    The statement << The link layer shall
    check that the number of data dwords between the SOF and EOF is at least 28 bytes and that the CRC is
    valid. >> should be deleted as the requirement is contains in the state descriptions.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.16.4 SSP flow control
    The statement << An SSP target port or an SSP target/initiator port acting in its target role may refuse to provide credit for any
    reason, including because it needs to transmit a frame itself. This prevents deadlocks where both ports are waiting on the other to
    provide credit. >> should be << To prevent deadlocks where both an SSP target port and an SSP initiator port are waiting on the
    other to provide credit an SSP target port or an SSP target/initiator port acting in its target role may refuse to provide credit for any
    reason, including because it needs to transmit a frame itself. >>

Sequence number: 5
Author: IBM
Date: 1/24/2003 7:57:58 PM
Type: Highlight
    ACCEPT - DONE
    7.16.4 SSP flow control

The statement << be interlocked. >> should be << be interlocked and which shall be non-interlocked >>.

Sequence number: 6
Author: INTC
Date: 1/22/2003 9:46:13 AM
Type: Highlight
    ACCEPT - DONE ("Receiving ports shall acknowledge frames within 1 ms if not discarded as described in 7.x.x.x with either ...")
    7.16.3 SSP frame transmission
    "Every frame shall be acknowledged" By whom? Place the requirement on something.

Sequence number: 7
Author: INTC
Date: 1/22/2003 9:44:10 AM
Type: Highlight
    ACCEPT - DONE (rename section "transmission and reception". Also done in SMP and STP sections.)
    7.16.3 SSP frame transmission
    Create new subclause for frame reception.

Sequence number: 8
Author: INTC
Date: 1/17/2003 12:56:09 PM
Type: Highlight
    ACCEPT - TODO ("Every frame not discarded as described in 7.16.7.9". See other comment)
    7.16.3 SSP frame transmission
     "Every frame shall be acknowledged" conflicts with
    7.16.7.9, which describes some frames that are dropped.
    Qualify with 'valid' or something.

Sequence number: 9
Author: DSS
Date: 1/6/2003 3:20:37 PM
Type: Note
    24. (T) Section 7.16.5, the paragraph before figure 79. The term "back
    channel" and "backchannel" is used
    here without definition.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.16.6 Preparing to close an SSP connection
    The last two sentences of the last paragraph are run together. Add a space.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.16.6 Preparing to close an SSP connection
    The statement << 1 ms; the ACK/NAK count >> should be << 1 ms and as a result the ACK/NAK count >>.

Sequence number: 3
Author: IBM
Date: 1/22/2003 9:56:19 AM
Type: Highlight
    ACCEPT - DONE
    7.16.6 Preparing to close an SSP connection
    The is a space missing at the end if this sentence << channel.Once a port >>.

Sequence number: 4
Author: IBM
Date: 1/24/2003 8:04:35 PM
Type: Highlight
    ACCEPT - DONE
    7.16.6 Preparing to close an SSP connection

I believe the may in the statement << it may close the
connection by transmitting the CLOSE >> should be a shall.

Sequence number: 5
Author: DSS
Date: 1/6/2003 3:21:04 PM
Type: Note
25. (E) Section 7.16.6, unordered list. "unbalanced", "imbalanced",
"nonbalanced" and "not balanced" are
all terms that are used throughout the document. Should look for one
consistent, defined term.

Sequence number: 6
Author: DSS
Date: 1/6/2003 3:21:54 PM
Type: Note
26. (T) Subclause 7.16.7 describes an implementation of subclauses 7.16.1
through 7.16.6. This is
inappropriate for normative text and should be removed.

Sequence number: 7
Author: LSI Brian Day
Date: 1/22/2003 9:55:56 AM
Type: Note
ACCEPT - DONE
7.16.6 Preparing to close an SSP connection
page 193
Last paragraph needs to include CREDIT_BLOCKED. Change wording to "... may transmit ACK, NAK, RRDY, and
CREDIT_BLOCKED ..."

Sequence number: 8
Author: PostLB
Date: 1/21/2003 11:11:43 AM
Type: Note
somewhere here, and in SMP link layer, and maybe XL link layer needs to say:
Unless otherwise stated within the state description, all disparity errors, illegal characters, and unexpected primitives (i.e., any
primitive not described in the description of the NNN state) received within any NNN state shall be ignored.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.16.7.1 Overview
In the paragraph beginning with "The SSP_TF state machine's...", replace "it" with "is".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.16.7.1 Overview
In the paragraph beginning with "The SSP_RF state machine's...", replace "successful or unsuccessful received." with
"successfully or unsuccessfully received.".

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
7.16.7 SSP link layer (SSP) state machines, 7.16.7.1 Overview, ninth paragraph
Change the first sentence to: "The SSP_RF state machine's function is to receive frames and to determine whether or not those
frames were received successfully."

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM

Type: Highlight
7.16.7 SSP link layer (SSP) state machines
7.16.7.1 Overview
change <The SSP_TCM state machine contains the SP_TCM1:Tx_credit_monitor state> to
"The SSP_TCM state machine contains the SP_TCM1:Tx_Credit_Monitor state"

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
7.16.7 SSP link layer (SSP) state machines
7.16.7.1 Overview
<The SSP_TF state machine's function it to control when the SSP_T state machine>
two things:
1) change <it> to "is"
2) change <the SSP_T state machine> to "a SSP transmitter"
 (I can not find a <SSP_T> state machine. Does it need to be defined ? We defined for the SL state machines in Figure 73)

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.1 Overview
The statement << from the SL state machine >> should be deleted as the general rule is that we do not state where things come
from in state diagrams.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.1 Overview
The statement << from the SL state machine >> should be deleted as the general rule is that we do not state where things come
from in state diagrams.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.1 Overview
The statement << from the SSP_D1:DONE_Wait state >> as the general rule is that we do not state where things come from in
state diagrams.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.1 Overview
The statement << from the SSP_D1:DONE_Wait state >> should be deleted as the general rule is that we do not state where
things come from in state diagrams.

Sequence number: 10
Author: LSI Brian Day
Date: 1/22/2003 10:00:07 AM
Type: Note
ACCEPT - DONE
7.16.7.1 Overview
page 194
Sentence starting with "The SSP_RF state machine ..." should read "... if those frames were successfully or unsucessfully
received." (Add "ly")

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight

7.16.7.1 Overview
Figure 82
(and Global)
The SSP_TF3 state is split between two figures (not even consecutive figures). This is very confusing because there is no visual clue in the figure that the state is continued elsewhere. We should add some clue that it is continued somewhere else (perhaps the horizontal bar under the state name or the vertical bar should be dashed).

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Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
  7.16.7 SSP link layer (SSP) state machines
  7.16.7.1 Overview
  Figure 84 — SSP link layer (SSP) state machines (part 3 - primitive transmission)
  change <Frame> to
  "frame"
  (see text on section 7.16.7.7)

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
  7.16.7 SSP link layer (SSP) state machines
  7.16.7.1 Overview
  Figure 84 — SSP link layer (SSP) state machines (part 3 - primitive transmission)
  change <Frame> to
  "frame"

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
  7.16.7 SSP link layer (SSP) state machines
  There needs to be a section added after figure 84 and before 7.16.7.2 to describe the SSP transmitter and SSP receiver.
  Something like this needs to be here . << The SSP state machine sends the following parameters to the SSP transmitter:
  a, b, c list of outputs
  The SSP state machine receives the following parameters from the SSP receiver:
  a, b, c list of inputs >> in addition there should be wording like that in section 7.13.2.

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Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
  7.16.7.3 SSP_TCM1:Tx_credit_monitor state
  change <TCM1:Tx_credit_monitor state>   to
  CM1:Tx_Credit_Monitor state

Sequence number: 2
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
  7.16.7.2 SSP_TIM1:Tx_Interlock_Monitor state
  'When the number of EOF Transmitted parameters received' - These
  are signals, indications, something. They are not parameters.
  Use an appropriate term, see ANSI IT Dictionary.

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.16.7.4 SSP_D1:DONE_Wait state, 7.16.7.4.1 State description, last paragraph
    Change "DONE (ACK/NAK TIMEOUT) confirmation" to DONE Received (ACK/NAK TIMEOUT) confirmation".

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    7.16.7.4 SSP_D1:DONE_Wait state, 7.16.7.4.1 State description, last paragraph
    Add an "i.e." in the last clause: "...other DONE Received confirmations (i.e., DONE Received (Close Connection) and DONE
    Received (Credit Timeout)) may be used by the application layer to decide when to reuse tags."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.16.7.5.2 Transition SSP_TF1:Connected_Idle to SSP_TF2:Tx_Wait, second paragraph
    Change "Tx Frame (Balanced)" to "Tx Frame (Balance Required)".

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.16.7.5.2 Transition SSP_TF1:Connected_Idle to SSP_TF2:Tx_Wait, second paragraph
    Change "Tx Frame (Nonbalanced)" to "Tx Frame (Balance Not Required)".

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.5.3 Transition SSP_TF1:Connected_Idle to SSP_TF4:Indicate_Done_Tx
    change <Done> to
    "DONE"_

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    7.16.7.5.1 State description
    The statement << from the port layer >> should be deleted as the general rule is that we do not state where things come from in
    state diagrams.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.16.7.4.1 State description
    The statement << A DONE (ACK/NAK TIMEOUT) confirmation informs >> should be << A DONE Received (ACK/NAK TIMEOUT)
    >>.

Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.6.3 Transition SSP_TF2:Tx_Wait to SSP_TF4:Indicate_Done_Tx
    change <Connection Closed> to "Close Connection"

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.6.3 Transition SSP_TF2:Tx_Wait to SSP_TF4:Indicate_Done_Tx
    change <Done> to
    "DONE"

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.6.3 Transition SSP_TF2:Tx_Wait to SSP_TF4:Indicate_Done_Tx
    change <Done> to
    "DONE"

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.6.3 Transition SSP_TF2:Tx_Wait to SSP_TF4:Indicate_Done_Tx
    change <Done> to
    "DONE"

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.6.3 Transition SSP_TF2:Tx_Wait to SSP_TF4:Indicate_Done_Tx
    change <Done> to
    "DONE"

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.6.3 Transition SSP_TF2:Tx_Wait to SSP_TF4:Indicate_Done_Tx
    change <Done> to
    "DONE"

Sequence number: 7
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.8 SSP_TF4:Indicate_Done_Tx state
    change <Done> to
    "DONE"

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    7.16.7.7.1 State description
    The statement << that the frame has been >> should be << that the SOF/frame/EOF have been >>.

Page: 201

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    7.16.7.9 SSP_RF1:Rcv_Frame state, first bulleted list
    Change item c) from "Received Frame" to "Frame Received".

Sequence number: 2
Author: SEG wordenj

Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.8 SSP_TF4:Indicate_Done_Tx state
    change <parameter> to
    "Wait For DONE (CREDIT TIMEOUT) parameter

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.9 SSP_RF1:Rcv_Frame state
    change <Received Frame> to
    "Frame Received"

Sequence number: 4
Author: LSI Brian Day
Date: 1/22/2003 10:00:45 AM
Type: Note
    ACCEPT - DONE
    7.16.7.8 SSP_TF4:Indicate_Done_Tx state
    page 201.
    Item c) should start "Wait For DONE (Credit Timeout) ...".

Page: 202

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    7.16.7.11 SSP_RIM1:Rcv_Interlock_Monitor state
    In the fourth paragraph, replace "Received Frames" with "Frame Received".

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.11 SSP_RIM1:Rcv_Interlock_Monitor state
    change <Received Frame> to
    "Frame Received"

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.11 SSP_RIM1:Rcv_Interlock_Monitor state
    change <Received Frame> to
    "Frame Received"

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.11 SSP_RIM1:Rcv_Interlock_Monitor state
    change <Received Frame> to
    "Frame Received"

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    7.16.7.13.1 State description
    change <CREDIT_BLOCKED by sending> to
    "CREDIT_BLOCKED be transmitted by sending"

Sequence number: 6
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.11 SSP_RIM1:Rcv_Interlock_Monitor state
The statement << from the SSP_TAN1:Idle state >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.11 SSP_RIM1:Rcv_Interlock_Monitor state
The statement << from the SSP_RF1:Rcv_Frame state >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 8
Author: LSI Brian Day
Date: 1/22/2003 10:01:45 AM
Type: Note
ACCEPT - DONE
7.16.7.12.2 Transition SSP_TC1:Idle to SSP_TC2:Indicate_Credit_Tx
page 202
Add another sentence "This transition shall pass a CREDIT_BLOCKED argument to the Indicate_Credit_Tx state if a Rx Credit Status (Blocked) parameter was received."

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.16.7.14.1 State description
The statement << from the SSP_RF1:Rcv_Frame state. >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Page: 204

Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/10/2003 11:25:15 AM
Type: Highlight
ACCEPT - DONE
7.17.1 STP frame transmission
Table 84 - SATA target port transmitting a frame
It the title of the second column, replace "or STP" with "or to STP".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/10/2003 11:26:16 AM
Type: Highlight
ACCEPT - DONE (throughout tables 84 and 85)
7.17.1 STP frame transmission
Table 84 - SATA target port transmitting a frame
Table 85 - STP initiator port transmitting a frame
"<repeats>" needs a better definition. If it means that the SATA_X_RDY primitive repeats, then replace it with "<SATA_X_RDY repeats>".

Sequence number: 3
Author: IBM
Date: 1/10/2003 11:26:48 AM
Type: Highlight
REJECT (no "translation" is occurring)
7.17.1 STP frame transmission

The statement << Table 84 shows a target port transmitting a SATA frame to an expander port. >> should be << Table 84 shows the expander port or STP initiator port translation of a SATA frame or primitive to an STP frame or primitive when the STP frame or primitive is received from a SATA target >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.1 STP frame transmission
The statement << on the path to the STP initiator port solely for the frame. >> should be << on the pathway to the STP initiator port. >>. I don't understand what << solely for the frame >> means. It doesn't seems to imply that every frame requires an open to be transmitted which should not be correct.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.1 STP frame transmission
The statement << Table 85 shows an STP initiator port transmitting a frame, with the expander device attached to the SATA target port opening a connection solely for the frame. >> should be << Table 85 shows the expander port translation of a STP frame or primitive to an SATA frame or primitive when the STP frame or primitive is received from an STP initiator port or expander port. The STP initiator port opens a connection to an expander port on a pathway to the expander. >> I don't understand what << solely for the frame >> means. It doesn't seems to imply that every frame requires an open to be transmitted which should not be correct.

Sequence number: 6
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
7.17.1 STP frame transmission
page 204
Tables 84 and 85 should show where OPEN_ACCEPT occurs relative to the frame transmission.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
7.17.1 STP frame transmission
Last paragraph, third sentence.
Replace "...involved." with "...involved (except to repeat dwords)."

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.2 STP flow control
The statement << number of dwords it must store in an internal buffer if it can do so without exceeding >> should be << number of dwords it is required to store in an internal buffer if it does so without exceeding >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.2 STP flow control
The statement << during which each expander device must accept incoming data dwords into a buffer. >> should be << during which each expander device shall accept incoming data dwords into a buffer. >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.1 STP frame transmission
The statement << CLOSE on the expander >> should be << CLOSE at the expander >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.1 STP frame transmission
The statement << CLOSE on the expander >> should be << CLOSE at the expander >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
7.17.1 STP frame transmission
The statement << While the connection is open, the expander device is not involved. >> should be << While the connection is open, the expander device passes through all dwords without modification. >>

Sequence number: 7
Author: LSI Tim Hoglund
Date: 1/8/2003 9:34:19 AM
Type: Note
7.17.2 STP flow control
page 205
Text description correlates well with Figure 86 as far as getting into the HOLD condition but recommend including more text describing the process of releasing the HOLD condition.

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
7.17.3 Preparing to close an STP connection
Add "or" before the last option in the list: "detected, [or] after"

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/25/2003 11:48:23 AM
Type: Highlight
ACCEPT - DONE
7.17.3 Preparing to close an STP connection
Second paragraph.
Replace "SCSI domain" with SAS domain".

Sequence number: 3
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.17.3 Preparing to close an STP connection
Change:
detected, after
To:
detected or after

Sequence number: 4
Author: IBM
Date: 1/25/2003 11:49:08 AM
Type: Highlight
REJECT (whole paragraph deleted anyway)(could add a see SATA xref)
7.17.3 Preparing to close an STP connection
The term << command-tag
queuing >> is not used anywhere else in this document. Either it needs to be defined or deleted.

Sequence number: 5
Author: IBM
Date: 1/25/2003 11:49:26 AM
Type: Highlight
REJECT (whole paragraph deleted)

7.17.3 Preparing to close an STP connection
The statement << An expander device may issue CLOSE at the end of each frame, after a time out waiting for another frame, after every n frames, after a certain time period, after a SATA_CONT is detected, after a SATA_HOLD is detected. >> should be an a,b,c list and needs an << or >> between the last two cases.

Sequence number: 6
Author: DSS
Date: 1/6/2003 3:22:20 PM
Type: Note
27. (T) Section 7.18.1, first paragraph. Several of the management functions
may require software or
firmware intervention. No provision is included to break the connection and
free the resource while
this intervention takes place. This could lead to serious performance
degradation in SAS networks.

Sequence number: 7
Author: DSS
Date: 1/6/2003 3:22:38 PM
Type: Note
28. (T) Section 7.18.1, last paragraph. What is the action for frames with
less than 8 bytes and good CRC?

Sequence number: 8
Author: DSS
Date: 1/6/2003 3:23:04 PM
Type: Note
29. (T) Section 7.18.2, second sentence. What should the source expect to
receive if it transmits more than
1 request?

Sequence number: 9
Author: LSI Brian Day
Date: 1/22/2003 10:04:13 AM
Type: Note
ACCEPT - DONE (but change "manages the STP connection requests" to "manages affiliations")
7.17.3 Preparing to close an STP connection
page 207
In second paragraph, expander behavior regarding multi initiator ports is incorrect or misleading. Replace entire paragraph with:
"In a SCSI domain with a single initiator port, when a SATA target port transmits an SATA_X_RDY, the expander device may use the time between SATA_X_RDY and SATA_R_RDY to insert an OPEN address frame to open a connection to the initiator port. In a SAS domain with multiple initiator ports, the expander device manages the STP connection requests (see 9.3.2). Only data FISes are subject to flow control, so the expander device shall be capable of accepting a whole register FIS frame."

Sequence number: 10
Author: LSI Brian Day
Date: 1/22/2003 10:02:15 AM
Type: Note
ACCEPT - DONE
7.17.3 Preparing to close an STP connection
page 207
Third paragraph starting "An expander device may issue CLOSE ..." conflicts with first paragraph. Remove entire paragraph.

Sequence number: 11
Author: LSI Tim Hoglund
Date: 1/21/2003 11:45:32 AM
Type: Note
REJECT (Brian Day's rewrite accepted instead)
7.17.3 Preparing to close an STP connection
page 207
Remove Paragraph 2, starting with "In a SCSI domain." - it is misleading and provides no normative content.
Recommend restricting when expander device may issue CLOSE to only include the first three cases listed (end of each frame, timeout waiting for another frame, after every n frames).

Sequence number: 12
Author: PostLB
Date: 1/25/2003 11:50:35 AM
Type: Note
ACCEPT - DONE

7.17.4 STP link layer
Mention that this is modified to talk to a port layer

Sequence number: 13
Author: PostLB
Date: 1/21/2003 11:46:38 AM
Type: Highlight
ACCEPT - TODO
initiator could be a target too... change to STP ports
(global search for STP initiator and check if targets are also possible)

Page: 208

Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
7.18.4 SMP link layer (SMP) state machines
7.18.4.1 Overview
change <Rcv_response_Frame> to
"Rcv_Response_Frame"
(in all other state diagrams the first letter of all state names are capitalized - this comment applies to all state names in the SMP section and SMP figures)

Sequence number: 2
Author: SEG wordenj
Date: 1/25/2003 11:54:04 AM
Type: Highlight
ACCEPT - DONE
7.18.4 SMP link layer (SMP) state machines
7.18.4.1 Overview
change <(see 7.18.4.2)(initial state);> to
(see 7.18.4.2.1)(initial state);

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.18.4.1 Overview
The statement << from the SL state machine >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.18.4.1 Overview
The statement << from the SL state machine >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
7.18.4.1 Overview
The statement << from the SL state machine >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 6
Author: IBM
Date: 1/25/2003 11:54:53 AM
Type: Strikeout
ACCEPT - DONE
7.18.4.1 Overview
The statement << from the SMP_IL3:Rcv_response_Frame state >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 7
Author: IBM
Date: 1/25/2003 11:54:57 AM
Type: Strikeout
ACCEPT - DONE
7.18.4.1 Overview
The statement << from the SMP_IL3:Rcv_response_Frame state >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 8
Author: IBM
Date: 1/25/2003 11:55:07 AM
Type: Strikeout
ACCEPT - DONE
7.18.4.1 Overview
The statement << from the SMP_TL2:Wait_transmit_frame state >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 9
Author: IBM
Date: 1/25/2003 11:55:02 AM
Type: Strikeout
ACCEPT - DONE
7.18.4.1 Overview
The statement << from the SMP_TL1:Wait_originate_frame state >> should be deleted as the general rule is that we do not state where things come from in state diagrams.

Sequence number: 10
Author: DSS
Date: 1/11/2003 5:01:05 PM
Type: Note
REJECT
30. (T) Subclause 7.18.4 describes an implementation of subclauses 7.18.1
through 7.18.3. This is
inappropriate for normative text and should be removed.

Sequence number: 11
Author: PostLB
Date: 1/25/2003 11:53:02 AM
Type: Highlight
ACCEPT - DONE
7.18.4.1 Overview (SMP link layer)
Enable Disable SSP should be Enable Disable SMP (two times on the page)

Page: 209

Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
7.18.4.1 Overview, Table 88
Round corners of white box to match format of other state machines

Page: 210

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
7.18.4 SMP link layer (SMP) state machines, 7.18.4.1 Overview, Figure 89 - SMP link layer (SMP) state machines – target device
Add a "Frame Transmitted" confirmation from the SMP_TL2 state to the port layer.

Sequence number: 2
Author: IBM
Date: 1/7/2003 3:08:38 PM
Type: Note
7.18.4 SMP link layer (SMP) state machines
There needs to be a section added after figure 84 and before 7.16.7.2 to describe the SMP transmitter and SMP receiver.
Something like this needs to be here . << The SMP state machine sends the following parameters to the SMP transmitter:
a, b, c list of outputs
The SMP state machine receives the following parameters from the SMP receiver:
a, b, c list of inputs >> in addition there should be wording like that in section 7.13.2

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/25/2003 11:57:03 AM
Type: Highlight
ACCEPT - DONE (data dwords)
7.18.4.3.1.1 State description
Third paragraph. Replace "dword" with "dwords".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/25/2003 11:56:36 AM
Type: Highlight
ACCEPT - DONE
7.18.4.3.1.2 Transition SMP_TL1:Wait_originate_frame to SMP_TL2:Wait_transmit_frame
The first sentence of the first paragraph would be clearer if another "after" were included after the "and" as follows: "...after a valid
SMP request frame is received and after sending..."

Sequence number: 3
Author: IBM
Date: 1/25/2003 11:57:35 AM
Type: Strikeout
ACCEPT - DONE
7.18.4.2.3.1 State description
The statement <<from the port layer >> should be deleted as the general rule is that we do not state where things come from in
state diagrams.

Page: 213

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
8 Port layer
Replace this clause as described in T10/03-024r0.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
8 Port layer
This section should be entirely replaced with document 03-024 plus figures.

Sequence number: 3
Author: INTC
Date: 1/6/2003 1:17:15 PM
Type: Highlight
ACCEPT - DONE
8.1 Overview

"PC_OC" s/b replaced with "PL_OC"

Sequence number: 4
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
   8.1 Overview
   'establish port connections and disconnections' - Sounds awk
   to establish a disconn. Reword.

Sequence number: 5
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
   8.2 Overview
   'pass transmit data, receive data'   AWK - reword.
   Suggest 'data for transmission, received data'

Sequence number: 6
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
   8.1 Overview
   '...form the port layer' AWK. Rearrange sentence.
   Suggest 'The port layer consists of...'

Page: 214

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
   8.2.4 I_T nexus loss timer
   In list item a), replace "counting and assigned an expired status;" with "counting and shall be assigned an expired status;"

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
   8.2.4 I_T nexus loss timer
   In list item b), replace "and assigned" with "and shall be assigned".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
   8.2.4 I_T nexus loss timer
   First paragraph, first sentence. Replace "is" with "shall be" or "may be", depending on whether this timer is mandatory or optional.
   Depending on this choice, the second sentence of this paragraph should start with "It shall be:" or "If implemented, it is:".

Sequence number: 4
Author: SEG Coomesj
Date: 1/17/2003 12:36:08 PM
Type: Highlight
   ACCEPT - TODO
   8.2.2 Bus inactivity time limit timer
   This timer is optional by definition in SCSI.
   Add text:
   Support for the bus inactivity timer is optional. The Disconnect-Reconnect mode page may be accessed to determine support for
   this timer. When this timer is not supported, the bus inactivity timer shall not be treated as expired in this standard.

Sequence number: 5
Author: SEG Coomesj
Date: 1/17/2003 12:36:17 PM
Type: Highlight
   ACCEPT - TODO

8.2.3 Maximum connect time limit timer
Add text:
Support for the maximum connect time limit timer is optional. The Disconnect-Reconnect mode page may be accessed to determine support for this timer. When this timer is not support, the maximum connect time limit timer shall not be treated as expired in this standard.

Sequence number: 6
Author: SEG Coomesj
Date: 1/17/2003 12:36:24 PM
Type: Highlight
ACCEPT - TODO
8.2.4 I_T nexus loss timer
Add text:
Support for the I_T nexus loss timer is optional. The Protocol-Specific Port mode page may be accessed to determine support for this timer see 10.1.6.2. When this timer is not support, the I_T nexus loss timer shall not be treated as expired in this standard.

Sequence number: 7
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.2.2 Bus inactivity time limit timer
ALL OTHER TIMERS
'The timer shall count down' - specify when
(or include xref to spec, here, 8.4.4.1)it starts.
(For this and all other defined timers)

Sequence number: 8
Author: LSI Brian Day
Date: 1/8/2003 9:34:52 AM
Type: Note
8.2.1 Timers and counters overview
page 214
Parentheses in item c) conflicts with section 4.5. Remove words in parentheses.

Page: 215

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
8.3.1 Overview
In the second list (of states), add references to 8.3.2 for the PL_OC1:Idle state and to 8.3.3 for the PL_OC2:Overall_Control state.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
8.3.1 Overview
In the last paragraph, last sentence. How can the Overall_Control state machine transition to the PL_PM1:Idle state, which is in another state machine? Should this sentence read, "The state machine shall transition to the PL_OC2:Overall_Control state after receiving a Phy Enabled confirmation from any phy assigned to the port."?

Sequence number: 3
Author: SEG Coomesj
Date: 1/17/2003 12:43:02 PM
Type: Highlight
ACCEPT - TODO
8.2.5 Arbitration wait time (AWT) timer
Add a sentence:
Support of the AWT is mandatory.

Sequence number: 4
Author: SEG Coomesj
Date: 1/17/2003 12:43:10 PM
Type: Highlight
ACCEPT - TODO

8.2.6 Pathway blocked count (PBC) counter
Add a sentence:
Support of the PBC is mandatory.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
 8.3.1 Overview
 global
 In some places within this document AWT is used and in other places << arbitration wait timer >> is used. This needs to be made consistent. I vote for fewer acronyms.

Sequence number: 6
Author: KnowledgeTek
Date: 12/31/2002 1:30:29 PM
Type: Underline
 ACCEPT - DONE
 8.3.1 Overview
 Paragragph 3
 Sentence 2
 PL_PM1:Idle sb PL_OC1:Idle

Sequence number: 7
Author: LSI Brian Day
Date: 1/17/2003 12:33:18 PM
Type: Note
 8.2.5 Arbitration wait time (AWT) timer
 page 215
 Add sentence at end "The AWT timer shall not be incremented past 7FFFh."

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 1:53:27 PM
Type: Highlight
 ACCEPT - DONE
 8.3.2 Port layer
 remove duplicate header numbers

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 1:30:21 PM
Type: Strikeout
 ACCEPT - DONE
 8.3.2 8.3.2 PL_OC1:Idle state
 Delete redundant subclause number.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 1:30:27 PM
Type: Strikeout
 ACCEPT - DONE
 8.3.2.1 8.3.2.1 State description
 Delete redundant subclause number.

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
 8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
 In the PL_OC2 state: delete the confirmation "Port Ready" as there is no text that describes what this is supposed to be.

Sequence number: 5
Author: MXO Mark Evans

Date: 12/30/2002 10:07:32 AM
Type: Note
    8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
    In the PL_OC2 state: add a Phy Enabled confirmation from the link layer to this state, as a second Phy Enabled may be received after transition from PL_OC1 to PL_OC2.

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
    In the PL_OC1 state: add a Enable Disable Link Layer (Enable) confirmation from the link layer to this state. This may also cause the transition to PL_OC2.

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
    In the PL_OC2 state: add a Enable Disable Link Layer (Enable) confirmation from the link layer, as a second Phy Enabled may be received after transition from PL_OC1 to PL_OC2.

Sequence number: 8
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
    Add a Enable Disable Link Layer (Disable) confirmation from the link layer to this state machine (i.e., to all states in the state machine).

Sequence number: 9
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
    Add a HARD_RESET Received confirmation from the link layer to this state machine (i.e., to all states in the state machine).

Sequence number: 10
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.3 Port layer overall control (PL_OC) state machine, 8.3.1 Overview, Figure 91 - Port layer overall control (PL_OC) state machine
    In the PL_OC1 state: add a HARD_RESET Received confirmation going from this state to the transport layer.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    Figure 91
    Some of the text on the arrows needs to be positioned better. For example: the << Phy Enabled >> text entering into PL_OC1 covers most of the arrow, it is not clear which transition the << (requests to each phy) from the PL_OC2 is attached to, and the name of the state machine should be across the top as in all the other state diagrams.

Sequence number: 12
Author: KnowledgeTek
Date: 12/31/2002 1:29:46 PM
Type: Highlight
    ACCEPT - DONE
    Clause 8.3.2.1 & 8.3.2.2
    8.3.2.1 & 8.3.2.2 is repeated in the clause heading

Sequence number: 13
Author: KnowledgeTek
Date: 12/31/2002 1:29:49 PM
Type: Highlight
    ACCEPT - DONE
    8.3.2 repeated

Sequence number: 14

Author: LSI Brian Day
Date: 1/11/2003 5:24:51 PM
Type: Note
    ACCEPT - DONE (it was pointing down not right)
    Figure 91
    page 216
    Arrowhead missing between PL_OC1 and PL_OC2

Page: 217

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    8.3.3.1.1 State description overview
    The example in the first line is an exhaustive list. Replace "e.g.," with "i.e.,".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
    8.3.2.2 8.3.2.2 Transition PL_OC1:Idle to PC_OC2:Overall_Control
    Delete redundant subclause number.

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.3.3 PL_OC2:Overall_Control state
    8.3.3.1 State description
    8.3.3.1.1 State description overview
    Delete <a) I_T nexus loss time;>
    and reorder the following arguments restarting at a)

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    8.3.3.1.1 State description overview
    I thought all arguments had the first letter of each word capitalized. None of these do. This should be made consistent.

Sequence number: 5
Author: INTC
Date: 12/30/2002 1:30:39 PM
Type: Highlight
    ACCEPT - DONE
    8.3.2.2 Transition PL_OC1:Idle to PC_OC2:Overall_Control
    In this heading, the heading number is duplicated and PC_OC2
    should be changed to PL_OC2

Sequence number: 6
Author: INTC
Date: 1/8/2003 9:36:04 AM
Type: Highlight
    ACCEPT - DONE
    8.3.3.1.1 State Description Overview
    PM_PM should change to PL_PM

Sequence number: 7
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.1 State description overview
    The Tx Frame parameter
    "following arguments: Balance Required or Balance Not Required"
    BR and BNR are not arguments, they are possible values of an argument

that should be called 'Balance Requirement' or something similar.
Correct.

Sequence number: 8
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.1 State description overview
GLOBAL
"parameter" s/b 'request' as per 4.3.3.2 .

Sequence number: 9
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.2 Keep track of connections/frame requests
"Keep track of connections/frame requests" is the first
time I've seen an imperative used as a subclause title.
Replace with   "Connection frame/request tracking"

Sequence number: 10
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.2 Keep track of connections/frame requests
"A phy is available if it is not processing a Tx Frame"
What if it has lost sync, etc? Add defn for 'available'
or qualify. Clarify.

Sequence number: 11
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.1 State description overview
GLOBAL
The information ("parameters/arguments" to/from
various state machines and layers) discussed throughout
this clause needs to be defined as per 3.7.
Very confusing: for example, "parameter shall include as arguments:"

Sequence number: 12
Author: KnowledgeTek
Date: 12/31/2002 1:29:53 PM
Type: Highlight
ACCEPT - DONE
Clause 8.3.2.1 & 8.3.2.2
8.3.2.1 & 8.3.2.2 is repeated in the clause heading

Sequence number: 13
Author: KnowledgeTek
Date: 12/31/2002 1:29:41 PM
Type: Highlight
ACCEPT - DONE
8.3.3.1.1 State description overview
1st paragraph
PM_PM sb PL_PM

Sequence number: 14
Author: LSI Brian Day
Date: 1/8/2003 9:36:14 AM
Type: Note
ACCEPT - DONE
8.3.3.1.1 State description overview
page 217
Replace "PM_PM" with "PL_PM".

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
8.3.3.1.4 SSP wide port rules
First paragraph. Add forward reference to COMMAND frames subclause after "COMMAND frames". That is, "(see 9.2.4.1)".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
8.3.3.1.4 SSP wide port rules
Second paragraph. Add forward reference to TASK frame subclause after "TASK frame". That is, "(see 9.2.4.2)".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
8.3.3.1.4 SSP wide port rules
Fifth paragraph. Add forward reference to DATA frame subclause after "DATA frame". That is, "(see 9.2.4.4)".

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
8.3.3.1.4 SSP wide port rules
Sixth paragraph. Add forward reference to RESPONSE frame subclause after "RESPONSE frame". That is, "(see 9.2.4.5)".

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
8.3.3.1.4 SSP wide port rules
(delete all of the following text. these are not wide port rules and none of the terms i.e., COMMAND, QUERY TASK, have been defined and are out of context)
<An initiator port that is a wide port may transmit COMMAND frames on multiple links simultaneously.
An initiator port shall not transmit a TASK frame requesting a task management function that only affects a single I_T_L_Q nexus (e.g., ABORT TASK or QUERY TASK; see SAM-3) specifying an I_T_L_Q nexus for which the initiator port is transmitting a frame or is waiting for a link layer acknowledgement for a frame.
An initiator port shall not transmit a TASK frame requesting a function that only affects an I_T_L nexus (e.g., ABORT TASK SET, CLEAR TASK SET, CLEAR ACA, or LOGICAL UNIT RESET; see SAM-3) specifying an I_T_L nexus for which the initiator port is transmitting a frame or is waiting for a link layer acknowledgement for a frame.
An initiator port shall not transmit a TASK frame requesting a function that only affects an I_T nexus (see SAM-3) specifying an I_T nexus for which the initiator port is transmitting a frame or is waiting for a link layer acknowledgement for a frame.>

Sequence number: 6
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.4 SSP wide port rules
Multiple in subclause
"An initiator port shall not transmit ...for which...transmitting
a frame [ ]" Add "on another phy".

Sequence number: 7
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.3 Select a request to process and the phy on which to process it
GLOBAL
"Tx Frame request" Elsewhere, Tx Frame is called a
parameter. Change all occurences to 'request'.

Sequence number: 8

Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.3 Select a request to process and the phy on which to process it
1)
Is 'Tx Frame request' the same as 'Transmit Frame request' above?
If so, be consistent in usage, if not, add some modifier to
one to make the distinction clear.

Sequence number: 9
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.3 Select a request to process and the phy on which to process it
"A destination is considered the same" - AWK
suggest:
   "Destinations are considered to be identical if they have
the same protocol and SAS address."

Sequence number: 10
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.2 Keep track of connections/frame requests
"This state shall consider a phy as having an active connection"
Drop "shall consider" and define it:
"A phy has an active connection when..."

Sequence number: 11
Author: LSI Brian Day
Date: 1/8/2003 9:34:52 AM
Type: Note
8.3.3.1.3 Select a request to process and the phy on which to process it
page 218
Second paragraph, should also take the initiator bit into account.
Change sentence to "A destination is considered the same if it has the same SAS address, initiator bit, and protocol."

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
8.3.3.1.5 Filling in the Tx Frame arguments
In list item a), shouldn't "should" be "shall"?

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
8.3.3.1.5 Filling in the Tx Frame arguments
4th paragraph (about I_T nexus loss arguments.
add
"For each destination, the PL_OC_I_T nexus loss timer is is stopped, set to zero,and asssigned a stopped status after each
Connection Opened confirmation is received and after each power-on reset or hard reset function is completed "

Sequence number: 3
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.5 Filling in the Tx Frame arguments
3d para
"Balanced" Remove 'd'

Sequence number: 4
Author: INTC

Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    3d para
    "argument" -> 'value'
    (This appears to be redundant to 8.3.3.1.1)
    Confusing use of 'argument' and 'parameter'

Sequence number: 5
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    "are transferred to the selected PL_PM's AWT timer and
    PBC counter" By whom? The PL_PM, or the PL_OC2? Clarify.

Sequence number: 6
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    "are not received" Place reqmt on sender that it not
    send, or clarify that these are not present within TxFrame,
    or are ignored on receipt.

Sequence number: 7
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    "are received as arguments"
      s/b
    "are present in "

Sequence number: 8
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    "a corresponding PL_OC Retry Frame AWT timer"
    Provide separate text listing all architectural timers and their
    functions.

Sequence number: 9
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    The I_T nexus loss
    "The selected PL_PM timer shall be set" Express in
    active voice (who shall?).

Sequence number: 10
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    "state (i.e, either stopped,"
    Clarify that you are defining the possible states or ref
    where defined. "i.e." is a bit too casual.

Sequence number: 11
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    'are read from'   Use active voice.

Sequence number: 12

Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.5 Filling in the Tx Frame arguments
    "is updated"   Use active voice.

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Sequence number: 1
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.6 Confirmations
    "to finish servicing each Transmit Frame request." Unclear -
    is this how THIS state completes the request, or does it
    tells the Transport layer to do so? Clarify.

Sequence number: 2
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.6 Confirmations
    "Since the transport layer responses ...are instantaneous"
    'are returned immediately' seems better if the intent is
    (response returned as soon as request received). Clarify.

Sequence number: 3
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.6 Confirmations
    Need comma after e.g.
    "to continue" may be clearer.

Sequence number: 4
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.6 Confirmations
    "parameter" -> "confirmation"?

Sequence number: 5
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
    8.3.3.1.6 Confirmations
    Table 86 header
    "parameter" s/b 'value' or 'code'

Page: 221

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    8.3.3.1.6 Confirmations
    Global
    In the last paragraph of this subclause, replace "running" with "running,".
    Global: While English allows the last comma before an "and" or "or" to be omitted, it is less ambiguous to include the comma. This
    is especially true for lists within lists. This comment may apply elsewhere.

Sequence number: 2

Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Note
8.4.1 Overview
In the second list (of states), add references:
a) PL_PM1:Idle (see 8.4.2);
b) PL_PM2:ReqWait (see 8.4.3);
c) PL_PM3:Connected (see 8.4.4); and
d) PL_PM4:Wait_For_Close (see 8.4.5).

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
8.4 Port layer phy manager (PL_PM) state machine
8.4.1 Overview
change <PL_OC state machine;> to
"transport layer;"

Sequence number: 4
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.7 Handling Cancel requests
"Cancel request for a specific Transmit Frame request"
There is no listing I could find of the arguments to a
Cancel request. Add xref to that defn.   Clarify the means
by which a specific TF request is identified.

Sequence number: 5
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.7 Handling Cancel requests
"send a Cancel Acknowledge...and terminate"
Either change order to (terminate, ack), or add prohibition
on beginning TF processing.

Sequence number: 6
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.7 Handling Cancel requests
"layer, this frame is currently" Ambig.
s/b " layer and the specified frame "? Clarify.

Sequence number: 7
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
8.3.3.1.7 Handling Cancel requests
"layer, this frame is currently"   AMBIG
s/b " layer and the specified frame "? Clarify.

Sequence number: 8
Author: LSI Brian Day
Date: 1/11/2003 5:23:49 PM
Type: Note
ACCEPT - DONE
8.4.1 Overview
page 221.
Last sentence on page. Change "PL_PM1" to "PL_PM1:Idle".

Page: 222

Sequence number: 1

Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.4 Port layer phy manager (PL_PM) state machine, 8.4.1 Overview, Figure 92 - Port layer phy manager (PL_PM) state machine (part 1)
    Add a Enable Disable Link Layer (Disable) confirmation from the link layer to this state machine (i.e., to all states in the state machine).

Sequence number: 2
Author: MXO Mark Evans
Date: 1/14/2003 12:15:34 PM
Type: Note
    8.4 Port layer phy manager (PL_PM) state machine, 8.4.1 Overview, Figure 92 - Port layer phy manager (PL_PM) state machine (part 1)
    Add a HARD_RESET Received confirmation received by this state machine (i.e., to all states in the state machine) from the link layer.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    8.4 Port layer phy manager (PL_PM) state machine, 8.4.1 Overview, Figure 93 - Port layer phy manager (PL_PM) state machine (part 2)
    Delete the "Connection Failed" confirmation from this figure.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    8.4 Port layer phy manager (PL_PM) state machine, 8.4.1 Overview, Figure 93 - Port layer phy manager (PL_PM) state machine (part 2)
    The DONE Transmitted confirmation would be better shown in part 1 as it results in a Disable Tx Frames parameter being sent to the PL_OC state machine.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    8.4 Port layer phy manager (PL_PM) state machine, 8.4.1 Overview, Figure 93 - Port layer phy manager (PL_PM) state machine (part 2)
    Add a DONE Received confirmation from the link layer to this state.

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
    8.4 Port layer phy manager (PL_PM) state machine
    8.4.1 Overview
    Figure 93 — Port layer phy manager (PL_PM) state machine (part 2)
    add a pink "In Arrow" here with text of "DONE Received"

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
    8.4 Port layer phy manager (PL_PM) state machine
    8.4.1 Overview
    Figure 93 — Port layer phy manager (PL_PM) state machine (part 2)
    add a pink "out Arrow " here with text of "DONE Received"

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note

8.4 Port layer phy manager (PL_PM) state machine
8.4.1 Overview
Figure 93 — Port layer phy manager (PL_PM) state machine (part 2)
add a pink down arrow with a "Close Connection" text

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
    8.4.3.1.2 PL_PM I_T nexus loss timer
    Second list:
    a) Open Failed (Connection Rate Not Supported)
    is unnecessary since targets are required to try 1.5 Gbps and that will never get this error
    (at least for target side)

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    8.4.3.1.2 PL_PM I_T nexus loss timer
    First paragraph. This paragraph deals with SSP ports. Why is item d), which is an STP confirmation, in the list?

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.4.3.1.3 Connection Opened handling
    change <Tx Frame,> to
    "Tx Frame parameter,"

Page: 225

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    8.4.3.1.4 Open Failed handling
    In the first paragraph, fourth line, replace "Open Failure confirmation" with "Open Failed confirmation".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    8.4.3.1.4 Open Failed handling
    Table 87 - Retry Frame conditions
    In Table 87, is it obvious what is done if the I_T nexus loss timer has expired and an Open Failed (Pathway Blocked) confirmation
    is received? If not, add a row to this table describing this case.

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.4.4 PL_PM3:Connected state
    8.4.4.1 State description
    change <This state shall generate a Tx Frame request to the link layer when a Tx Frame parameter is received from the PL_OC
    state machine.> to
    "This state shall generate a Tx Frame (Balanced) request to the link layer when a Tx Frame parameter with a Balance Required
    argument is received from the PL_OC state machine.
    This state shall generate a Tx Frame (Nonbalanced) request to the link layer when a Tx Frame parameter with a Balance Not
    Required argument is received from the PL_OC state machine."

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
>8.4.3.1.4 Open Failed handling
>change <Tx Frame> to
>"Tx Frame parameter"

Sequence number: 5
Author: INTC
Date: 12/30/2002 10:07:22 AM
Type: Highlight
>8.4.3.1.4 Open Failed handling
>"parameter" - confirmation?

Page: 226

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
>8.4.4.1 State description
>The eighth paragraph refers to a DONE (ACK/NAK TIMEOUT) Received confirmation, which does not appear in figures 92 nor 93. Should the "DONE Transmitted" confirmation in figure 93 be "DONE Received"? If so, fix figure 93 and change the confirmation in this paragraph to be "DONE Received (ACK/NAK TIMEOUT) confirmation".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
>8.4.4.1 State description
>Ninth paragraph. This paragraph refers to a DONE Received confirmation going to the application layer and to a DONE Received confirmation coming from the link layer. Neither appears in figures 92 and 93.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
>8.4.4.1 State description
>Tenth paragraph. The "Close Connection request" in the third sentence does not appear in figures 92 nor 93.

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
>8.4.4.1 State description
>Last paragraph. The "Close Connection request" in the second sentence does not appear in figures 92 nor 93.

Sequence number: 5
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
>8.4.4.1 State description (-- for PL_PM3: Connected state)
>in the area started by <for SSP ports> add " For SSP and SMP ports, this state shall send a Transmission Status (Connection Lost) confirmation to the transport layer if a Connection Closed (Break Received), Connection Closed (Close Timeout) , or Conection Closed (Link Broken) confirmation is received from the link layer."

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
>8.4.4 PL_PM3:Connected state
>8.4.4.1 State description
>insert between c) and d)
>"d) DONE Received"

Sequence number: 7
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.4.4 PL_PM3:Connected state
    8.4.4.1 State description
    change <d)> to "e"

Sequence number: 8
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.4.4 PL_PM3:Connected state
    8.4.4.1 State description
    change <e)> to "f"

Sequence number: 9
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.4.4 PL_PM3:Connected state
    8.4.4.1 State description
    change <Tx Frame> to
    "Tx Frame Request"

Sequence number: 10
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    8.4.4 PL_PM3:Connected state
    8.4.4.1 State description
    change <Tx Frame> to
    "Tx Frame Request"

Sequence number: 11
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    8.4.4.1 State description
    second to last paragraph
    The shall in the following sentence is misleading for an optional timer.
    the bus inactivity time limit timer shall be initialized
    suggest:
    the bus inactivity time limit timer if supported shall be initialized

Sequence number: 12
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    8.4.4.1 State description
    last paragraph
    The shall in the following sentence is misleading for an optional timer.
    the maximum connect time timer shall be initialized
    suggest:
    initializedthe maximum connect time timer if supported shall be initialized

Sequence number: 13
Author: LSI Brian Day
Date: 1/8/2003 9:34:52 AM
Type: Note
    8.4.4.1 State Description
    page 226.
    Fifth paragraph on page is incorrectly issuing Disable Tx Frames for any DONE Received. Correct condition is already covered in
    fourth paragraph. Remove entire paragraph.

Sequence number: 1
Author: INTC
Date: 12/30/2002 11:28:40 AM
Type: Highlight
ACCEPT - DONE
9.1 Transport layer overview
clarify:
"only receives from the link layer those frames that are to be ACKed."

Sequence number: 2
Author: DSS
Date: 1/6/2003 3:23:50 PM
Type: Note
31. (E) Section 9.1. Change "...that are going to be ACKed..." to "that are
ACKed..."

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 1:54:27 PM
Type: Highlight
ACCEPT - DONE
9.2.1 SSP frame format
Table 88 - SSP frame format
Change TIMEOUT bit to RETRANSMIT

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 1:55:24 PM
Type: Highlight
ACCEPT - DONE (it's the retransmit bit)
9.2.1 SSP frame format
Table 88 - SSP frame format
Byte 10 includes a TIMEOUT bit that is not described.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 1:55:08 PM
Type: Highlight
ACCEPT - DONE
9.2 SSP transport layer, 9.2.1 SSP frame format, Table 88 - SSP frame format
Change "TIMEOUT" to "RETRANSMIT" as it is described in the text that follows the table.

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 11:29:17 AM
Type: Highlight
ACCEPT - DONE
9.2.1 SSP frame format
Table 88 — SSP frame format
change <TIMEOUT> to
"RETRANSMIT"
(will make definitions on next page and later text consistent)

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE (it's the retransmit bit)
Table 88
There is no description of the << TIMEOUT >> bit, This needs to be fixed.

Sequence number: 6
Author: DSS
Date: 1/6/2003 3:24:12 PM
Type: Note
    ACCEPT - DONE
    32. (T) Table 88. TIMEOUT bit should be RETRANSMIT bit.

Sequence number: 7
Author: LSI Brian Day
Date: 1/8/2003 9:36:35 AM
Type: Note
    ACCEPT - DONE
    9.2.1 SSP Frame Format
    page 228
    Replace "TIMEOUT" with "RETRANSMIT" in table 88.

Page: 229

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 2:09:36 PM
Type: Highlight
    ACCEPT - DONE (the TIMEOUT bit should have been RETRANSMIT)
    9.2.1 SSP frame format
    The fourth paragraph below Table 89 refers to a RETRANSMIT bit, but this bit does not appear in Table 88. Where does it go?

Sequence number: 2
Author: MXO Mark Evans
Date: 1/22/2003 6:15:44 PM
Type: Note
    ACCEPT - DONE (with "is" not "shall")
    9.2.1 SSP frame format, fourth paragraph below Table 89 - FRAME TYPE field
    Change the first part of the sentence to: "The RETRANSMIT bit may be set to one for RESPONSE frames (see 9.2.4.5)..." The
    RETRANSMIT bit SHALL be set to one in RESPONSE frames under certain conditions (see 9.2.4.5)."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 2:09:01 PM
Type: Strikeout
    ACCEPT - DONE (changed to "more easily")
    9.2.1 SSP frame format, ninth paragraph below Table 89 - FRAME TYPE field
    In the first sentence delete "quickly".

Sequence number: 4
Author: MXO Mark Evans
Date: 1/22/2003 6:14:24 PM
Type: Highlight
    ACCEPT - DONE (paragraph being rewritten)
    9.2.1 SSP frame format, ninth paragraph below Table 89 - FRAME TYPE field
    In the fourth sentence change "Target ports that do not need this field... " to "Target ports that do not use this field... "

Sequence number: 5
Author: SEG Coomesj
Date: 1/22/2003 6:14:07 PM
Type: Highlight
    ACCEPT - DONE (it's the bit mislabeled TIMEOUT in the table)
    9.2.1 SSP frame format
    The RETRANSMIT bit is in the text but not in Table 88. Is the function out?

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    Table 89

****
I thought we outlawed 0 length data frames. I think the IU size for DATA should be 1 to 1 024.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.1 SSP frame format
Why not put this information into table 89 << An SSP frame containing a COMMAND information unit (IU) is called a COMMAND frame; an SSP frame containing a TASK IU is called a TASK frame; etc. >> or make it an a,b,c list. But in any case list them all.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE (the TIMEOUT bit in the table should be this bit)
9.2.1 SSP frame format
I don't see any bit named this in table 88. It needs to be added or this paragraph needs to be deleted << The RETRANSMIT bit may be set to one for RESPONSE frames and shall be set to zero for all other frame types. This field indicates the frame is a retransmission after the target port timed out waiting for the ACK or NAK for its previous attempt to transmit the frame. >>. If it stays then the term << field >> in the second sentence needs to be changed to << bit >>.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.1 SSP frame format
The statement << The TAG field allows the initiator port to establish a context for commands and task management functions. >> should be << The TAG field is an value assigned by the application client and sent to the initiator port in the SCSI command information unit and the task management information unit. The tag is used to establish a context between different commands and different task management functions. >>

Sequence number: 10
Author: IBM
Date: 1/22/2003 6:07:54 PM
Type: Highlight
ACCEPT - DONE ("established by the connection".)
9.2.1 SSP frame format
The statement << that is unique for the I_T nexus. >> should be << that is unique for the I_T nexus defined by the source SAS address and the destination SAS address. >>.

Sequence number: 11
Author: IBM
Date: 1/25/2003 12:00:50 PM
Type: Highlight
REJECT (what's wrong with semicolons?)
9.2.1 SSP frame format
The statement << SAM-3; the TAG field >> should be <<SAM-3. The TAG field >>.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
ACCEPT - DONE (changed to "more easily". The field is not strictly necessary to establish a context, it's just an assist.)
9.2.1 SSP frame format
Delete the term << quickly >> as the is no time reference as to how quick quick is.

Sequence number: 13
Author: IBM
Date: 1/22/2003 6:05:54 PM
Type: Highlight
ACCEPT - DONE (overcome by rewrite)
9.2.1 SSP frame format
The statement << that need this field >> should be << that use this field >>.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight

ACCEPT - DONE
9.2.1 SSP frame format
The statement << set a value that is unique for the I_T nexus. >> should be << set it to a value that is unique for each I_T nexus.
>>

Sequence number: 15
Author: IBM
Date: 1/22/2003 6:05:41 PM
Type: Highlight
    ACCEPT - DONE (overcome by a rewrite of this paragraph)
    9.2.1 SSP frame format
    The statement << need this field >> should be << use this field >>.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - this is the only case; it's not an example, so e.g. is not appropriate.
    9.2.1 SSP frame format
    The statement << frame (due to a >> should be << frame (e.g., due to >>.

Sequence number: 17
Author: INTC
Date: 1/6/2003 10:39:04 AM
Type: Highlight
    ACCEPT - DONE (added xref to 9.2.4.5 RESPONSE error handling)
    9.2.1 SSP frame format
    RETRANSMIT
    "may be set to one"
    Add xref or "shall be set to one" when a RESP frame is a retrans.

Sequence number: 18
Author: INTC
Date: 1/6/2003 10:37:11 AM
Type: Highlight
    ACCEPT - DONE
    9.2.1 SSP frame format
    For DATA
    "to that" s/b "to the tag"

Sequence number: 19
Author: INTC
Date: 1/17/2003 12:14:12 PM
Type: Highlight
    REJECT (paragraph being redone, targets always allowed to use the field)
    9.2.1 SSP frame format
    TP Xfer Tag
    "need" s/b "use"
    (We don't care if they NEED it, just whether they use it)

Sequence number: 20
Author: INTC
Date: 1/17/2003 12:13:44 PM
Type: Highlight
    REJECT (the whole paragraph is being redone, and targets are allowed to set the field any time)
    9.2.1 SSP frame format
    TPXfer Tag
    "do not need this field" Clarify whether TP can
    use it sometime, but not other times. or say "use"

Sequence number: 21
Author: INTC
Date: 1/17/2003 12:01:25 PM
Type: Highlight
    REJECT (Jan WG disk drives don't need)
    9.2.1 SSP frame format
    Table 89 - FRAME TYPE field
    ***
    Max data frame size of 1024 is inefficient for block-sizes greater

than 512 bytes. This is a serious problem for systems that
use data-integrity guards on a block-by-block basis. Recommend
the max DATA IU payload accommodate two blocks with a
generously-sized block-guard (16-bytes). Change (1 024) to (1 056).

Sequence number: 22
Author: DSS
Date: 1/6/2003 3:24:35 PM
Type: Note
    ACCEPT - DONE
    33. (T) Table 89. Data frames are 1 to 1 024 bytes (can't have zero length
    data frame).

Sequence number: 23
Author: DSS
Date: 1/25/2003 12:00:06 PM
Type: Note
    34. (T) Section 9.1, fourth paragraph after table 89. The frame can be
    retransmitted after receiving a NAK
    also.

Sequence number: 24
Author: DSS
Date: 1/25/2003 11:59:54 AM
Type: Note
    35. (E) Section 9.1, seventh paragraph after table 89. I don't understand
    the last sentence in this paragraph.
    "The tag space used in the tag fields is shared across COMMAND and TASK frames."

Sequence number: 25
Author: ADPT
Date: 1/6/2003 6:15:51 PM
Type: Note
    ACCEPT - DONE (it was called TIMEOUT in the table)
    27.0 P229, the RETRANSMIT bit shall. Where is the bit shown in the SSP
    Frame format table 88 or table 96?

Sequence number: 26
Author: LSI Brian Day
Date: 1/11/2003 4:13:41 PM
Type: Note
    ACCEPT - DONE
    9.2.1 SSP Frame Format
    page 229
    Change Information unit size in table 89 for DATA from "0 to 1024" to "1 to 1024"

Sequence number: 27
Author: IBM
Date: 1/13/2003 10:23:32 AM
Type: Highlight
    ACCEPT - TODO (per Jan WG: let both initiator and target set it arbitrarily except for XFER_RDY -> DATA. Use recepient shall
    ignore wording. No need to say a target not needing it shall use FFFFh - any value is fine.)
    9.2.1 SSP frame format
    ****
    The statement <<The target port shall set this field to FFFFh for all frames other than XFER_RDY frames. >> should be deleted.
    The tag should have meaning to the target only. The current requirement suggests that the initiator may expect and verify that the
    tag is FFFFh for non-XFER_RDY frames. This should not happen.

    Some targets implementations would prefer to use target port transfer tag to keep track of frames. That makes it easy to associate
    a frame in an analyzer trace (read data, response, etc.) with a particular command.

Sequence number: 28
Author: PostLB
Date: 1/25/2003 11:59:10 AM
Type: Note
    ACCEPT - DONE
    9.2.1 SSP frame format
    Target port transfer tag paragraph
    "unique for the I_T nexus" is wrong - it should be "unique for the L_Q portion of the nexus." The connection tag is unique for the

I_T; an SSP frame is sent inside a connection, so the I_T is already known. This is used to distinguish between L_Qs.

Sequence number: 29
Author: PostLB
Date: 1/23/2003 1:31:50 PM
Type: Note
    ACCEPT - DONE
    9.2.1 SSP frame format
    Table 89 - frame type field
    Add a "Reference" column

Sequence number: 30
Author: PostLB
Date: 1/25/2003 12:01:23 PM
Type: Note
    Mention that the TASK frame TAG field serves as the optional Association argument in SAM

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 10:49:09 AM
Type: Highlight
    ACCEPT - DONE
    9.2.1 SSP frame format
    Penultimate paragraph. Find some way to prevent the 1 024 from wrapping from one line to the next line.

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 10:48:58 AM
Type: Note
    REFER EDITORS WG (fill bytes already described in the number of fill bytes field)
    9.2.1 SSP frame format
    Add the following paragraph as next to last in the clause: "Fill bytes shall be included so that the CRC field is aligned on a four
    byte boundary. The contents of the fill bytes are vendor-specific."

Sequence number: 3
Author: MXO Mark Evans
Date: 1/6/2003 10:47:47 AM
Type: Highlight
    REJECT (what's wrong with + signs)
    9.2.1 SSP frame format, next-to-last paragraph
    Change the parenthetical to "(1 024 bytes of data plus a 24-bytes header plus a 4-byte CRC)."

Sequence number: 4
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Strikeout
    9.2.1 SSP frame format
    Delete. This sentence is redundant with the last paragragh in 9.2.2.4 DATA information unit.

Sequence number: 5
Author: IBM
Date: 1/22/2003 6:16:33 PM
Type: Strikeout
    REJECT (this emphasizesthat this layer, the transport layer, is not using the CRC field, even though it shows up in the transport
    layer data structures.)
    9.2.1 SSP frame format
    The statement << not the transport layer. >> is redundant and should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.1 COMMAND information unit

The term << performed >> should be << processed >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - mirrors wording in SPC-3
    9.2.2.1 COMMAND information unit
    The term << SCSI >> should be deleted as it is redundant with SPC-2.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.1 COMMAND information unit
    The term << specifies >> should be << contains >>.

Sequence number: 9
Author: INTC
Date: 1/6/2003 10:44:53 AM
Type: Highlight
    ACCEPT - DONE ("..shall transfer data beginning on a dword boundary...". Kept the i.e.)
    9.2.1 SSP frame format
    DATA frames
    "each DATA frame shall begin on a dword boundary"
     It's the TRANSFER, frame. Drop (i.e.)

Sequence number: 10
Author: INTC
Date: 12/30/2002 2:04:44 PM
Type: Highlight
    ACCEPT - DONE (a SAM-3 reference was meant)
    9.2.1.1 COMMAND information unit
    "SPC-2" if referencing SAM-3, why not SPC-3, especially
    when ref'd on next page. Be consistent. Suggest SPC-3.

Sequence number: 11
Author: INTC
Date: 12/30/2002 1:37:57 PM
Type: Highlight
    ACCEPT - DONE (globally for all occurrences of [0-9]<space>[0-9] except in the 8b10b tables)
    9.2.1 SSP frame format
    The INFORMATION UNIT field
    1
    024   - Make space non-breaking (ctrl-space)

Sequence number: 12
Author: DSS
Date: 1/6/2003 3:25:42 PM
Type: Note
    ACCEPT - DONE
    36. (E) Section 9.2.2.1, first paragraph after table 90. The rules for
    handling commands sent to logical
    units that do not exist are defined in SAM-2, not SPC-2.

Sequence number: 13
Author: PostLB
Date: 1/22/2003 5:50:09 PM
Type: Highlight
    ACCEPT - DONE
    9.2.1 SSP Frame header
    is should be contains

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    The statement << For example, a six-byte CDB occupies the first six bytes of the CDB field; the remaining ten bytes are reserved and the ADDITIONAL CDB BYTES field is not present. >> should be << (e.g., a six-byte CDB occupies the first six bytes of the CDB field; the remaining ten bytes are reserved and the ADDITIONAL CDB BYTES field is not present). >>

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.2 TASK information unit
    The << performed >> should be << processed >>.

Sequence number: 3
Author: INTC
Date: 1/6/2003 10:50:05 AM
Type: Highlight
    ACCEPT - DONE (also in 9.2.2.1)
    9.2.2.2 TASK information unit
    "request a" s/b "request that a"

Sequence number: 4
Author: DSS
Date: 1/13/2003 6:20:43 PM
Type: Note
    REJECT (Jan WG - SAM-3 will mention that CHECK CONDITION/ILLEGAL MESSAGE will be returned for any invalid task attributes. It's not a SAS-specific issue.)
    37. (T) Section 9.2.2.1. What is the correct response to a COMMAND frame with a TASK ATTRIBUTE field value that is not supported by the logical unit?

Sequence number: 5
Author: DSS
Date: 1/13/2003 6:25:33 PM
Type: Note
    38. (T) Section 9.2.2.1, second paragraph after table 91. Defining fields to be reserved generally means they must be tested for zero. Change the second sentence from "Any bytes between the end of the CDB and the end of the two fields are reserved" to "Any bytes between the end of the CDB and the end of these two field shall be ignored". Change the last sentence to "...the remaining ten bytes shall be ignored and the..."

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.2 TASK information unit
    The term << specifies >> should be << contains >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - the reference should be SAM-3 not SPC-2, and the SCSI wording is copied from SPC-2/3.
    9.2.2.2 TASK information unit
    The term << SCSI >> should be deleted as it is redundant with SPC-2.

Sequence number: 3
Author: IBM
Date: 1/22/2003 6:20:05 PM
Type: Highlight
    ACCEPT - DONE (changed to "set to the value of the [xyz] field")

Table 93
global
In the description column there are several cases where small caps is used when they should not be. Small caps should only be used when referencing the name of a field not the contains of the field. For example <<
The task manager shall perform the ABORT TASK SET task management function with L set to LOGICAL UNIT NUMBER >>
should be << The task manager shall perform the ABORT TASK SET task management function with L set to logical unit number >> .

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
 ACCEPT - DONE
 9.2.2.2 TASK information unit
 The statement << The TARGET RESET task management function defined in SAM-3 is not supported. >> should be a footnote in table 91.

Sequence number: 5
Author: PostLB
Date: 1/6/2003 10:53:08 AM
Type: Highlight
 ACCEPT - DONE
 9.2.2.2 TASK information unit
 SPC-2 should be SAM-3

Sequence number: 6
Author: DSS
Date: 1/11/2003 5:00:00 PM
Type: Note
 39. (T) Section 9.2.2.2, paragraph preceding table 93. I could find no rules for handling task management functions addressed to logical units that do not exist in either SPC-2 or
 SAM-2.

Sequence number: 7
Author: DSS
Date: 1/11/2003 4:59:16 PM
Type: Note
 ACCEPT - DONE (added footnote that TARGET RESET is not supported on 20h)
 40. (E) Table 93. Why is 20h spelled out here with the "all others" below
 indicating "reserved"?

Sequence number: 8
Author: DSS
Date: 1/6/2003 3:27:58 PM
Type: Note
 41. (T) Section 9.2.2.2, first paragraph after table 93. What if a valid TMF
 is not supported?

Sequence number: 9
Author: DSS
Date: 1/6/2003 3:28:13 PM
Type: Note
 42. (T) Section 9.2.2.2, third paragraph after table 93. What is returned if
 the task with TAG OF TASK
 TO BE MANAGED is in the task set?

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 11:08:27 AM
Type: Highlight
 ACCEPT - DONE
 9.2.2.3 XFER_RDY information unit
 First paragraph under table 94. The reference to 10.1.1.1.5 is wrong and the link does not work. I think this reference should be to 10.1.6.1.5.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 11:08:16 AM
Type: Highlight
    ACCEPT - DONE
    9.2.2.3 XFER_RDY information unit
    Last paragraph. The reference to 10.1.1.1.5 is wrong and the link does not work. I think this reference should be to 10.1.6.1.5.

Sequence number: 3
Author: SEG Coomesj
Date: 1/6/2003 11:07:59 AM
Type: Highlight
    ACCEPT - DONE (see IBM comment)
    9.2.2.3 XFER_RDY information unit - Table 94 — XFER_RDY information unit
    The use of the same field name, RELATIVE OFFSET, in the header and XFR_RDY is confusing. Suggest:
    XFR_RDY_OFFSET,
    REQUEST_OFFSET,
    STARTING_OFFSET,
    etc.
    RELATIVE OFFSET

Sequence number: 4
Author: SEG Coomesj
Date: 12/30/2002 1:23:06 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.3 XFER_RDY information unit
    reference to 10.1.1.1.5
    should be 10.1.6.1.5

Sequence number: 5
Author: SEG Coomesj
Date: 12/30/2002 1:22:58 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.3 XFER_RDY information unit
    reference to 10.1.1.1.5
    should be 10.1.6.1.5

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG
    9.2.2.3 XFER_RDY information unit
    The term << indicates >> should be << contains >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REVIEW EDITORS WG
    ACCEPT - DONE (changed to "indicates...initial app client buffer offset of a portion of write data)
    9.2.2.3 XFER_RDY information unit
    The statement << initial application client buffer offset of the write data >> implies that all XFER_RDYs for a given I_T_L_Q nexus
    will have the same value. That does not seem right. Is it?

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - don't want it to sound like data is just transferred, either. There is not an e.g. here implying DATA frames are one
    possible option.
    9.2.2.3 XFER_RDY information unit
    The statement << (using DATA frames). >> seems redundant and could be interpreted to means that there is another way to to
    move data besides DATA frames.

Sequence number: 9

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (changed "indicates how many" to "contains the number of")
    9.2.2.3 XFER_RDY information unit
    The term << indicates >> should be << contains >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - see nearby same comment
    9.2.2.3 XFER_RDY information unit
    The statement << (using DATA frames). >> seems redundant and could be interpreted to means that there is another way to to
    move data besides DATA frames.

Sequence number: 11
Author: IBM
Date: 1/22/2003 6:21:25 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.3 XFER_RDY information unit
    The paragraph << The initial XFER_RDY frame for a given command shall set the relative offset to the value of the FIRST BURST
    SIZE field in the Disconnect-Reconnect mode page (see 10.1.1.1.5). If any additional XFER_RDY frames are required, the
    RELATIVE OFFSET field shall be set to the value of the previous XFER_RDY frames relative offset plus the previous XFER_RDY
    frames write data length. >> need to move up under the relative offset field paragraph.

Sequence number: 12
Author: IBM
Date: 1/22/2003 6:20:30 PM
Type: Highlight
    ACCEPT - DONE (Requested Offset)
    Table 94
    ****
    The field name << RELATIVE OFFSET >> is a problem because when this table is combined with the header information (in table
    88) you then have two fields with exactly the same name. So things get confusing real fast. I recommend changing the name of the
    field in XFER_RDY to something like << XFER_RDY RELATIVE OFFEST >>.

Sequence number: 13
Author: INTC
Date: 1/6/2003 10:57:47 AM
Type: Highlight
    REJECT (but changed "begin" wording a bit)
    9.2.2.3 XFER_RDY information unit
    "each DATA frame shall begin on a dword boundary"
    Remove (ie)

Sequence number: 14
Author: INTC
Date: 1/6/2003 10:57:05 AM
Type: Highlight
    REJECT (but changed "aligned" to "multiple")
    9.2.2.3 XFER_RDY information unit
    "non-dword aligned write data length"
    A length does not have alignment.
    Remove the paren statement.

Sequence number: 15
Author: INTC
Date: 1/6/2003 10:56:26 AM
Type: Highlight
    ACCEPT - DONE (target port)
    9.2.2.3 XFER_RDY information unit
    GLOBAL
    "frame for a given command shall set"
    Frames don't set themselves. Place the reqmt on some port.

Sequence number: 16
Author: KnowledgeTek

Date: 12/31/2002 1:29:13 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.4 DATA information unit
    2nd paragraph, last sentence states:
    "The minimum size of the data IU is one byte."
    9.2.1 SSP frame format
    Table 89 states:
    "0 - 1024 bytes" under infomation unit size.
    Assumming text takes precedence over tables and the text is correct, Table 89 needs to be fixed.

Sequence number: 17
Author: DSS
Date: 1/22/2003 6:22:09 PM
Type: Note
    REJECT (but renamed Relative Offset here to Requested Offset and the header one to Data Offset)
    43. (T) Section 9.2.2.3, first paragraph after table 94. This is confusing
    to have RELATIVE OFFSET field in the payload of the frame and a field with exactly the same name in the header of the frame.
    Recommend that this field be removed and the RELATIVE OFFSET field in the frame header be used for this purpose.

Sequence number: 18
Author: DSS
Date: 1/22/2003 6:23:01 PM
Type: Note
    ACCEPT - DONE
    45. (T) Section 9.2.2.3, second paragraph after table 94. The last sentence
    in this paragraph should be
    "...the target port shall set the WRITE DATA LENGTH field to less than or
    equal to the value in the
    MAXIMUM BURST SIZE field times 512 (see 10.1.6.14)."

Sequence number: 19
Author: DSS
Date: 1/22/2003 6:24:42 PM
Type: Note
    REVIEW PROTOCOL WG (changed to "to the value indicated by". Don't think we want to specify the 512 here; the mode page
    owns that)
    46. (T) Section 9.2.2.3, forth paragraph after table 94. Change the first
    sentence in this paragraph to: "...set
    the relative offset to 512 times the value of the FIRST BURST SIZE field in
    the Disconnect-Reconnect mode page (see 10.1.1.1.5). Fix the link to the section.

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Sequence number: 1
Author: SEG Coomesj
Date: 1/6/2003 11:18:03 AM
Type: Strikeout
    ACCEPT - DONE
    9.2.2.4 DATA information unit
    Delete: This sentence is redundant with the first paragraph on the page.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REVIEW EDITORS WG
    ACCEPT - DONE (they're synonyms - what's wrong with constrained?)
    9.2.2.4 DATA information unit
    The statement << constrained by >> should be << limited to >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - this makes it sound like just the value is important, when the association to a specific XFER_RDY frame is the key point

9.2.2.4 DATA information unit
The statement << The DATA frame shall only contain write data for a single XFER_RDY frame. >> should be << The DATA frame shall contain no more write data than was indicated in the WRITE DATA LENGTH field of a single XFER_RDY frame. >>.

Sequence number: 4
Author: DSS
Date: 1/6/2003 3:48:20 PM
Type: Note
    ACCEPT - DONE
    47. (E) Section 9.2.2.4, first paragraph after note 23. This paragraph is
    redundant with the first 2
    paragraphs on this page. We get it already.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - but replaced with field names (see Intel comment)
    9.2.2.5.1 RESPONSE information unit overview
    This should be deleted << which defines the format and content of the response IU. >> as this information is in the table.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.2.5.1 RESPONSE information unit overview
    The statement << and if an error occurs >> should be << and in response to any errors that occur >>.

Sequence number: 3
Author: INTC
Date: 1/6/2003 11:22:07 AM
Type: Highlight
    ACCEPT - DONE (added all the field names in the intro to the DATAPRES field. The descriptions are in subsequent sections)
    9.2.2.5.1 RESPONSE information unit overview
    Table 96 - RESPONSE information unit
    STATUS - Following text does not give ref to where
    STATUS values defined. (make sure for all fields)

Sequence number: 4
Author: PostLB
Date: 1/22/2003 6:32:16 PM
Type: Note
    ACCEPT - DONE (per Jan WG)
    9.2.2.5.1 RESPONSE IU overview
    Add:
    The maximum size of the response IU is the maximum size of any IU
    in an SSP frame (see 9.2.1).

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/6/2003 11:32:06 AM
Type: Note
    REJECT - the fields are defined in the NO_DATA and SENSE_DATA sections
    9.2.2.5.1 RESPONSE information unit overview
    Add a new last paragraph in this clause: "For description of the content of the STATUS field see SAM-3. For description of the content of the SENSE DATA field see SPC-3."

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
ACCEPT - DONE
9.2.2.5.3 RESPONSE information unit RESPONSE_DATA format
The term << certain >> should be deleted as it add a level in uncertainty to the standard.

Sequence number: 3
Author: INTC
Date: 1/6/2003 12:25:01 PM
Type: Highlight
ACCEPT - DONE (for all 3 sections, used a)b)c) lists to highlight that they're based on DATAPRES)
9.2.2.5.3 RESPONSE information unit RESPONSE_DATA format
"The SENSE DATA field shall not be present."
Make clear that this and related reqmts are conditional
on the DATAPRES == RESP_DATA, and not global. Suggest
unordered list under "If the DATAPRES..."

Sequence number: 4
Author: DSS
Date: 1/11/2003 4:58:04 PM
Type: Note
REFER PROTOCOL WG
52. (T) Section 9.2.5.1, fifth paragraph. What is to be done with a COMMAND frame with an unsupported TASK ATTRIBUTE value?

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Sequence number: 1
Author: IBM
Date: 1/14/2003 11:19:02 AM
Type: Highlight
ACCEPT - DONE (Jan WG: The sense data list length field shall not be larger than 1000 (see table 89).)
9.2.2.5.4 RESPONSE information unit SENSE_DATA format
This seems like a strange value to pick << than 1 000 and shall >> why not 1024? Unless there is some reason it should be changed to 1 024.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
9.2.3 Frame sequences
The statement << sequence. The transport protocol services (see 10.1.1) invoked by the application layer are also shown. >> should be << sequence and the transport protocol services (see 10.1.1) invoked by the application layer. >>.

Sequence number: 3
Author: IBM
Date: 1/16/2003 7:48:31 PM
Type: Note
ACCEPT - DONE (with frame rather than IU)
Figures 94 - 97
Put the term << IU >> after all the IU names (e.g., TASK IU, RESPONSE IU).

Sequence number: 4
Author: IBM
Date: 1/22/2003 6:39:08 PM
Type: Note
ACCEPT - DONE (also mention that connections may come and go at any time)
9.2.3 Frame sequences
****
Somewhere in this section there should be a paragraph that states the following :
- that commands can be sent any time.
- When commands are queued data may be transferred for any command at any time.
- Responses may be returned in any order.

Sequence number: 5
Author: INTC
Date: 1/13/2003 6:02:38 PM
Type: Highlight
ACCEPT - DONE (removed it)
Table 99
9.2.2.5.3 RESPONSE information unit RESPONSE_DATA format
"NO FAILURE, when responding to a COMMAND frame"
Response data would not be returned if there was no
error. Remove this.

Sequence number: 6
Author: INTC
Date: 1/6/2003 12:26:27 PM
Type: Highlight
ACCEPT - DONE (a)b)c) list format)
9.2.2.5.4 RESPONSE information unit SENSE_DATA format
"The RESPONSE DATA LIST LENGTH field shall be set to zero"
Make clear that thes reqmts are conditional on DATAPRES value.

Sequence number: 7
Author: PostLB
Date: 1/6/2003 12:26:10 PM
Type: Highlight
ACCEPT - DONE
9.2.2.5.4 REPONSE information unit SENSE_DATA format
In the SENSE DATA paragraph, change contains to shall contain to match the wording in the other paragraphs.

Sequence number: 8
Author: DSS
Date: 1/11/2003 4:57:20 PM
Type: Note
REFER PROTOCOL WG (agree a) is gone... more text needed?)
48. (T) Table 99. A command frame that does not have an invalid field value will not return a RESPONSE IU with
RESPONSE_DATA format, but will instead use the SENSE_DATA format. This means that option 'a' under Code 0 is not required.
It would also be helpful to add a paragraph
explaining this behavior to the subclause.

Sequence number: 9
Author: DSS
Date: 1/11/2003 4:56:37 PM
Type: Note
REFER PROTOCOL WG
49. (T) Section 9.2.2.5.4, forth paragraph. Add statement that the NUMBER OF
FILL BYTES field in the
frame header shall indicate the number of fill bytes added.

Sequence number: 10
Author: PostLB
Date: 1/22/2003 3:43:24 PM
Type: Highlight
ACCEPT - DONE
9.2.3 Frame sequences
Change Initiator port to SSP initiator port and Target port to SSP target port in all the frame sequence figures (94, 95, 96, 97)

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
9.2.3 Frame sequences
The statement << sequence. The transport protocol services (see 10.1.1) invoked by the application layer are also shown. >>
should be << sequence and the transport protocol services (see 10.1.1) invoked by the application layer. >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.3 Frame sequences
    The statement << sequence. The transport protocol services (see 10.1.1) invoked by the application layer are also shown. >>
    should be << sequence and the transport protocol services (see 10.1.1) invoked by the application layer. >>.

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Sequence number: 1
Author: SEG Coomesj
Date: 1/22/2003 6:41:57 PM
Type: Strikeout
    REJECT - that is indeed the intention. There are no more frame transmissions allowed if ACK or NAK are not balanced.
    9.2.4.1 COMMAND frame
    Delete:
    in the next connection
    This would mean the initiator would have to shutdown any queued transfer request to satisfy the next connection requirement.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.3 Frame sequences
    The statement << sequence. The transport protocol services (see 10.1.1) invoked by the application layer are also shown. >>
    should be << sequence and the transport protocol services (see 10.1.1) invoked by the application layer. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (changed to 'times out waiting for")
    9.2.4.3 XFER_RDY frame
    The statement << and does not receive an ACK or NAK, it shall close >> should be << and times out waiting for ACK or NAK it
    shall close >>.

Sequence number: 4
Author: INTC
Date: 1/6/2003 12:48:57 PM
Type: Highlight
    ACCEPT - DONE
    9.2.4.1 COMMAND frame
    "whether ...received or not" 'Whether' is sufficient to
    cover both cases. Drop "or not".

Sequence number: 5
Author: INTC
Date: 1/6/2003 12:48:39 PM
Type: Highlight
    ACCEPT - DONE
    9.2.4.1 COMMAND frame
    "command [ ] was ACKed" add "frame"

Sequence number: 6
Author: INTC
Date: 1/6/2003 12:48:12 PM
Type: Highlight
    REJECT - (no unit attention, just a CHECK CONDITION for the command involved. "Returning CHECK CONDITION status" is
    higher level than returning a RESPONSE frame with CHECK CONDITION status and avoids needing to mention opening a new
    connection and other details.)
    9.2.4.3 XFER_RDY frame
    "close the connection ..return a [ ] CHECK CONDITION status"

Does this mean "generate a UA"?
Add "a RESPONSE FRAME with" (MULTIPLE places)
Does it establish a new connection to send the RESPONSE? Clarify.

Sequence number: 7
Author: INTC
Date: 1/6/2003 12:42:29 PM
Type: Highlight
ACCEPT - DONE (changed to 'times out waiting for")
9.2.4.3 XFER_RDY frame
"does not receive an ACK or NAK"
Over what time period? Clarify.

Sequence number: 8
Author: DSS
Date: 1/11/2003 4:55:31 PM
Type: Note
REFER PROTOCOL WG
50. (T) Section 9.2.4.3, second paragraph. The lack of an ability to recover from these types of errors at the link level will preclude the use of this interface on devices other than
disk drives. When this shortcoming is solved in the next generation of SAS, it will create interoperability issues that will
hinder the acceptance of this interface. Quantum has produced a proposal (02-487) that will solve this problem that should be included before forwarding SAS.

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
9.2.5.1 Target port error handling
and 9.2.6.3.9 in the state machine
"the target port shall return a
CHECK CONDITION status with a sense key of ILLEGAL REQUEST and an additional sense code of
INFORMATION UNIT TOO SHORT (see 9.2.6.3.9)."
Instead, return a RESPONSE frame with a RESPONSE CODE indicating this problem. Don't involve the application layer.

Sequence number: 2
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
9.2.5.1 Target port error handling
"the target port shall return a CHECK CONDITION status with a sense key of ILLEGAL
REQUEST and an additional sense code of INFORMATION UNIT TOO LONG (see 9.2.6.3.9)."
Instead, return a RESPONSE frame with a RESPONSE CODE and don't bother the application layer.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE (changed to 'times out waiting for")
9.2.4.4 DATA frame
The statement << and does not receive an ACK or NAK, it shall close >> should be << and times out waiting for ACK or NAK it shall close >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE (changed to 'times out waiting for")
9.2.4.4 DATA frame
The statement << and does not receive an ACK or NAK, it shall abort >> should be << and times out waiting for ACK or NAK it shall abort >>

Sequence number: 5
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.4.5 RESPONSE frame
    There is no bit named << RETRANSMIT bit >> in the SSP frame. This needs to be fixed.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.4.5 RESPONSE frame
    The statement << RETRANSMIT bit of one, and it >> should be << RETRANSMIT bit set to one, and it >>

Sequence number: 7
Author: INTC
Date: 1/16/2003 7:55:39 PM
Type: Highlight
    ACCEPT - TODO (for both too short for LUN field, and too short for CDB, generate a RESPONSE IU with a rsp_code indicating
    BAD IU format)
    9.2.5.1 Target port error handling
    "too short to contain a LUN field"
      Be explicit - state number of bytes.

Sequence number: 8
Author: INTC
Date: 1/17/2003 12:00:55 PM
Type: Highlight
    ACCEPT - TODO (see previous INTC comment)
    9.2.5.1 Target port error handling
    "contains a LUN field but is too small to contain a CDB"
    If frame is malformed, how could you say it has LUN but not CDB?
    Replace this with a list of sizes, in bytes, and the appropriate
    responses.

Sequence number: 9
Author: INTC
Date: 1/6/2003 12:55:38 PM
Type: Highlight
    REJECT - the crossreference has that rule
    9.2.5.1 Target port error handling
    "OVERLAPPED COMMANDS DETECTED"
      State (non) requirements on checking.

Sequence number: 10
Author: INTC
Date: 1/6/2003 12:52:31 PM
Type: Highlight
    ACCEPT - DONE (changed several others in this section)
    9.2.5.1 Target port error handling
    'TAG that is already in use' - Should be small caps only if
    referring to the field, but not to the value. Correct.

Sequence number: 11
Author: PostLB
Date: 1/6/2003 3:58:16 PM
Type: Highlight
    ACCEPT - DONE (changed to 'times out waiting for")
    9.2.4.5 RESPONSE frame
    Change "does not receive an ACK or NAK" to "times out waiting for an ACK or NAK"

Sequence number: 12
Author: DSS
Date: 1/11/2003 4:55:03 PM
Type: Note
    REFER PROTOCOL WG
    51. (T) Section 9.2.4.4, first paragraph. The lack of an ability to recover
    from these types of errors at the link level will preclude the use of this interface on devices other than disk drives. When this
    shortcoming is solved in the next generation of SAS, it will create

interoperability issues that will hinder the acceptance of this interface. Quantum has produced a proposal (02-487) that will solve this

problem that should be included before forwarding SAS.

Sequence number: 13
Author: ADPT
Date: 1/6/2003 6:16:19 PM
Type: Note
    28.0 P240, remove the editors note

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.5.2 Initiator port error handling
    The statement << is not twelve bytes long, >> should be << is not 12 bytes long, >>.

Sequence number: 2
Author: IBM
Date: 1/16/2003 8:03:14 PM
Type: Note
    REJECT - remain silent (initiator handling of bizarre errors need not be specified)
    9.2.5.2 Initiator port error handling
    The last three paragraphs all need a statement about what the initiator does if it does receive a RESPONSE. I believe << discard it
    >> is the right answer but it needs to be stated.

Sequence number: 3
Author: INTC
Date: 1/16/2003 7:51:04 PM
Type: Highlight
    ACCEPT - TODO (ask Ralph to change in SPC-3; double check state machine handling of this)
    9.2.5.1 Target port error handling
    ILLEGAL TARGET PORT TRANSFER TAG - Although the tag may be
    invalid, there's no indication that it's illegal.
    Rename ASC - use INVALID.

Sequence number: 4
Author: DSS
Date: 1/11/2003 4:54:27 PM
Type: Note
    REFER PROTOCOL WG
    53. (E) Section 9.2.5.2, third paragraph. An initiator always has the option of sending a TASK frame with an ABORT TASK or
    ABORT TASK SET task management function. Perhaps it would
    be better to remove the recurring statements and add a paragraph that states that an initiator may use this means to abort the task
    when an error is detected with it.

Sequence number: 5
Author: PostLB
Date: 1/13/2003 6:56:00 PM
Type: Highlight
    ACCEPT - TODO (Jan WG)
    Change may to shall in 10.1.3

Sequence number: 6
Author: PostLB
Date: 1/16/2003 8:03:23 PM
Type: Highlight
    which it?

Sequence number: 7
Author: PostLB
Date: 1/22/2003 5:47:52 PM
Type: Highlight

Rename this to DATA OFFSET ERROR?

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.6.1 Overview
    The statement << SSP transport layer contains state >> should be << SSP transport layer (ST) contains state >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT
    The statement << perform the following functions: >> should be << run in parallel to: >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT
    9.2.6.2.1 Overview
    The statement << (initiator send frame) >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT
    9.2.6.2.1 Overview
    The statement << (initiator process response) >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << (initiator process response) >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << (initiator send frame) >> should be deleted.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    ACCEPT - DONE
    9.2.6.2.1 Overview
    The statement << (initiator send frame) >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT
    9.2.6.2.1 Overview
    The statement << (initiator receive data) >> should be deleted.

Sequence number: 9

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << (initiator frame router) >> should be deleted.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << (initiator frame router) >> should be deleted.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << (initiator frame router) >> should be deleted.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT
    9.2.6.2.1 Overview
    The statement << (initiator frame router) >> should be deleted.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the SCSI
    initiator devices application layer, >> should be deleted as we do not indicate where things come from only where they go to.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the ST_IFR (initiator frame router) state machine >> should be deleted as we do not indicate where things come from only where they go to.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the ST_IFR (initiator frame router) state machine >> should be deleted as we do not indicate where things come from only where they go to.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the ST_IFR (initiator frame
    router) state machine >> should be deleted as we do not indicate where things come from only where they go to.

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the ST_ISF (initiator send frame) state machine. >> should be deleted as we do not indicate where things come from only where they go to.

Sequence number: 18

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the port layer state machine >> should be deleted as we do not indicate where things come from only
    where they go to.

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6 SSP transport layer state machines
    global in 9.2.6
    The term << port layer state machines >> should in most if not all cases be << port layer >>.

Sequence number: 20
Author: DSS
Date: 1/11/2003 4:52:24 PM
Type: Note
    REJECT
    54. (T) Subclause 9.2.6 describes an implementation of subclauses 9.2.1
    through 9.2.5. This is
    inappropriate for normative text and should be removed.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    9.2.6.2 Initiator device state machines, 9.2.6.2.1 Overview
    After the paragraph describing the ST_IFR state machine: there is a superfluous page break.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    ACCEPT - DONE
    9.2.6.2.1 Overview
    The statement << (initiator process response) >> should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    ACCEPT - DONE
    9.2.6.2.1 Overview
    The statement << (initiator receive data) >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement <<
    from the port layer state machine. >> should be deleted as we do not indicate where things come from only where they go to.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.1 Overview
    The statement << from the SCSI initiator device's application layer >> should be deleted as we do not indicate where things come
    from only where they go to.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    9.2.6.2.1 Overview
The penultimate paragraph wraps unnaturally to the top of a new page when there is plenty of room for it on the previous page.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    9.2.6.2.1 Overview
    Figure 98 - SSP transport layer (ST) state machines - initiator device
    Replace "DONE (ACK/NAK TIMEOUT) Received" with "DONE Received (ACK/NAK TIMEOUT)".

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    9.2.6.2 Initiator device state machines, 9.2.6.2.1 Overview, Figure 98 - SSP transport layer (ST) state machines - initiator device
    In the ST_ISF1 state: add an "ACK Transmitted" confirmation from the port layer. There is already text that describes this.

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    9.2.6.2 Initiator device state machines, 9.2.6.2.1 Overview, Figure 98 - SSP transport layer (ST) state machines - initiator device
    In the ST_IFR1 state: delete the confirmation "DONE (ACK/NAK TIMEOUT) Received" as there are no words describing this, and there is already an (ACK/NAK TIMEOUT) argument for the Transmission Status confirmation.

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    9.2.6.2 Initiator device state machines, 9.2.6.2.1 Overview, Figure 98 - SSP transport layer (ST) state machines - initiator device
    In the ST_ISF1 state: delete the confirmation "Nexus Lost". If there is a Transmission Status with an argument other than (Frame Transmitted), this state sends a Delivery Failure (Service Delivery Subsystem Failure) parameter to the ST_IPR state machine. This results in that state machine sending this information to the application layer.

Sequence number: 6
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    9.2.6.2 Initiator device state machines
    9.2.6.2.1 Overview
    Figure 98 — SSP transport layer (ST) state machines - initiator device
    remove (ACK/NAK TIMEOUT)

Sequence number: 7
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    TIMEOUT)

Sequence number: 8
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
    9.2.6.2 Initiator device state machines
    9.2.6.2.1 Overview
    Figure 98 — SSP transport layer (ST) state machines - initiator device
    add a pink in arrow with the nomenclature of "ACK Transmitted"on it
    (i.e. add a "ACK Transmitted " received confirmation here)

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    9.2.6.2.1 Overview
    The term << describes >> should be << shows >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    Figure 98
    The term << Request >> should be deleted from the << Send Task Management Request >>

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    9.2.6.2.2 ST_ISF1:Send_Frame state, 9.2.6.2.2.1 State description, second bulleted list
    Add: I_T nexus loss count.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.2.1 State description
    The statement << from the SCSI initiator device's application layer >> should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.2.1 State description
    The statement << from the ST_IFR (initiator frame router) state machine. >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.2.1 State description
    The statement << from the
    ST_ISF2:Prepare_Command_Request state, >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.2.1 State description
    The statement << from the
    ST_ISF3:Prepare_Send_Data_Out state. >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    9.2.6.2.2.1 State description
    The paragraph <<The ST_ISF state machine shall be initiated when a Send SCSI Command or a Send Task Management
    Request transport protocol service request is received from the SCSI initiator device's application layer or when an XFER_RDY
    Arrived parameter is received from the ST_IFR (initiator frame router) state machine. >> does not belong here. It should be part of
    the overview for the state machine. This is only supposed to be information about the state not the state machine. And should be
    changed to << The ST_ISF state machine shall be activated when a Send SCSI Command or a Send Task Management Request
    transport protocol service request is received or when an XFER_RDY Arrived parameter is received. >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.2.2.1 State description
The paragraph <<This state shall be entered when either a COMMAND or TASK frame is received from theST_ISF2:Prepare_Command_Request state, or when a DATA frame is received from the ST_ISF3:Prepare_Send_Data_Out state. >> should be << This state is the initial state and is the state that is used after the ST_ISF state machine has been activated. >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << A Send SCSI Command or a Send Task Management Request transport protocol service request includes the following to be used >> should be << A Send SCSI Command transport protocol service request or a Send Task Management protocol service request includes the following to be used >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << The request may >> should be << The transport protocol service request may >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
It looks like the term << request: >> should be << transport protocol service request >> in all cases in this section. This needs to be fixed.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << If the ST_ISF state machine was initiated as the result of receiving a transport protocol service request, then this state shall transition to the ST_ISF2:Prepare_Command_Request state.>> belongs in the transition description not here.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
9.2.6.2.2.1 State description
The term << initiated >> should be << activated >> in this section.

Sequence number: 13
Author: IBM
Date: 1/13/2003 6:56:59 PM
Type: Note
ACCEPT - TODO (upgrade to a shall to match 10.1.3 and 9.2.5.2)
9.2.6.2.2.1 State description
****
I don't like the mays in item a) and item b). Why is this a may instead of a shall?

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.2.1 State description
In item e) describing the XFER_RDY Arrived parameter, replace "ACK Transmitted" with "ACK Received".

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.2.2.1 State description
The statement << from the port layer state machine. >> should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.2.2.1 State description
The statement << e) If the length of the XFER_RDY frame is 12 bytes, the write data length is correct, and an ACK Transmitted confirmation has been received, then this state shall transition to theST_ISF3:Prepare_Send_Data_Out state. >> belongs in the transition description. It should be moved there.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << If this state is entered from the ST_ISF2:Prepare_Command_Request state, then this state shall send a Transmit Frame (Interlocked) request to the port layer state machine. >> should be << Upon entry into this state from the ST_ISF2:Prepare_Command_Request state, this state shall send a Transmit Frame (Interlocked) request to the port layer state machine. >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << If this state is entered from the ST_ISF3:Prepare_Send_Data_Out state, then this state shall send a Transmit Frame (Non-interlocked) request to the port layer state machine. >> should be << Upon entry into this state from the ST_ISF3:Prepare_Send_Data_Out state, this state shall send a Transmit Frame (Non-Interlocked) request to the port layer state machine. >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.2.2.1 State description
The statement << from this state >> should be deleted.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.2.2.1 State description
The statement << (initiator process response) >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << After sending a Transmit Frame request this state shall wait for a Transmission Status confirmation. If the confirmation is not Transmission Status (Frame Transmitted), >> should be << After sending a Transmit Frame request to the port layer this state shall wait for a Transmission Status confirmation. If the confirmation is not Transmission Status (Frame Transmitted) confirmation, >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.2.2.1 State description
The statement << After sending a Delivery Failure parameter to the ST_IPR state machine, the ST_ISF state machine shall terminate. >> does not belong here. It should be part of the overview for the state machine. This is only supposed to be information about the state not the state machine. It should also be reword to remove the << terminate >> term. Maybe stopped or removed or

deactivated.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
***
The may in the statement << If the transmitted frame was a DATA frame, then this state may transition to the >> seems like there should be more description. The transition either occurs or it does not occur.
Also this whole paragraph should be down in the transition section. This needs to be fixed.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.2.2.1 State description
The statement << After sending a Delivery Failure parameter to the ST_IPR state machine, the ST_ISF state machine shall terminate. >> is a duplicate of what is stated just above and does not belong here. It should be in the state machine overview.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
***
The may in the statement <<This state may also send a Cancel request to the port layer state >> seems like there should be more description. The transition either occurs or it does not occur.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.1 State description
The statement << The ST_ISF state machine shall terminate upon receipt of a Cancel Acknowledge confirmation. >> does not belong here. It should be in the state machine overview.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.2 Transition ST_ISF1:Send_Frame to ST_ISF2:Prepare_Command_Request
The statement << occur after a Send SCSI Command or Send Task Management Request transport protocol service request has been received. >> should be << occur after receiving a Send SCSI Command or Send Task Management Request transport protocol service request. >>.

Sequence number: 15
Author: LSI Brian Day
Date: 1/21/2003 12:01:03 PM
Type: Note
ACCEPT - TODO (Mark Evans will provide rewritten 2 paragraphs supporting data frame pipelining)
9.2.6.2.2.1 State Description
page 246
Seventh paragraph (starting with "After receiving ...") and eighth paragraph (starting with "If the transmitted frame ...") are redundant, and transport should wait for port layer confirmation regardless of whether it is data-out or data-in operation.
Change 7th paragraph to read as
"After receiving a Transmission Status (Frame Transmitted) confirmation for a COMMAND or TASK frame, this state shall then wait for one of the following confirmations from the port layer state machine before transitioning from this state:"
Remove eighth paragraph.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight

9.2.6.2.2.3 Transition ST_ISF1:Send_Frame to ST_ISF3:Prepare_Send_Data_Out
In item b) of the list, replace "ACK Transmitted" with "ACK Received".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.3.1 State description
In the second paragraph, replace "the following received" with "the following fields received".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.3.1 State description
In the third paragraph, replace "the following received" with "the following fields received".

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.3.1 State description
In the fourth paragraph, replace "the following" with "the following fields".

Sequence number: 5
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.4.1 State description
In the first paragraph, replace "the following" with "the following fields".

Sequence number: 6
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.4.1 State description
In the second paragraph, replace "the following" with "the following fields".

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.2.3 Transition ST_ISF1:Send_Frame to ST_ISF3:Prepare_Send_Data_Out
The statement << a) an ACK Received confirmation has been received for a COMMAND frame for a data-out operation and the first burst size is not zero;
b) an XFER_RDY Arrived parameter has been received, all required values are present and correct, and an ACK Transmitted confirmation has been received; or
c) a Transmission Status (Frame Transmitted) confirmation for a Transmit Frame (Non-interlocked) request has been received and the number of data bytes that has been transmitted for the request is less than the first burst size or the write data length. >>
should be
<< a) receiving an ACK Received confirmation for a COMMAND frame for a data-out operation if the first burst size is not zero;
b) receiving an XFER_RDY Arrived parameter with all required values present and correct, and after receiving an ACK Transmitted confirmation; or
c) receiving a Transmission Status (Frame Transmitted) confirmation for a Transmit Frame (Non-interlocked) request if the number of data bytes that has been transmitted for the Transmit Frame (Non-interlocked) request is less than the first burst size or the write data length. >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.2.3.1 State description
The statement << received from the SCSI initiator device's application layer >> should be deleted.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.2.3.1 State description

The statement << received from the SCSI initiator device's application layer >> should be deleted.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.3.2 Transition ST_ISF2:Prepare_Command_Request to ST_ISF1:Send_Frame
    The statement << after the ST_ISF2:Prepare_Command_Request state >> should be <<after this state >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.2.4.1 State description
    The statement << (these were
    received either from the SCSI initiator device's application layer or included in an XFER_RDY Arrived
    parameter): >> should be deleted.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    9.2.6.2.5.2 Transition ST_IRD1:Receive_Data_In to ST_IRD2:Process_Received_Data_In
    Don't we only want to make this transition after verifying that everything is correct with the received DATA frame?
    Replace "...any value...has..." with "...all values...have...".

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.4.1 State description
    In what case would the following statement not be true? << If all of the data for the request is not included in the
    frame, the number of data bytes in the frame shall be a multiple of four, and the number of fill bytes shall be zero. >> If it is always
    true or is described somewhere else then it should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.4.2 Transition ST_ISF3:Prepare_Send_Data_Out to ST_ISF1:Send_Frame
    The statement << after the ST_ISF3:Prepare_Send_Data_Out state has >> should be << after this state has >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    9.2.6.2.5.1 State description
    The statement << The ST_IRD state machine shall be initiated when a Data-In Arrived parameter is received. >> should be in the
    state machine overview not here.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    9.2.6.2.5.1 State description
    The statement << This state machine shall terminate after sending the parameter. >> should be in the state machine overview not
    here.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.5.2 Transition ST_IRD1:Receive_Data_In to ST_IRD2:Process_Received_Data_In
    The statement << by the ST_IRD1:Receive_Data_In has been >> should be << by this state has been >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
>   9.2.6.2.6 ST_IRD2:Process_Received_Data_In state
>   The statement << The ST_IRD state machine shall terminate after the data-in data is processed. >> should be in the state
>   machine overview not here.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
>   9.2.6.2.7 ST_IPR1:Process_Received_Response state
>   The statement << The ST_IPR state machine shall be initiated when a Response Arrived parameter is received or a Delivery
>   Failure parameter is received. >> should be in the state machine overview not here.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
>   9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
>   First paragraph, item d). Replace "a hard reset occurs" with "a HARD_RESET Received indication is received".

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
>   9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state, first bulleted list
>   Change "a hard reset occurs" to "a HARD_RESET Received confirmation is received." Other Maxtor proposals and comments
>   supplement this change.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
>   9.2.6.2.7 ST_IPR1:Process_Received_Response state
>   The statement << The ST_IPR state machine shall terminate after sending a confirmation.>> should be in the state machine
>   overview not here.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
>   9.2.6.2.7 ST_IPR1:Process_Received_Response state
>   The statement << of the RETRANSMIT bit. >> is a problem because there is no RETRANSMIT bit . This needs to be fixed.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
>   9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
>   The statement << The ST_IFR state machine shall be initiated when:
>   a) an Accept_Reject OPENs request is received;
>   b) a Frame Received confirmation is received;
>   c) a DONE Received confirmation is received; or
>   d) a hard reset occurs. >> should be in the state machine overview not here.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
>   9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
>   The statement << If the ST_IFR state machine was initiated as the result of receiving >> should be << If this state initially received

>>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
The statement << The ST_IFR state machine shall terminate
after sending an Accept_Reject OPENs request to the port layer state machine. >> should be in the state machine overview not here.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
Third paragraph. Replace "Frame Received (Frame Failed) or a
hard reset," with "Frame Received (Frame Failed) indication or a
HARD_RESET Received indication,".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
Fourth paragraph. How shall this state "notify the application layer"? I presume it needs to send a some kind of confirmation to the application layer.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
Item c) in the last list. Replace "Data-in parameter" with "Data-in Arrived parameter"

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state, fifth paragraph
Change "ACK/NAK balanced)" to "(ACK/NAK Balanced)".

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state, fifth paragraph
Change the first occurrence of "(ACK/NAK Not Balanced)" to "Received (ACK/NAK Unbalanced)".

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state, fifth paragraph
Change the second occurrence of "(ACK/NAK Not Balanced)" to "Received (ACK/NAK Unbalanced)".

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state, third paragraph
Change "hard reset" to "HARD_RESET Received confirmation." Other Maxtor proposals and comments supplement this change.

Sequence number: 8

Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    9.2.6.3 Target device state machines, 9.2.6.3.1 Overview, first bulleted list
    Item a) is missing from the list. Insert the following: "a) receives and processes data-in and data-out delivery service requests from
    the SCSI target application layer;"

Sequence number: 9
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
    change <Data-in parameter> to
    "Data-in Arrived parameter"

Sequence number: 10
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    9.2.6.3 Target device state machines
    9.2.6.3.1 Overview
    change <Data-Out
    Received> to
    "Data -Out Arrived or Response Data"
    (to be consisten with figure 99 - SSP Transport layer state machine - target device)

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The statement << from the port layer state machine >> should be deleted.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The statement <<from the SCSI target device's application layer >> should be deleted.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The statement <<from the SCSI target device's application
    layer; >> should be deleted.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
    The statement << If the ST_IFR state machine was initiated as the result of receiving >> should be << If this state initially received
    >>.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
    The statement << If the ST_IFR state machine was initiated as the result of receiving >> should be << If this state initially received
    >>.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state

The statement << If the ST_IFR state machine was initiated as the result of a >> should be << If this state initially received a >>.

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
    All these << terminate >>s are a problem because the state machine comings and goings should be specified in the state machines overview.

Sequence number: 18
Author: IBM
Date: 1/13/2003 6:58:58 PM
Type: Highlight
    REJECT TODO (maybe change to "valid state machine)
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
    The statement << specify an existing state machine, >> should be << specify an active state machine >>.

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state
    The statement << The ST_IFR state machine shall terminate after sending a parameter to another state machine. >> should be in the state machine overview not here.

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The statement << (target frame router) >> should be deleted.

Sequence number: 21
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The statement << (target transport server) >> should be deleted.

Sequence number: 22
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The statement << (target transport server) >> should be deleted.

Sequence number: 23
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.1 Overview
    The term << several >> should be deleted. in item d)

Sequence number: 24
Author: LSI Brian Day
Date: 1/21/2003 12:02:45 PM
Type: Note
    ACCEPT - TODO
    Page 250
    9.2.6.2.8 ST_IFR1:Initiator_Frame_Router state, sixth paragraph
    Reword first sentence:
    If the frame type is correct relative to the confirmation, then this state may check that the hashed source SAS address and the hashed destination SAS address in the frame match the source SAS address of the port transmitting the frame and the destination SAS address of the port receiving the frame for the current connection.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
> 9.2.6.3 Target device state machines, 9.2.6.3.1 Overview, Figure 99 - SSP transport layer (ST) state machines - target device
> In the ST_TTS2 state: add an "ACK Transmitted" confirmation from the port layer. There is already text that describes this.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
> 9.2.6.3 Target device state machines, 9.2.6.3.1 Overview, Figure 99 - SSP transport layer (ST) state machines - target device
> In the ST_TTS2 state, delete the "Nexus Lost" confirmation to the application layer. This information is sent to the application layer
> via the Data-In Delivered confirmation.

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
> 9.2.6.3 Target device state machines
> 9.2.6.3.1 Overview
> Figure 99 — SSP transport layer (ST) state machines - target device
> add a pink in arrow with the nomenclature of "ACK Transmitted"on it
> (i.e. add a "ACK Transmitted " received confirmation here)

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 9.2.6.3.1 Overview
> The term << describes >> should be << shows >>.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Circle
> Figure 99
> Either all the crossing lines need hops or none should have them. For this figure it looks like none would be OK.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> Figure 99
> The term << Request >> in the << task Management Request Received >> should be deleted.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
> 9.2.6.3.2 ST_TFR1:Target_Frame_Router state
> First paragraph, item c). Replace "a hard reset occurs" with "a HARD_RESET Received indication is received".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
> 9.2.6.3.2 ST_TFR1:Target_Frame_Router state
> Third paragraph. Replace "a hard reset" with "a HARD_RESET Received indication".

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state, fourth paragraph
   Change "(ACK/NAK Not Balanced)" to "Received (ACK/NAK Unbalanced)".

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state, first bulleted list
   Change "a hard reset occurs" to "a HARD_RESET Received confirmation is received." Other Maxtor proposals and comments
   supplement this change.

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state, third paragraph
   Change "hard reset" to "HARD_RESET Received confirmation." Other Maxtor proposals and comments supplement this change.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
   The statement << from the SCSI target device's application layer, >> should be deleted.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
   The statement << from the port layer state machine, >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
   The statement << The ST_TFR state machine shall be initiated when:
   a) an Accept_Reject OPENs request is received;
   b) a Frame Received confirmation is received; or
   c) a hard reset occurs. >> should be in the state machine overview not here.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
   The statement << Each indication or parameter shall contain the content of the SAS frame.
   The ST_TFR state machine shall terminate after sending a Data-Out Arrived parameter or transport protocol
   service indication. >> should be in the state machine overview not here.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
   The statement << If the ST_TFR state machine was initiated as the result of receiving >> should be << If this state initially received
   >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
   The statement << If the ST_TFR state machine was initiated as the result of receiving >> should be << If this state initially received

>>.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << If the ST_TFR state machine was initiated as the result of receiving >> should be << If this state initially received
    >>.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    All these << terminate >>s are a problem because the state machine comings and goings should be specified in the state
    machines overview.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << with the received attribute to the port layer state machine. >> should be << with the attribute received with the
    Accept_Reject OPEN to the port layer state machine. >>

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << the length of the information unit is [28 + (4 x
    additional CDB length)] bytes. >> should be << the length of the information unit (see 9.2.5.1) >>. All the length rules are specified
    elsewhere and should not be here.

Sequence number: 16
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << the length of the information unit is 28 bytes. >> should be << the length of the information unit (see 9.2.5.1) >>.
    All the length rules are specified elsewhere and should not be here.

Sequence number: 17
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << information unit is not 28 bytes, >> should be << information unit is not correct, >>

Sequence number: 18
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << If it conflicts, this state may send a Response >> should be << If the tag is checked and it conflicts this state
    shall send a >>. There should no requirement for checking but if checked and there is a error then the response should be a shall.

Sequence number: 19
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.2 ST_TFR1:Target_Frame_Router state
    The statement << hard reset, then the ST_TFR state >> should be << HARD_RESET Received confirmation , then the ST_TFR
    state >>

Sequence number: 20
Author: IBM
Date: 1/6/2003 6:16:00 PM

Type: Highlight
>   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
>   global
>   It looks like the term << request: >> when used in relation to requests from the application layer should be << transport protocol
>   service request >> in all cases in this section. This needs to be fixed.

Sequence number: 21
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
>   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
>   The statement << then the ST_TFR state machine shall discard >> should be << then this state machine shall discard >>.

Sequence number: 22
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
>   9.2.6.3.2 ST_TFR1:Target_Frame_Router state
>   The statement << then the ST_TFR state machine shall discard >> should be << then this state machine shall discard >>.

Sequence number: 23
Author: LSI Brian Day
Date: 1/21/2003 12:03:20 PM
Type: Note
>   ACCEPT - TODO (also do a global search for other cases)
>   Page 252
>   9.2.6.3.2 ST_TFR1:Target_Frame_Router state, sixth paragraph
>   Reword first sentence:
>   If the frame type is correct relative to the confirmation, then this state may check that the hashed source SAS address and the
>   hashed destination SAS address in the frame match the source SAS address of the port transmitting the frame and the destination
>   SAS address of the port receiving the frame for the current connection.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
>   9.2.6.3.3.2 Transition ST_TTS1:Target_Request_Response_Router to ST_TTS2:Send_Frame
>   The statement << from the SCSI target device's application layer. >> should be deleted.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
>   9.2.6.3.3.3 Transition ST_TTS1:Target_Request_Response_Router to ST_TTS4:Receive_Data_Out
>   The statement << from the SCSI target device's application layer. >> should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
>   9.2.6.3.3.4 Transition ST_TTS1:Target_Request_Response_Router to ST_TTS7:Prepare_Response
>   The statement << from the SCSI target device's application layer. >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
>   9.2.6.3.4.1 State description
>   The statement << This state is entered when a DATA frame is received from the ST_TTS3:Prepare_Send_Data_In state, when an
>   XFER_RDY frame is received from the ST_TTS4:Receive_Data_Out state, when a RESPONSE frame is received from the
>   ST_TTS7:Prepare_Response state, or after the ST_TTS7:Prepare_Response state has determined that the vendor-specific
>   number of retries for a RESPONSE frame has been exceeded. >> should be deleted as we do not describe entry conditions.

Sequence number: 5

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
 9.2.6.3.3.1 State description
 The statement << from the SCSI target
 device's application layer: >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
 9.2.6.3.3.1 State description
 The statement << The ST_TTS state machine shall be initiated when one of the following is received from the SCSI target
 device's application layer:
 a) a Send Data-In transport protocol service request;
 b) a Receive Data-Out transport protocol service request;
 c) a Task Management Function Executed transport protocol service response; or
 d) a Send Command Complete transport protocol service response. >> should be in the state machine overview not here.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
 9.2.6.3.3.1 State description
 The list << a) connection rate;
 b) initiator connection tag;
 c) destination SAS address; and
 d) source SAS address. >>should be moved into the lists for each of the protocol services. I know this will create the same entries
 in each but it would be clearer.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
 9.2.6.3.3.1 State description
 Delete << also >> and add in the complete list.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
 9.2.6.3.3.1 State description
 Delete << also >> and add in the complete list.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
 9.2.6.3.3.1 State description
 Delete << also >> and add in the complete list.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
 9.2.6.3.3.2 Transition ST_TTS1:Target_Request_Response_Router to ST_TTS2:Send_Frame
 The statement << after the ST_TTS1:Target_Request_Response_Router state has received a Send Data-In transport protocol
 service request >> should be << after receiving a Send Data-In transport protocol service request. >>

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
 9.2.6.3.3.3 Transition ST_TTS1:Target_Request_Response_Router to ST_TTS4:Receive_Data_Out
 The statement << after the ST_TTS1:Target_Request_Response_Router state has received a
 Receive Data-Out transport protocol service request >> should be << after receiving a Receive Data-Out transport protocol service
 request. >>

Sequence number: 13

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.3.4 Transition ST_TTS1:Target_Request_Response_Router to ST_TTS7:Prepare_Response
The statement << after the ST_TTS1:Target_Request_Response_Router state has received a Task
Management >> should be << after receiving a Task
Management >>.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Strikeout
9.2.6.3.4.1 State description
Second paragraph. Minimally, delete "this state" as the Send Data-In transport protocol service request was not received by this
state. However, this correction implies that the ST_TTS2 state magically knows how the ST_TTS1 state got started. It is probably
better to say, "If this state was entered from the ST_TTS1:Request_Response_Router state, ..."

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.3.4.1 State description
Fifth paragraph. Replace "ACK Transmitted" with "ACK Received".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.3.4.1 State description
Seventh paragraph. It seems odd to say this state shall receive a Transmission Status confirmation from another state machine.
Perhaps we should say "this state shall wait to receive".

Sequence number: 4
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.3.4.1 State description
Tenth paragraph. Same problem with "this state shall receive".

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.2.6.3.4 ST_TTS2:Send_Frame state, 9.2.6.3.4.1 State description
Delete the ninth paragraph ("If the confirmation is Transmission Status (Open Failed) and it includes an I_T Nexus Lost argument,
this state
shall send a Nexus Lost confirmation to the application layer.") This information is sent to the application layer via the Data-In
Delivered confirmation.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.4.1 State description
The statement << from the
port layer state machine. >> should be deleted.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.4.1 State description
The statement << from the port layer state machine. >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.3.4.1 State description
If the TTS state machine was initiated as the result of this state receiving a Send Data-In transport protocol
service request, the specified values are included with the request, and this state has received an ACK
Transmitted confirmation, then this state shall transition to the ST_TTS3:Prepare_Send_Data_In state. >> should be in the state
machine overview not here.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.1 State description
The statement << state shall receive >> should be << state shall wait for receipt >>.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.1 State description
The statement << If the frame transmitted was a DATA frame, then this state may transition to the
ST_TTS3:Prepare_Send_Data_In state after receiving a Transmission Status (Frame Transmitted)
confirmation. >> should be moved to the relevant state transition description.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.1 State description
The statement << If the confirmation is ACK Received and the transmitted frame was an XFER_RDY frame, then this state shall
transition to the ST_TTS4:Receive_Data_Out state. >> should be moved to the relevant state transition description.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.1 State description
The statement << If the frame transmitted was an XFER_RDY frame or a RESPONSE frame, then this state shall wait to receive
an ACK Received, NAK Received, or Connection Failed confirmation before transitioning from this state. >> should be moved to
the relevant state transition description.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.1 State description
The statement << one of the following: >> should be << one of the following occurs >>.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.4.1 State description
The statement << from the port layer state machine. >> should be deleted.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.4.4 Transition ST_TTS2:Send_Frame to ST_TTS7:Prepare_Response The statement << from
the port layer state machine: >> should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.3.4.1 State description
The statement << The ST_TTS state machine shall terminate after sending the Data-In Delivered confirmation. >> should be in the state machine overview not here.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.1 State description
The statement << The ST_TTS state machine terminates upon receipt of a Cancel Acknowledge confirmation >> should be in the state machine overview not here.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.2 Transition ST_TTS2:Send_Frame to ST_TTS3:Prepare_Send_Data_In
The statement << this state receives >> should be << receiving >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.2 Transition ST_TTS2:Send_Frame to ST_TTS3:Prepare_Send_Data_In
The statement << this state receives >> should be << receiving >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.4.3 Transition ST_TTS2:Send_Frame to ST_TTS4:Receive_Data_Out
The statement << this state has received >> should be << receiving >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.5.1 State description
The statement << the tag received from the ST_TTS2:Send_Frame state to construct the frame. >> should be << the received tag to construct the frame. >>.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.5.2 Transition ST_TTS3:Prepare_Send_Data_In to ST_TTS2:Send_Frame
The statement << after the ST_TTS3:Prepare_Send_Data_In state has >> should be << after this state has >>.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.3.6.1 State description
Second paragraph. Replace "ST_TS1" with "ST_TTS1".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
9.2.6.3.6.1 State description

First paragraph, item a). Replace "ST_TS1" with "ST_TTS1".

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
9.2.6.3.6 ST_TTS4:Receive_Data_Out state
9.2.6.3.6.1 State description
change <ST_TS1:L to
"ST_TTS1"

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.6.1 State description
The statement << This state is entered after one of the following occurs:
a) a Receive Data-Out service request is received from the ST_TS1:Request_Response_Router state;
b) a DATA frame is received from the ST_TFR (target frame router) state machine;
c) an ACK Received confirmation for an XFER_RDY frame was received from the
ST_TTS2:Send_Frame state;
d) an XFER_RDY frame has been constructed by the ST_TTS5:Prepare_XFER_RDY state; or
e) data-out data has been processed by the ST_TTS6:Process_Received_Data_Out state. >> should be deleted as we do not
describe entry conditions.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.6.1 State description
The statement << from the port layer state machine >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.6.1 State description
The statement << from the ST_TFR state machine. >> should be deleted.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.6.1 State description
The statement << from the ST_TFR1:Target_Frame_Router state. >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.6.1 State description
The statement << If this state was entered as the result of receiving a Receive Data-Out service request from the
ST_TS1:Request_Response_Router state then this state shall transition to the
ST_TTS5:Prepare_XFER_RDY state. >> should be moved to the relevant state transition description.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.6.1 State description
The statement << The ST_TTS state machine shall terminate after sending the confirmation. >> should be in the state machine
overview not here.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.6.1 State description
The statement << The ST_TTS state machine shall terminate after

sending the confirmation. >> should be in the state machine overview not here.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.6.1 State description
    The statement << The
    ST_TTS state machine shall terminate after sending the confirmation. >> should be in the state machine overview not here.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.6.1 State description
    The statement << The
    ST_TTS state machine shall terminate after sending the confirmation. >> should be in the state machine overview not here.

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.6.1 State description
    The statement << If the target transport tag value matches the value sent with the corresponding XFER_RDY frame, and the
    length of the data does not exceed that specified by the XFER_RDY frame that requested the data, then this
    state shall transition to the ST_TTS6:Process_Received_Data_Out state. >> should be moved to the relevant state transition
    description.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.6.1 State description
    The statement << If this state is entered from the ST_TTS5:Prepare_XFER_RDY state, then this state shall transition to the
    ST_TTS2:Send_Frame state. >> should be moved to the relevant state transition description.

Sequence number: 15
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.2.6.3.6.1 State description
    The statement << The ST_TTS
    state machine shall terminate after sending the confirmation. >> should be in the state machine overview not here.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.6.4 Transition ST_TTS4:Receive_Data_Out to ST_TTS6:Process_Received_Data_Out
    The statement << from the ST_TFR (target frame router) state machine. >> should be deleted.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.9.1 State description
    The statement << by this state from the ST_TFR state machine. >> should be deleted.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.2.6.3.9.1 State description
    The statement << This state is entered after one of the following occurs:

a) a Response Data parameter is received by this state from the ST_TFR state machine;
b) a Task Management Function Executed transport protocol service response was received by the
ST_TTS1:Target_Request_Response_Router state from the SCSI target device's application layer;
c) a Send Command Complete transport protocol service response was received by the
ST_TTS1:Target_Request_Response_Router state from the SCSI target device's application layer; or
d) the ST_TTS2:Send_Frame state receives something other than a Transmission Status (Frame Transmitted)
confirmation followed by an ACK Received confirmation for a RESPONSE frame from the port
layer state machine (i.e., the frame transmission was unsuccessful). >> should be deleted as we do not describe entry conditions.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
9.2.6.3.9.1 State description
The statement << If not already running, the ST_TTS state machine shall be initiated when a Response Data parameter is
received. >> should be in the state machine overview not here.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.6.2 Transition ST_TTS4:Receive_Data_Out to ST_TTS2:Send_Frame
The statement << This transition shall occur after this state has received an XFER_RDY frame from the
ST_TTS5:Prepare_XFER_RDY state. >> should be << This transition shall occur if this state is entered from the
ST_TTS5:Prepare_XFER_RDY state. >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.6.4 Transition ST_TTS4:Receive_Data_Out to ST_TTS6:Process_Received_Data_Out
The statement << after the ST_TTS4:Receive_Data_Out state receives a Data-Out Arrived parameter >> should be << after
receiving a Data-Out Arrived parameter >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
The statement << This transition shall occur after a Receive Data-Out transport protocol service request has been received by the
ST_TTS4:Receive_Data_Out state from the ST_TTS1:Request_Response_Router state. >> should be << This transition shall
occur if this state is entered from the ST_TTS1:Request_Response_Router state. >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.2.6.3.7.2 Transition ST_TTS5:Prepare_XFER_RDY to ST_TTS4:Receive_Data_Out
The statement << after the ST_TTS5:Prepare_XFER_RDY state has >> should be << after this state has >>.

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Sequence number: 1
Author: HP relliott
Date: 1/6/2003 1:03:53 PM
Type: Highlight
ACCEPT - DONE editor's note removed
9.2.6.3.9.1 State description (for ST_TTS7)
Editor's Note 3 - add service response argument to SCSI Command Received () and Task Management Function Request ()
This note should be rejected. Errors in command frame reception should generate RESPONSE frames with RESPONSE CODE
errors, not CHECK CONDITIONs.

Sequence number: 2
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
9.2.6.3.9.1 State description (ST_TTS7)

Editor's Note 4 - add local Service Response to Send Command Complete () and Task Management Function Executed ()
Implement only if a SAM-3 proposal is accepted in the letter ballot resolution timeframe.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.9.1 State description
The statement << from the ST_TTS1:Target_Request_Response_Router state, >> should be deleted.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.9.1 State description
The statement << from the port layer state machine >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.9.1 State description
The statement << from the ST_TFR state
machine, >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.2.6.3.9.1 State description
The statement << from the ST_TFR state
machine, >> should be deleted.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REFER EDITORS WG ("retransmit" lowercase is used in item d) above)
9.2.6.3.9.1 State description
The term << retransmit >> as in retransmit bit should be in small caps.

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Sequence number: 1
Author: HP relliott
Date: 1/6/2003 1:06:38 PM
Type: Highlight
ACCEPT - DONE
9.3.1 Initial FIS
Change "the SMP REPORT SATA PORT function" to "the SMP REPORT PHY SATA function"

Sequence number: 2
Author: HP relliott
Date: 12/30/2002 1:54:12 PM
Type: Highlight
ACCEPT - DONE
9.3.2 SATA tunneling for multiple STP initiator ports
Change "CLOSE CLEAR AFFILIATION" to "CLOSE (CLEAR AFFILIATION)"

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 1:54:02 PM
Type: Highlight
ACCEPT - DONE
9.3.2 SATA tunneling for multiple STP initiator ports
Second paragraph, item d). Replace "CLOSE CLEAR AFFILIATION)" with "CLOSE (CLEAR AFFILIATION)".

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
9.3.2 SATA tunneling for multiple STP initiator ports
The statement << from an STP initiator
port, >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
9.2.6.3.9.2 Transition ST_TTS7:Prepare_Response to ST_TTS2:Send_Frame
The statement << after the ST_TTS7:Prepare_Response state has >> should be << after this state has >>.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.3.2 SATA tunneling for multiple STP initiator ports
Why is the term << PHY OPERATION >> in small caps? I don't think it should be.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
9.3.2 SATA tunneling for multiple STP initiator ports
The statement << In this state, >> should be << Under these conditions, >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.3.2 SATA tunneling for multiple STP initiator ports
Why is the term << PHY OPERATION >> in small caps? I don't think it should be.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REFER EDITORS WG (sends is not good)
9.3.2 SATA tunneling for multiple STP initiator ports
This statement << STP initiator port issues an >> should be << STP initiator port sends an >>

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.3.2 SATA tunneling for multiple STP initiator ports
Why is the term << PHY OPERATION >> in small caps? I don't think it should be.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
9.3.2 SATA tunneling for multiple STP initiator ports
Why is the term << PHY OPERATION >> in small caps? I don't think it should be.

Sequence number: 12
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REFER EDITORS WG
(that's the name of the SATA frame - perhaps add to acronym list)
9.3.3 BIST Activate FIS
The acronym << BIST >> is not in the acronyms list. It needs to be added or removed from here.

Sequence number: 13
Author: MSFT
Date: 1/14/2003 7:13:51 PM
Type: Note
ACCEPT - TODO (Add text that this is intended only to lock down a target for the duration of a command or a sequence of commands, not forever. This prevents frame confusion. Bob S will prepare some text for this).
REFER PROTOCOL WG
9.3.2 SATA tunneling for multiple initiator ports
The affiliation mechanism creates a policy that encourages initiators to
fight over resources. The policy that multiple initiators shouldn't be actively connecting to an STP target shouldn't be enforced by hardware. It
should be a usage convention.
[key concern is resources coming and going as seen by an OS]

Sequence number: 14
Author: LSI Tim Hoglund
Date: 1/8/2003 1:05:37 PM
Type: Note
ACCEPT - DONE
9.3.1 Initial FIS
typo: SMP REPORT SATA PORT should be SMP REPORT PHY SATA.

Sequence number: 15
Author: PostLB
Date: 1/16/2003 4:41:16 PM
Type: Note
9.3.4 STP transport layer state machines
Mention that this is modified to interface to the port layer

Sequence number: 16
Author: PostLB
Date: 1/16/2003 5:04:56 PM
Type: Note
Add comment that native STP devices should not support affiliations. (phrase as affiliations are only an expander function)
They can put in a virtual phy and support SMP. DISCOVER and PHY CONTROL to the virtual phy could control the affiliations.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.4.2 SMP_REQUEST frame, first paragraph after Table 102 - SMP_REQUEST frame format
Change to: "The SMP FRAME TYPE field shall be set to 40h specifying that this is an SMP_REQUEST frame. If the SMP FRAME TYPE field is not set to 40h, then the target port shall return a FUNCTION RESULT of SMP FUNCTION FAILED in the RESPONSE frame."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
9.4.2 SMP_REQUEST frame, second paragraph after Table 102 - SMP_REQUEST frame format
Change to: "The FUNCTION field specifies which function is being requested (see 10.3.1.1). If the value in the FUNCTION field is not supported, then the target port shall return a FUNCTION RESULT of SMP FUNCTION FAILED in the RESPONSE frame."

Sequence number: 3
Author: MXO Mark Evans
Date: 1/6/2003 1:14:54 PM
Type: Highlight
ACCEPT - DONE
9.4.2 SMP_REQUEST frame, fourth paragraph after Table 102 - SMP_REQUEST frame format
Change to: "Fill bytes shall be included at the end of the data in the ADDITIONAL REQUEST BYTES field so that the CRC field is aligned on a four byte boundary. The contents of the fill bytes are vendor-specific.."

Sequence number: 4

Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    9.4.2 SMP_REQUEST frame, third paragraph after Table 102 - SMP_REQUEST frame format
    Change the parenthetical to "(1 024 bytes of data plus a 24-bytes header plus a 4-byte CRC)."

Sequence number: 5
Author: SEG Coomesj
Date: 12/30/2002 1:20:37 PM
Type: Highlight
    ACCEPT - DONE
    9.4.2 SMP_REQUEST frame
    Why is this not 1 024?

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.1 SMP overview
    The statement << Other target ports >> should be << Target ports >>.

Sequence number: 7
Author: IBM
Date: 1/22/2003 5:38:38 PM
Type: Highlight
    ACCEPT - DONE (globally changed target port to SMP target port or SSP target port or STP target port, and initiator port to SMP
    initiator port or SSP initiator port or STP initiator port)
    Figure 100
    The label << Target port >> should be << Expander port or Target port >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.2 SMP_REQUEST frame
    The statement << length is based on the function >> should be << length is based on the function >> length is determined by the
    selected function >>.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    ACCEPT - DONE
    Table 102
    There needs to be a row labeled << Fill bytes in Needed >> added to this table.

Sequence number: 10
Author: KnowledgeTek
Date: 12/31/2002 1:29:00 PM
Type: Highlight
    ACCEPT - DONE
    9.4.2 SMP_Request Frame
    1 023 bytes sb 1 024 bytes.

Sequence number: 11
Author: DSS
Date: 1/11/2003 4:52:11 PM
Type: Note
    ACCEPT - DONE (reference to 10.3.1 added)
    55. (T) Section 9.4.2, second paragraph after table 102. Where is FUNCTION
    described?

Sequence number: 12
Author: DSS
Date: 1/11/2003 4:50:42 PM
Type: Note
    ACCEPT - DONE (1023 fixed to 1024)
    56. (T) Section 9.4.2, third paragraph after table 102. Should be 1 024
    bytes based on description of max

size frame?

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 4:02:19 PM
Type: Note
> ACCEPT - DONE (but worded as being responded to)
> 9.4.3 SMP_RESPONSE frame
> Add a new second paragraph after Table 103 - SMP_RESPONSE frame format: "The FUNCTION field specifies which function is being requested (see 10.3.1.1)."

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 1:14:31 PM
Type: Highlight
> ACCEPT - DONE
> 9.4.3 SMP_RESPONSE frame, second paragraph after Table 104 - Function results
> Change to: "Fill bytes shall be included at the end of the data in the ADDITIONAL REQUEST BYTES field so that the CRC field is aligned on a four byte boundary. The contents of the fill bytes are vendor-specific.."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
> 9.4.3 SMP_RESPONSE frame, first paragraph after Table 104 - Function results
> Change the parenthetical to "(1 024 bytes of data plus a 24-bytes header plus a 4-byte CRC)."

Sequence number: 4
Author: SEG Coomesj
Date: 12/30/2002 1:21:02 PM
Type: Highlight
> ACCEPT - DONE
> 9.4.3 SMP_RESPONSE frame
> Why is this not 1 024?

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> 9.4.3 SMP_RESPONSE frame
> global for SMP
> The statement << the target port >> should be << the target port or expander port >> or << destination port >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
> ACCEPT - DONE
> Table 103
> There needs to be a row labeled << Fill bytes if Needed >> added to this table.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
> ACCEPT - DONE
> 9.4.3 SMP_RESPONSE frame
> There is no description of what the << FUNCTION >> field is. This needs to be fixed.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
> ACCEPT - DONE (with no xref)

9.4.3 SMP_RESPONSE frame
The statement << requested, and are described in the
model section. >> should be << requested (see x.x.x.). >>

Sequence number: 9
Author: KnowledgeTek
Date: 12/31/2002 1:21:55 PM
Type: Highlight
    ACCEPT - DONE
    9.4.3 SMP_RESOPONSE Frame
    1 023 bytes sb 1 024 bytes

Sequence number: 10
Author: DSS
Date: 1/11/2003 4:48:47 PM
Type: Note
    ACCEPT - DONE (changed 1023 to 1024)
    57. (T) Section 9.4.3, first paragraph after table 104. Should be 1 024 bytes based on description of max
    size frame?

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.1 Overview
    The statement << that process requests from the management application layer and >> should be << that process management
    requests and >> .

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.2.1 Overview
    The statement << processes requests from the management application layer. >> should be << processes management requests.
    >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.2.1 Overview
    The term << communicated >> should be << sent >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.2.1 Overview
    The statement << in a return confirmation. >> should be <<as a confirmation. >>.

Sequence number: 5
Author: DSS
Date: 1/11/2003 4:48:15 PM
Type: Note
    REJECT
    58. (T) Subclause 9.4.4 describes an implementation of subclauses 9.4.1
    through 9.4.3. This is
    inappropriate for normative text and should be removed.

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Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight

9.4.4.2.1 Overview (for Initiator device state machine)
Figure 101 - SMP transport layer state machine - initiator device
change <Connection Closed> to "Transmission Status"

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight

9.4.4.2 Initiator device state machine
9.4.4.2.1 Overview
Figure 101 — SMP transport layer state machine - initiator device (MT_ID)
remove <Connection
Closed> and th pink arrow

Sequence number: 3
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight

9.4.4.2.2.2 Transition MT_ID1:Idle to MT_ID2:Send
Why is the initiator connection tag included when the SMP transfer is interlocked?

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout

9.4.4.2.2.1 State description
The statement << from the management application layer. >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight

9.4.4.2.2.1 State description
The statement << of values to be used in the CONNECTION RATE, INITIATOR
CONNECTION TAG, DESTINATION SAS ADDRESS, and SOURCE SAS ADDRESS fields in the OPEN address frame, and
the FUNCTION and ADDITIONAL REQUEST BYTES fields in the SMP_REQUEST frame. >> should list the actual values, not the
fields they go into, in an a,b,c list like the ones in the several of the other ST state descriptions.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight

9.4.4.2.3.2 Transition MT_ID2:Send to MT_ID1:Idle
Replace "and sending" with "and after sending".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/11/2003 5:22:49 PM
Type: Highlight

ACCEPT - DONE
9.4.4.3.1 Overview
Replace "MT_TD2:Send" with "MT_TD2:Respond".

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight

9.4.4.2.3.2 Transition MT_ID2:Send to MT_ID1:Idle
change <Connection Closed> to "Transmisssion Status (Connection Lost)"

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
　　9.4.4.2.4.2 Transition MT_ID3:Receive to MT_ID1:Idle
　　change <Connection Closed> to "Transmission Status (Connection Lost)"

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
　　9.4.4.2.4.1 State description
　　The statement << from the port layer >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　9.4.4.3.1 Overview
　　The statement << is communicated from the port layer and that confirmation is sent to the management
　　application layer. >> should be << is sent to the management
　　application layer. >>.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
　　9.4.4.2.3.1 State description
　　The statement << received in the MT_ID1:Idle to MT_ID2:Send transition, >> should be deleted.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　9.4.4.2.3.1 State description
　　The statement << frame using the function and additional request bytes arguments >> should be << frame using the received
　　function and additional request bytes arguments >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　9.4.4.2.3.1 State description
　　The statement << used for the CONNECTION RATE, INITIATOR CONNECTION TAG, DESTINATION SAS ADDRESS, and
　　SOURCE SAS ADDRESS fields in the OPEN address frame >> should list the actual values, not the fields they go into, in an a,b,c
　　list like the ones in the several of the other ST state descriptions.

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　The statement << after a Transmission Status (SMP Frame Transmitted) confirmation is received. >> should be << after receiving
　　a Transmission Status (SMP Frame Transmitted) confirmation. >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
　　9.4.4.2.4.1 State description
　　The statement << This state shall initialize a SMP frame receive time out timer to a vendor-specific time and start the timer upon
　　entry into this state. >> should be << Upon
　　entry into this state, this state shall initialize a SMP frame receive time out timer to a vendor-specific time and start the timer. >>

Sequence number: 12
Author: IBM
Date: 1/21/2003 12:12:21 PM
Type: Highlight
　　9.4.4.2.4.2 Transition MT_ID3:Receive to MT_ID1:Idle
　　The statement

<< a) an Frame Received (SMP) confirmation is received, and, as a result, this state has sent an SMP Frame Pair Sent/Received confirmation to the management application layer;

b) a Connection Closed or Frame Received (SMP Failure) confirmation is received, and, as a result, this state has sent an SMP Frame Tx/Rcv Failure confirmation to the management application layer; or

c) the SMP frame receive time out timer is exceeded before a SMP Frame Pair Sent/Received confirmation is received, and, as a result, this state has sent an SMP Frame Receive Time out confirmation to the management application layer and has sent an SMP Transmit Break request to the port layer. >> should be

<< a) receiving a Frame Received (SMP) confirmation and after sending an SMP Frame Pair Sent/Received confirmation to the management application layer;

b) receiving a Connection Closed or Frame Received (SMP Failure) confirmation and after sending an SMP Frame Tx/Rcv Failure confirmation to the management application layer; or

c) the SMP frame receive time out timer times out before a SMP Frame Pair Sent/Received confirmation is received and after this state has sent an SMP Frame Receive Timeout confirmation to the management application layer and has sent an SMP Transmit Break request to the port layer. >>

Sequence number: 13
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.3.1 Overview
    The term << forwards >> should be << sends >>.

Sequence number: 14
Author: LSI Brian Day
Date: 1/21/2003 12:08:57 PM
Type: Note
    ACCEPT - TODO (global check initiator bit in other state machines. Say that the initiator bit shall be set to one.)
    9.4.4.2.3.1 State description
    page 264
    Add INITIATOR field into sentence, to read "... CONNECTION RATE, INITIATOR, INITIATOR CONNECTION TAG, ..."

Sequence number: 15
Author: LSI Brian Day
Date: 1/21/2003 12:12:57 PM
Type: Note
    ACCEPT - TODO (also see IBM comment; check globally for past tense in transitions)
    9.4.4.2.4.2 Transition MT_ID3:Receive to MT_ID1:Idle
    page 264
    Change all occurances of "has sent" to "shall send" in items a), b), and c).

Sequence number: 16
Author: LSI Brian Day
Date: 1/11/2003 5:22:51 PM
Type: Note
    ACCEPT - DONE
    9.4.4.3.1 Overview
    page 264
    Change item b) from "MT_TD2:Send" to "MT_TD2:Respond"

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Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Highlight
    9.4.4.3.3.2 Transition MT_TD2:Respond to MT_TD1:Idle
    change <Connection Closed> to "Transmission Status (Connection Lost)"

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    9.4.4.3.1 Overview
    Figure 102 — SMP transport layer (MT) state machines - target device
    Remove <Connection> and the input arrow

Sequence number: 3
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Strikeout
    Closed

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.4.4.3.2.1 State description
    The statement << from the port layer. >> should be deleted.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    9.4.4.3.3.1 State description
    The statement << from the management application layer. >> should be deleted.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.3.2.2 Transition MT_TD1:Idle to MT_TD2:Respond
    The statement << occur after an Frame Received (SMP) confirmation is received, and, as a result, this state
    has sent an SMP Frame Received confirmation to the >> should be << occur after receiving a Frame Received (SMP)
    confirmation   and after sending an SMP Frame Received confirmation to the >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.3.3.1 State description
    The statement << Upon receipt, this state
    shall send a Transmit Frame (SMP) request to the port layer. >> should be a new paragraph and changed to << This state
    shall send a Transmit Frame (SMP) request to the port layer after receiving a Tx SMP Frame request. >>.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    9.4.4.3.3.2 Transition MT_TD2:Respond to MT_TD1:Idle
    The statement
    << a) a Transmission Status (SMP Frame Transmitted) confirmation is received; or
    b) a Connection Closed confirmation is received, and, as a result, this state has sent an SMP Connection Closed confirmation to
    the management application layer. >> should be <<
    a) receiving a Transmission Status (SMP Frame Transmitted) confirmation ; or
    b) receiving a Connection Closed confirmation and after sending an SMP Connection Closed confirmation to the management
    application layer. >>.

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Sequence number: 1
Author: SEG wordenj
Date: 12/30/2002 10:06:53 AM
Type: Note
    This section does not talk about receiving from the transport layer the I_T Nexus loss timer expired or not arguments or the
    connection lost arguments and what to do with them. It should be added.

Page: 267

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.1.1.1 Transport protocol services overview
    The statement << and how each
    transport protocol service is implemented in SSP. >> should be << and the SSP implementation of each
    transport protocol service. >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - requests and confirmations are only used by state machines. This is not referencing a specific state machine.
    10.1.1.1 Transport protocol services overview
    The terms << state machines >> should be deleted as we don't normally refer to state machines only layers.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG - this would result in "request to request"
    10.1.1.2 Send SCSI Command transport protocol service
    The statement << protocol service request to have an initiator port >> should be << protocol service request to request an initiator
    port >>

Page: 268

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.2 Send SCSI Command transport protocol service
    The statement << shows how the arguments to the Send SCSI Command transport protocol service are used. >> should be <<
    shows the usage of the Send SCSI Command transport protocol service arguments. >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.3 SCSI Command Received transport protocol service
    The statement << shows how the arguments to the SCSI Command Received transport protocol service are
    determined. >> should be << shows the usage of the SCSI Command Received transport protocol service arguments >>

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - the only other place is 9.2.5.1 which is a summary of error handling with cross references to the home of each rule.
    This is the "normative" location for this rule (bridging to SAM-3) and is pointed to by 9.2.4.5 and elsewhere.
    10.1.1.3 SCSI Command Received transport protocol service
    The statement << If a target port calls SCSI Command Received () with a TAG already in use (i.e., an overlapped command), the
    device server responses are defined in SAM-3. >> should be deleted as the tag checking rules are defined elsewhere in this
    document.

Page: 269

Sequence number: 1
Author: LSI John Lohmeyer

Date: 12/30/2002 5:41:02 PM
Type: Highlight
    ACCEPT - DONE
    10.1.1.5 Command Complete Received transport protocol service
    First paragraph. Replace "not" with "to".

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.4 Send Command Complete transport protocol service
    The statement << shows how the arguments to the Send Command Complete transport protocol service are used. >> should be
    << shows the usage of the Send Command Complete transport protocol service arguments. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG - this would result in "response to request"
    10.1.1.4 Send Command Complete transport protocol service
    The statement << have a target port transmit >> should be << request a target port transmit >>.

Sequence number: 4
Author: DSS
Date: 1/11/2003 4:48:04 PM
Type: Note
    REVIEW PROTOCOL WG
    ACCEPT - DONE (reworded with DATAPRES)
    59. (T) Table 108. There is no RSPVALID field in the RESPONSE frame.

Page: 270

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.5 Command Complete Received transport protocol service
    The statement << shows how the arguments to the Command Complete Received transport protocol service are
    determined. >> should be << shows the usage of the Command Complete Received transport protocol service arguments. >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (globally)
    10.1.1.6 Send Data-In transport protocol service
    The term << I_T_L_Q >> should be << I_T_L_Q nexus >> in all cases.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG - this would result in "request to request"
    10.1.1.6 Send Data-In transport protocol service
    The statement << have a target port transmit >> should be << request a target port transmit >>.

Sequence number: 4
Author: DSS
Date: 1/11/2003 4:47:59 PM
Type: Note
    REVIEW PROTOCOL WG
    ACCEPT - DONE (reworded with DATAPRES)
    60. (T) Table 109. There is no RSPVALID field in the RESPONSE frame.

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - no improvement
10.1.1.6 Send Data-In transport protocol service
The statement << shows how the arguments to the Send Data-In transport protocol service are used. >> should be << shows the usage of the Send Data-In transport protocol service arguments. >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - no improvement
10.1.1.7 Data-In Delivered transport protocol service
The statement << shows how the arguments to the Data-In Delivered transport protocol service are determined. >> should be << shows the usage of the Data-In Delivered transport protocol service arguments. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE (globally)
10.1.1.8 Receive Data-Out transport protocol service
The term << I_T_L_Q >> should be << I_T_L_Q nexus >> in all cases.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
ACCEPT - DONE (changed "returned" to "completed successfully" - this means the device server is waiting for the function call to be invoked by the target port.)
10.1.1.8 Receive Data-Out transport protocol service
The statement << A device server shall not call Receive Data Out () for a given I_T_L_Q until Data Out Received () has returned for the previous Receive Data Out () call (i.e., no XFER_RDY until all write DATA frames for the previous XFER_RDY frame, if any, and has provided link layer acknowledgement for all of the previous write DATA frames for that I_T_L_Q). >> does not parse I think it should be << A device server shall not call Receive Data Out () for a given I_T_L_Q nexus until Data Out Received () has been returned for the previous Receive Data Out () call (i.e., no XFER_RDY sent until all write DATA frames for the previous XFER_RDY frame, if any, and have been provided by link layer acknowledgements for all of the previous write DATA frames for that I_T_L_Q nexus). >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REFER EDITORS WG - this would result in "request to request"
10.1.1.7 Data-In Delivered transport protocol service
The statement << have a target port transmit >> should be << request a target port transmit >>.

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 5:56:41 PM
Type: Highlight
REFER PROTOCOL WG - brings to light another problem - the Q is really the "tag of task to be managed" field not the "tag" field, and both I_T_L and I_T_L_Q are supported (I_T would be too if TARGET RESET were supported). Review fixes with WG.
10.1.1.10 Send Task Management Request transport protocol service
Replace the service request with the correct one:
"Send Task Management Request (IN (Nexus, Function Identifier))"

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.8 Receive Data-Out transport protocol service
    The statement << shows how the arguments to the Receive Data-Out transport protocol service are used. >> should be << shows the usage of the Receive Data-Out transport protocol service arguments. >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.9 Data-Out Received transport protocol service
    The statement << shows how the arguments to the Data-Out Received transport protocol service are determined. >> should be << shows the usage of the Data-Out Received transport protocol service arguments. >>.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG - request to request
    10.1.1.10 Send Task Management Request transport protocol service
    The statement << have an initiator port transmit >> should be << request an initiator port transmit >>.

Sequence number: 5
Author: PostLB
Date: 12/30/2002 6:05:57 PM
Type: Highlight
    ACCEPT - DONE
    10.1.1.8 Receive Data-Out
    Table 112 - Receive Data-Out args
    usd should be used

Page: 273

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 6:03:26 PM
Type: Highlight
    ACCEPT - DONE
    10.1.1.11 Task Management Request Received transport protocol service
    Replace the service indication with the correct one:
    "Task Management Request Received (IN (Nexus, Function Identifier))"

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG - response to request
    10.1.1.12 Task Management Function Executed transport protocol service
    The statement << have a target port transmit >> should be << request a target port transmit >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - no improvement
    10.1.1.10 Send Task Management Request transport protocol service
    shows how the arguments to the Send Task Management Request transport protocol service are used. >> should be << shows the usage of the Send Task Management Request transport protocol service arguments. >>.

Sequence number: 4
Author: IBM

Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - no improvement
10.1.1.11 Task Management Request Received transport protocol service
The statement << shows how the arguments to the Task Management Request Received transport protocol service
are determined. >> should be << shows the usage of the Task Management Request Received transport protocol service
arguments. >>.

Sequence number: 5
Author: IBM
Date: 1/13/2003 7:55:45 PM
Type: Strikeout
ACCEPT - TODO (delete this paragraph).
10.1.1.11 Task Management Request Received transport protocol service
The statement << If a target port calls Task Management Request Received () with a TAG already in use, the device server
responses are defined in SAM-3. >> should be deleted as the tag checking rules are defined elsewhere in this document.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 6:04:06 PM
Type: Highlight
ACCEPT - DONE
10.1.1.12 Task Management Function Executed transport protocol service
Replace the service response with the correct one:
"Task Management Function Executed (IN (Nexus, Service Response))"

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/31/2002 9:30:05 AM
Type: Highlight
ACCEPT - DONE
10.1.1.13 Received Task Management Function-Executed transport protocol service
Replace the service confirmation with the correct one:
"Received Task Management Function Executed (IN (Nexus, Service Response))"

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - no improvement
10.1.1.12 Task Management Function Executed transport protocol service
The statement << shows how the arguments to the Task Management Function Executed transport protocol service
are used. >> should be << shows the usage of the Task Management Function Executed transport protocol service arguments. >>.

Sequence number: 4
Author: DSS
Date: 1/11/2003 4:47:54 PM
Type: Note
REVIEW PROTOCOL WG
ACCEPT - DONE (reworded with DATAPRES)
61. (T) Table 116. There are no RSPVALID or SNSVALID fields in the RESPONSE
frame.

Sequence number: 5
Author: PostLB
Date: 1/13/2003 7:45:43 PM
Type: Highlight
ACCEPT - TODO (Jan WG: make TASK MANAGEMENT FUNCTION FAILED map to service delivery or target failure)
Table 116 - Task Management Function Executed arguments
"d) The RESPONSE
frame SNSVALID bit is set to one."
is this the correct indication of severe failure for a task management function?

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - no improvement
10.1.1.13 Received Task Management Function-Executed transport protocol service
The statement << shows how the arguments to the Received Task Management Function-Executed transport protocol service are determined. >> should be << shows the usage of the Received Task Management Function-Executed transport protocol service arguments. >>.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
ACCEPT - DONE
10.1.2 Device server error handling
The information in this section could be placed in a single table. This should make the presentation of the error information easier to determine.
<< If a device server calls Receive Data-Out () and receives a Delivery Result that indicate a deliver failure the device server shall respond as shown in table xx.
Table xx - Response to Delivery Result DELIVERY FAILURE
Columns would be: Delivery Result : Status : Sense Key : Additional sense code: >>

Sequence number: 3
Author: DSS
Date: 1/11/2003 4:47:44 PM
Type: Note
REVIEW PROTOCOL WG
ACCEPT - DONE (reworded with DATAPRES)
62. (T) Table 117. There are no RSPVALID or SNSVALID fields in the RESPONSE
frame.

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
10.1.3 Application client error handling
Third paragraph. The "()" should not be allowed to wrap onto a new line. Does Frame have an equivalent function to Word's non-breaking space?

Sequence number: 2
Author: IBM
Date: 1/13/2003 8:34:29 PM
Type: Strikeout
REFER EDITORS WG (ACCEPT - TODO)
10.1.3 Application client error handling
The statement << it determines the ACK for the RESPONSE frame was seen by the target port. This is indicated by: >> should be deleted. The workings of the lower layers is not needed here.
Change to:
shall not use the tag until it determines the tag is no longer in use by the logical unit (e.g., the ACK for the RESPONSE frame was seen by the target port). Examples of ways the app client may determine when a tag may be reused are:
a) b) c)

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
REFER EDITORS WG

The statement << If an application client calls Send SCSI Command () and an initiator port calls Command Complete Received ()
and delivers a Service Response of Service Delivery of Target Failure - ACK/NAK Timeout, the application client shall send a
QUERY TASK task management function with Send Task Management Request () to determine whether the command was
received successfully. If Received Task Management Function Executed () returns a Service Response of FUNCTION
SUCCEEDED, the application client shall assume the
command was delivered successfully. If it returns a Service Response of FUNCTION COMPLETE, and Command Complete
Received () has not yet been called a second time for the command in question, the application client shall assume the command
was not delivered successfully and may reuse the tag. >> is very awkward. There must be a better way to present this information.
May by some kind of table like the one suggested in the target error handling suggested in the above comment.

Sequence number: 4
Author: DSS
Date: 1/13/2003 7:57:32 PM
Type: Note
    REFER PROTOCOL WG
    63. (T) Section 10.1.3, last paragraph and unordered list. This paragraph is placing a requirement on an application client that
    involves knowledge of activities not seen at that
    level.

Sequence number: 5
Author: LSI Brian Day
Date: 1/21/2003 12:15:16 PM
Type: Note
    TODO (find comment about tag reuse elsewhere and apply here)
    10.1.3 Application client error handling
    page 276
    Last paragraph implies a specific implementation, and does not cover the cases when the connection is broken. Recommend to
    remove last paragraph.
    Alternately say that the method the application client uses to reuse tags is outside the scope of this standard.

Page: 277

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/31/2002 1:02:44 PM
Type: Highlight
    ACCEPT - DONE
    ACCEPT - DONE
    10.1.6.1.1 Disconnect-Reconnect mode page overview
    First paragraph. Replace "(e.g., as if the mode page is implemented and the field is set to zero)" with "(i.e., as if the field in the
    mode page is implemented and the field is set to zero)".

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (data that shall be returned is described)
    10.1.5.1 INQUIRY command
    The statement << is modified as described >> should be << by a SAS device is described >>.

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.1.5.4 START STOP UNIT command
    The statement << are modified as described >> should be << by a SAS device is described >>.

Sequence number: 4
Author: DSS
Date: 1/11/2003 4:37:24 PM
Type: Note
    REJECT (the OPEN used to open the connection communicated the full SAS address of the opener and destination. That is used
    for persistent reservations as the "initiator port address".)
    64. (T) Section 10.1.5. Without a port login, the only method available to
    associate persistent reservation to an initiator port is to use the hashed source address. A statement to clarify this should be added

in this subclause. What action should be taken in cases where a conflict
exists?

Sequence number: 5
Author: DSS
Date: 1/13/2003 8:48:23 PM
Type: Note
REJECT (can use OPEN_REJECT (RETRY) to prevent additional initiator-based opens)
65. (T) Section 10.1.5. Similar to SPI, there is no port login function that
can be used by a device to manage each I_T nexus. Unlike SPI, SAS networks can be configured with hundreds of initiators.
How does a device report an error caused by receipt of a command from an initiator when no more resources are available to
manage a new I_T nexus?

Sequence number: 6
Author: DSS
Date: 1/14/2003 11:06:14 AM
Type: Note
REJECT
66. (T) Section 10.1.6.1.1. Unfortunately, there is precedence for this.
However, mode pages are a bad
way to configure the transport layer. It requires too much information be
shared between layers and between logical units, which should not be sharing information. A much better method of configuring
the transport layer was introduced when port logins were added, and that is exactly where the parameters included in this page
belong. Unfortunately again, this transport layer does not include the
concept of a port login, a shortcoming that will undoubtedly be corrected in
future versions causing great interoperability issues for years to come.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 4:05:50 PM
Type: Highlight
ACCEPT - DONE
10.1.6.1.1 Disconnect-Reconnect mode page overview, second paragraph after Table 119 - Disconnect-Reconnect mode page for
SSP
Change to: "The PAGE CODE (PS) field shall be set to 02h and the PAGE LENGTH field shall be set to 0Eh."

Page: 279

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.1.6.1.3 MAXIMUM CONNECT TIME LIMIT field
The statement << (i.e., a value of one in this field specifies that the time shall be
less than or equal to 100 µs, a value of two in this field specifies that the time shall be less than or equal to 200
µs, etc.). >> should be << (e.g., a value of one in this field specifies that the time shall be
less than or equal to 100 µs, a value of two in this field specifies that the time shall be less than or equal to 200
µs). >>

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.1.6.1.4 MAXIMUM BURST SIZE field
The statement << (i.e., a value of one in this field specifies that the number
of bytes transferred to the initiator port for the nexus shall be less than or equal to 512, a value of two in this
field specifies that the number of bytes transferred to the initiator port for the nexus shall be less than or equal
to 1 024, etc.). >> should be << (e.g., a value of one in this field specifies that the number

of bytes transferred to the initiator port for the nexus shall be less than or equal to 512, a value of two in this field specifies that the number of bytes transferred to the initiator port for the nexus shall be less than or equal to 1 024). >>

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE (added "frame" after XFER_RDY wherever it was not already followed by "information unit" or used in a signal name)
10.1.6.1.5 FIRST BURST SIZE field
The term << XFER_RDY frame >> is << XFER_RDY >> in many other places in the standard. This needs to be stated one way. I believe just << XFER_RDY >> is used everywhere else.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.1.6.1.5 FIRST BURST SIZE field
The statement << (i.e., a value of one in this field specifies that the number of bytes transferred by the initiator port shall be less than or equal to 512, a value of two in this field specifies that the number of bytes transferred by the initiator port shall be less than or equal to 1 024, etc.). >> should be << (e.g., a value of one in this field specifies that the number of bytes transferred by the initiator port shall be less than or equal to 512, a value of two in this field specifies that the number of bytes transferred by the initiator port shall be less than or equal to 1 024). >>

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.1.6.1.5 FIRST BURST SIZE field
The statement << size, i.e., an initiator port shall transmit no data frames to the target port before receiving an XFER_RDY frame. >> should be << size (i.e., an initiator port shall transmit no data frames to the target port before receiving an XFER_RDY frame). >>

Sequence number: 6
Author: DSS
Date: 1/6/2003 3:38:07 PM
Type: Note
67. (E) Section 10.1.6.1.5, first paragraph. The wording of the last sentence is confusing. Try replacing
"... where the transfer length is specified in the WRITE DATA LENGTH field"
with "where the WRITE DATA LENGTH field is equal to 512 times the FIRST BURST SIZE."

Sequence number: 7
Author: DSS
Date: 1/11/2003 4:33:09 PM
Type: Highlight
68. (T) Section 10.1.6.1.5, fourth paragraph. The last sentence in this paragraph should be removed or the term "this connection" should be clarified.

Page: 280

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 4:08:24 PM
Type: Note
ACCEPT - DONE
10.1.6.2.2 Protocol-Specific Port mode page - short format
Add a paragraph after Table 121 - Protocol-Specific Port Control mode page for SAS SSP - short format: "The PARAMETERS SAVEABLE (PS) bit is defined in SPC-3."

Sequence number: 2

Author: MXO Mark Evans
Date: 12/30/2002 4:08:32 PM
Type: Note
    ACCEPT - DONE
    10.1.6.2.2 Protocol-Specific Port mode page - short format
    Add a paragraph after the description of the SPF field after Table 121 - Protocol-Specific Port Control mode page for SAS SSP -
    short format: "The PAGE CODE field shall be set to 19h."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    10.1.6.2.2 Protocol-Specific Port mode page - short format, second paragraph after Table 121 - Protocol-Specific Port Control
    mode page for SAS SSP - short format
    Delete OPEN_REJECT (CONNECTION RATE NOT SUPPORTED). Other comments make it so that this is no longer a reason for
    I_T nexus loss.

Page: 281

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 4:09:13 PM
Type: Note
    ACCEPT - DONE
    10.1.6.2.3 Protocol-Specific Port mode page - Phy Control And Discover subpage
    Add a paragraph after Table 122 - Protocol-Specific Port Control mode page for SAS SSP - Phy Control And Discover
    subpage: "The PARAMETERS SAVEABLE (PS) bit is defined in SPC-3."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 4:11:49 PM
Type: Note
    ACCEPT - DONE
    10.1.6.2.3 Protocol-Specific Port mode page - Phy Control And Discover subpage
    Add a paragraph after the description of the SPF field after Table 122 - Protocol-Specific Port Control mode page for SAS SSP -
    Phy Control And Discover subpage: "The PAGE CODE field shall be set to 19h."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    10.1.6.2.2 Protocol-Specific Port mode page - short format, second paragraph after Table 121 - Protocol-Specific Port Control
    mode page for SAS SSP - short format
    Delete OPEN_REJECT (CONNECTION RATE NOT SUPPORTED). See the previous comment.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    10.1.6.2.2 Protocol-Specific Port mode page - short format
    The statement << connection time outs before treating it as an I_T nexus loss >> should be << connection time outs before
    creating an I_T nexus loss >>

Sequence number: 5
Author: IBM
Date: 1/14/2003 11:14:51 AM
Type: Highlight
    ACCEPT - DONE
    10.1.6.2.2 Protocol-Specific Port mode page - short format
    ****
    The statement << If the mode page is implemented, the default setting shall be 2 000 ms. >>is a problem. We have never specified
    a default value for a more page value. Why are we going it here? I don't believe we should start now. We could possibly
    recommend the value in a note. Reword to << Note xx: If this mode page is implemented a non-zero default value should be
    specified. It is recommend that this value be 2 000 ms. >>

Sequence number: 6

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    10.1.6.2.2 Protocol-Specific Port mode page - short format
    The statement << indicates the target port shall never consider rejections an I_T nexus loss. >> should be << indicates the target port shall not stop retrying OPEN_REJECT (NO DESTINATION), OPEN_REJECT (CONNECTION RATE NOT SUPPORTED) connection requests.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - there is an SMP table with a field like number of phys that are not followed by descriptors. Why not make it clear? If the field were called "number of phy mode descriptors" I would agree (but I don't want to rename it to that)
    10.1.6.2.3 Protocol-Specific Port mode page - Phy Control And Discover subpage
    The statement << and indicates the number of SAS
    phy mode descriptors that follow. >> is obvious and should be deleted.

Sequence number: 8
Author: PostLB
Date: 12/31/2002 1:11:02 PM
Type: Highlight
    ACCEPT - DONE
    Table 122 - Protocol-specific port Control mode page -Phy Control and Discover subpage
    The byte numbers are off. Byte 4 should be byte 2. 2 more reserved bytes are needed to keep the mode descriptors starting on byte 8.

Sequence number: 9
Author: DSS
Date: 1/11/2003 4:29:17 PM
Type: Note
    ACCEPT - DONE (corrected page layout)
    69. (T) Table 122. What happened to byte 2 and 3?

Sequence number: 10
Author: DSS
Date: 1/11/2003 4:31:09 PM
Type: Note
    REFER PROTOCOL WG
    [comment moved to 10.1.6.2.3 from 6.2.2]
    70. (T) Section 10.1.6.2.3. A description for the PAGE LENGTH field should
    be added that states the
    PAGE LENGTH shall be equal to the (NUMBER OF PHYS value times the SAS phy
    mode descriptor
    length) plus 2 and is not adjusted for truncation.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - listing all the fields will take 1/4 of a page while conveying little useful information. These paragraphs just say they're defined elsewhere.
    10.1.6.2.3 Protocol-Specific Port mode page - Phy Control And Discover subpage
    The statement << The PHY IDENTIFIER field, ATTACHED DEVICE TYPE field, NEGOTIATED PHYSICAL LINK RATE field, ATTACHED SSP INITIATOR bit, ATTACHED STP INITIATOR bit, ATTACHED SMP INITIATOR bit, ATTACHED SSP TARGET bit, ATTACHED STP TARGET bit, ATTACHED SMP TARGET bit, ATTACHED SAS ADDRESS field, SAS ADDRESS field, HARDWARE MINIMUM PHYSICAL LINK RATE field, and HARDWARE MAXIMUM PHYSICAL LINK RATE field are defined in the SMP DISCOVER function (see 10.3.1.4). >> needs to made into an a,b,c list.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT
    10.1.6.2.3 Protocol-Specific Port mode page - Phy Control And Discover subpage
    The statement << The PHY OPERATION field, PROGRAMMED MINIMUM PHYSICAL LINK RATE field, and PROGRAMMED MAXIMUM
    PHYSICAL LINK RATE field are defined in the SMP PHY CONTROL function >> . >> needs to made into an a.b.c list.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - this terminology works better for multiprotocol devices
    Table 124
    The term << Protocol-specific log parameter >> should be changed to << SAS log parameter >> in all cases.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT
    Table 125
    The term << Protocol-specific log parameter >> should be changed to << SAS log parameter >> in all cases.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    Table 126
    Left justify all the entries in the << Description >> column.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT
    10.1.7.1 Protocol-Specific log page for SAS
    The statement << The PHY IDENTIFIER field, ATTACHED DEVICE TYPE
    field, NEGOTIATED PHYSICAL LINK RATE field, ATTACHED SSP
    INITIATOR bit, ATTACHED STP INITIATOR bit, ATTACHED SMP INITIATOR bit, ATTACHED SSP TARGET bit, ATTACHED
    STP TARGET bit, ATTACHED SMP TARGET bit, ATTACHED SAS ADDRESS field, and SAS ADDRESS field are defined in the
    SMP DISCOVER function (see 10.3.1.4). >> needs to made into an a,b,c list.

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Sequence number: 1
Author: LSI John Lohmeyer

Date: 12/30/2002 5:28:32 PM
Type: Note
    ACCEPT - DONE
    10.1.8 SCSI power condition states
    To be consistent with the other subclauses in this standard, add forward references (with links) to the relevant subclauses in the second list (items a through g should point to 10.1.8.1 through 10.1.8.7).

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
    10.1.8 SCSI power condition states, first bulleted list
    Add a line feed before item a).

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    10.1.8 SCSI power condition states, first bulleted list
    Change the text in item a) to: "After power on, if the target device has not received a START STOP UNIT command with the START bit set to zero, the target device transitions to the active power state after receiving an ENABLE SPINUP. The target device transitions to the active state after power on without waiting for an action by the application client."

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
    10.1.8 SCSI power condition states, first bulleted list
    Change the text in item b) to: "After power on, if the target device receives a START STOP UNIT command with the START bit set to zero before receiving an ENABLE SPINUP, the target device shall wait to transition to the active power state until receiving a START STOP UNIT command with the START bit set to one and an ENABLE SPINUP. This delays the application client's request until the NOTIFY (ENABLE_SPINUP) arrives."

Sequence number: 5
Author: SEG Coomesj
Date: 12/30/2002 10:06:33 AM
Type: Highlight
    10.1.8 SCSI power condition states
    SA_PC state machine numbering is not consistent with other state machines. SA_PC state machine start with "0", others start with "1".

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT
    10.1.7.1 Protocol-Specific log page for SAS
    The statement << The INVALID DWORD COUNT field, DISPARITY ERROR COUNT field, LOSS OF DWORD SYNCHRONIZATION field, and PHY RESET PROBLEM COUNT field are each defined in the SMP REPORT PHY ERROR LOG response data (see 10.3.1.5). >> needs to made into an a,b,c list.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Square
    10.1.8 SCSI power condition states
    The statement << a) after power on, if the target device has not received a START STOP UNIT command with the START bit set to zero, transition to the active power condition state after receiving NOTIFY (ENABLE_SPINUP). The target device automatically transitions after power on without waiting for the application client; and
    b) after power on, if the target device has previously received a START STOP UNIT command with the START bit set to zero when it receives a START STOP UNIT command with the START bit set to one, spin-up after receiving the next NOTIFY (ENABLE_SPINUP). The application client's request is effectively delayed until NOTIFY (ENABLE_SPINUP) arrives. >> makes no sense in the context of this section. Something is wrong here and I have no idea what is going on here. This needs to be fixed.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    REJECT - the fact that it is a superset is important

10.1.8 SCSI power condition states
The statement << The SA_PC
state machine is an enhanced version of the logical unit power condition state machines described in SPC-3, SBC-2, and RBC. >>
doesn't add anything to SAS and should be deleted.

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.1.8 SCSI power condition states
    The list of state machines needs cross-references and an indication of the initial state.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 5:11:26 PM
Type: Highlight
    ACCEPT - DONE
    10.1.8 SCSI power condition states
    Figure 103 — SCSI application layer power condition (SA_PC) state machine for SAS
    This state machine looks different from the other state machines. Minimally add the gold box.

Sequence number: 2
Author: SEG wordenj
Date: 12/30/2002 5:09:16 PM
Type: Highlight
    ACCEPT - DONE
    10.1.8.1.3 Transition SA_PC_0:Powered_On to SA_PC_5:Active_Wait
    change <SA_PC_5:Active state.> to
    "SA_PC_5:Active_Wait state."

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    ACCEPT - DONE
    Figure 103
    This drawing needs the orange background and the state machine title in it like all the other state machine drawings in this
    document.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REJECT - states are not always zero time, transitions are. The whole idea of a state is that it is "maintaining state" for some period
    of time
    10.1.8.1.1 State description
    The statement << This state shall be entered upon power on. This state consumes zero time. >> should be << Upon power on this
    state shall be entered. >> All states are zero time so there is no need to state it here.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    10.1.8.2.2 Transition SA_PC_1:Active to SA_PC_2:Idle
    Item c). Replace "Power Condition mode page idle timer expires" with "Power Condition mode page idle condition timer (see
    SPC-3) expires".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
10.1.8.2.3 Transition SA_PC_1:Active to SA_PC_3:Standby
Item c). Replace "Power Condition mode page standby timer expires" with "Power Condition mode page standby condition timer (see SPC-3) expires".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
10.1.8.3.3 Transition SA_PC_2:Idle to SA_PC_3:Standby
Item c). Replace "Power Condition mode page standby timer expires" with "Power Condition mode page standby condition timer (see SPC-3) expires".

Sequence number: 4
Author: MXO Mark Evans
Date: 1/6/2003 9:48:55 AM
Type: Highlight
ACCEPT - DONE
10.1.8.2.2 Transition SA_PC_1:Active to SA_PC_2:Idle, and several other places in this clause
"FORCE IDLE" is named "FORCE_IDLE_0" in the proposal to include this in SBC-2 (02-464).

Sequence number: 5
Author: MXO Mark Evans
Date: 1/6/2003 9:49:24 AM
Type: Highlight
ACCEPT - DONE
10.1.8.2.3 Transition SA_PC_1:Active to SA_PC_3:Standby, and several other places in this clause
"FORCE STANDBY" is named "FORCE_STANDBY_0" in the proposal to include this in SBC-2 (02-464).

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Highlight
10.1.8.2.3 Transition SA_PC_1:Active to SA_PC_3:Standby, bulleted list
Change item c) to: "the STANDBY bit is set to one in the Power Condition mode page, the standby condition timer is not disabled by a START STOP UNIT command, and the standby condition timer is zero."

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 5:25:05 PM
Type: Highlight
REJECT - I'd rather keep the details of expiration in the SPC-3 model/bit descriptions
10.1.8.3.3 Transition SA_PC_2:Idle to SA_PC_3:Standby, bulleted list
Change item c) to: "the STANDBY bit is set to one in the Power Condition mode page, the standby condition timer is not disabled by a START STOP UNIT command, and the standby condition timer is zero"

Sequence number: 8
Author: IBM
Date: 1/25/2003 4:51:27 PM
Type: Highlight
REJECT
10.1.8.2.2 Transition SA_PC_1:Active to SA_PC_2:Idle
The term << expires.>> should be << timed out >>.

Sequence number: 9
Author: IBM
Date: 1/25/2003 4:51:16 PM
Type: Highlight
REJECT
10.1.8.2.3 Transition SA_PC_1:Active to SA_PC_3:Standby
The term << expires.>> should be << timed out >>

Sequence number: 10
Author: IBM
Date: 1/25/2003 4:51:07 PM
Type: Highlight

REJECT
10.1.8.3.3 Transition SA_PC_2:Idle to SA_PC_3:Standby
The term << expires.>> should be << timed out >>.

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/11/2003 5:27:55 PM
Type: Note
REFER PROTOCOL WG (agree should accept this)
10.1.8.4.3 Transition SA_PC_3:Standby to SA_PC_5:Active_Wait, bulleted list
Add an item to the list: "a START STOP UNIT command with the START bit set to one is received."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 5:15:58 PM
Type: Note
REJECT - We reviewed this in 02-360 and the group agreed that stop should not be exited by timer-related events.
10.1.8.5.2 Transition SA_PC_4:Stopped to SA_PC_3:Standby, bulleted list
Add an item to the list: "a START STOP UNIT command with the POWER CONDITION field set to FORCE_STANDBY_0 is received."

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - that requirement is for SBC-2 to state, not this standard.
10.1.8.5.1 State description
The statement << This state is only implemented >> should be << This state shall only implemented >>

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
10.1.8.6.3 Transition SA_PC_5:Active_Wait to SA_PC_3:Standby
Item c). Replace "Power Condition mode page standby timer expires" with "Power Condition mode page standby condition timer (see SPC-3) expires".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 9:52:19 AM
Type: Highlight
REJECT - already referenced in the intro
10.1.8.6.5 Transition SA_PC_5:Active_Wait to SA_PC_6:Idle_Wait
Item c). Replace "Power Condition mode page idle timer expires" with "Power Condition mode page idle condition timer (see SPC-3) expires".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/6/2003 9:52:59 AM
Type: Highlight
REJECT - already referenced in the intro
10.1.8.7.3 Transition SA_PC_6:Idle_Wait to SA_PC_3:Standby
Item c). Replace "Power Condition mode page standby timer expires" with "Power Condition mode page standby condition timer (see SPC-3) expires".

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 5:16:05 PM

Type: Note
REJECT - We reviewed this in 02-360 and the group agreed that stop should not be exited by timer-related events.
10.1.8.5.4 Transition SA_PC_4:Stopped to SA_PC_6:Idle_Wait, bulleted list
Add an item to the list: "a START STOP UNIT command with the POWER CONDITION field set to FORCE_IDLE_0 is received."

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 5:19:26 PM
Type: Highlight
REJECT - the idle bit could be set to 1 yet the standby timer could still expire. It depends on what the timers are programmed to. I'd rather just say "the timer expires" here are let the bit definitions/model section in SPC-3 describe what that means.
10.1.8.6.3 Transition SA_PC_5:Active_Wait to SA_PC_3:Standby, bulleted list
Change item c) to: "the IDLE bit is set to zero in the Power Condition mode page, the STANDBY bit is set to one in the Power Condition mode page, the standby condition timer is not disabled by a START STOP UNIT command, and the standby condition timer is zero."

Sequence number: 6
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
10.1.8.6.3 Transition SA_PC_5:Active_Wait to SA_PC_3:Standby, bulleted list
Add item d) to the list: "the IDLE bit is set to zero in the Power Condition mode page, the STANDBY bit is set to one in the Power Condition mode page, the standby condition timer is zero, and a command completes."

Sequence number: 7
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
10.1.8.6.5 Transition SA_PC_5:Active_Wait to SA_PC_6:Idle_Wait, bulleted list
Add item d) to the list: "the IDLE bit is set to one in the Power Condition mode page, the idle condition timer is not disabled by a START STOP UNIT command, and the idle condition timer is zero."

Sequence number: 8
Author: MXO Mark Evans
Date: 12/30/2002 5:21:07 PM
Type: Highlight
REJECT - the idle bit could be set to 1 yet the standby timer could still expire. It depends on what the timers are programmed to. I'd rather just say "the timer expires" here are let the bit definitions/model section in SPC-3 describe what that means.
10.1.8.7.3 Transition SA_PC_6:Idle_Wait to SA_PC_3:Standby,
bulleted list
Change item c) to: " the IDLE bit is set to zero in the Power Condition mode page, the STANDBY bit is set to one in the Power Condition mode page, the standby condition timer is not disabled by a START STOP UNIT command, and the standby condition timer is zero."

Sequence number: 9
Author: MXO Mark Evans
Date: 12/30/2002 10:07:32 AM
Type: Note
10.1.8.7.3 Transition SA_PC_6:Idle_Wait to SA_PC_3:Standby, bulleted list
Add item d) to the list: "the IDLE bit is set to zero in the Power Condition mode page, the STANDBY bit is set to one in the Power Condition mode page, the standby condition timer is zero, and a command completes."

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.1.8.6.1 State description
The statement << This state is only implemented >> should be << This state shall only implemented >>.

Sequence number: 11
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
10.1.8.6.2 Transition SA_PC_5:Active_Wait to SA_PC_1:Active
****
The statement << the device does not temporarily consume additional power during the transition to SA_PC_1:Active. >> should be << the device does not temporarily consume additional power as a result of a transition to SA_PC_1:Active. >> but I don't understand what this is all about. The statement itself tells me nothing. This needs to be fixed.

Sequence number: 12
Author: IBM
Date: 1/25/2003 4:51:53 PM
Type: Highlight
    REJECT
    10.1.8.6.3 Transition SA_PC_5:Active_Wait to SA_PC_3:Standby
    The term << expires.>> should be << timed out >>

Sequence number: 13
Author: IBM
Date: 1/25/2003 4:52:02 PM
Type: Highlight
    REJECT
    10.1.8.6.5 Transition SA_PC_5:Active_Wait to SA_PC_6:Idle_Wait
    The term << expires.>> should be << timed out >>.

Sequence number: 14
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.1.8.7.1 State description
    The statement << This state is only implemented >> should be << This state shall only implemented >>

Sequence number: 15
Author: IBM
Date: 1/22/2003 5:40:16 PM
Type: Highlight
    REJECT (going with expires everywhere)
    10.1.8.7.3 Transition SA_PC_6:Idle_Wait to SA_PC_3:Standby
    The term << expires.>> should be << timed out >>

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
    10.1.9 SCSI vital product data
    Table 128 - Device Identification VPD page required identification descriptors
    The target device name should follow the common string format being proposed in 02-419 (if that is accepted by CAP).
    Only SAS-only devices should be required to use the "naa." format name for a target device name.
    Similarly, only SAS-only devices should be required to use the NAA binary formats for logical unit names.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (but added VPD to the acronym list and "(VPD)" to the 1.1.9 section header, its first use)
    10.1.9 SCSI vital product data
    The statement << the Device Identification vital product data (VPD) page (83h) >> should be << the Device Identification VPD
    page (83h) >>

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (twice)
    Table 128
    The statement << The IDENTIFIER field contains the SAS address of the target port being used to run the INQUIRY command. >>
    should be << The IDENTIFIER field contains the SAS address of the target port though which the INQUIRY command was
    received. >>

Sequence number: 1
Author: HP relliott
Date: 1/22/2003 9:36:19 AM
Type: Note
    ACCEPT - TODO (1/21 call voted to accept 03-034r4)
    10.3.1 SMP functions
    Add a GENERAL CONTROL function 80h. See 03-034.
    It has bits to
    reset internal targets of each protocol
    clear affiliation of an internal STP target

Sequence number: 2
Author: IBM
Date: 1/22/2003 9:36:44 AM
Type: Strikeout
    REFER PROTOCOL WG
    10.3.1.1 Function overview
    The statement << The CRC field is included in each frame, although that field is parsed by the link layer. >> should be deleted as it
    is information that is stated else where and should not be here.

Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:37:46 PM
Type: Note
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    Add two paragraphs after Table 130 - REPORT GENERAL request:
    1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
    2) "The FUNCTION field shall be set to 00h (see 9.4.2)."

Sequence number: 1
Author: HP relliott
Date: 12/30/2002 3:25:49 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    EXPANDER ROUTE INDEXES paragraph
    ...route indexes PER PHY
    also note that some phys may not reach this limit

Sequence number: 2
Author: HP relliott
Date: 12/30/2002 3:24:21 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    Table 131 - REPORT GENERAL response
    The row labeled byte 28 should be labeled byte 11.

Sequence number: 3
Author: HP relliott
Date: 12/30/2002 3:24:14 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function

Table 131 - REPORT GENERAL response
The first row labeled byte 31 should be labeled byte 27.

Sequence number: 4
Author: MXO Mark Evans
Date: 12/30/2002 2:38:04 PM
Type: Note
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    Add two paragraphs after Table 131 - REPORT GENERAL response:
    1) "The SMP FRAME TYPE field shall be set to 41h." and
    2) "The FUNCTION field shall be set to 00h."

Sequence number: 5
Author: MXO Mark Evans
Date: 12/30/2002 3:22:54 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function, paragraph before Table 131 - REPORT GENERAL response
    Remove the indent from, remove the bulleted number from, and add a line feed after this sentence.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    The statement << 1) Table 131 defines the response format. >> should not have a << 1) >> in it. This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    The statement << for either of the following reasons: >> should be << for the following reasons: >>

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    ACCEPT - DONE
    10.3.1.2 REPORT GENERAL function
    The << EXPANDER ROUTE INDEXES field >> and the << CONFIGURABLE ROUTE TABLE>> need some cross references to
    where the expander route table is defined and the configurable route table is defined.

Sequence number: 9
Author: DSS
Date: 1/6/2003 3:39:26 PM
Type: Note
    ACCEPT - DONE
    71. (E) Section 10.3.1.2, paragraph immediately preceding table 131. This
    paragraph should not be
    numbered.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:38:18 PM
Type: Note
    ACCEPT - DONE
    10.3.1.3 REPORT MANUFACTURER INFORMATION function
    Add two paragraphs after Table 132 - REPORT MANUFACTURER INFORMATION request
    1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
    2) "The FUNCTION field shall be set to 01h (see 9.4.2)."

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 3:30:21 PM
Type: Highlight
REJECT - only "edge routers" have to have tables. An edge device could have only direct routing ports and thus no table.
10.3.1.2 REPORT GENERAL function, fifth paragraph after Table 131 - REPORT GENERAL response
Change the first part of the sentence from, "If an edge expander device supports an expander route table, then..." to "For an edge expander device," as an edge expander shall support this field.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 3:28:30 PM
Type: Highlight
ACCEPT - DONE
10.3.1.2 REPORT GENERAL function, sixth paragraph after Table 131 - REPORT GENERAL response
Change the first part of the sentence from, "If a fanout expander device supports an expander route table, then..." to "For an fanout expander device," as a fanout expander shall support this field.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.3.1.2 REPORT GENERAL function
<< table that
shall be configured. >> should be << table that
is required to be configured. >>

Sequence number: 5
Author: PostLB
Date: 12/30/2002 3:29:19 PM
Type: Note
10.3.1.2 REPORT GENERAL
What does configurable mean for a fanout expander? Is it required to support the REPORT ROUTE function even if it is self-programming?

Sequence number: 6
Author: Vixel
Date: 1/25/2003 10:59:31 AM
Type: Strikeout
REJECT - DONE (but change "equal to the number of phys" to "equal to the number of addressable phys")
Clause 10.3.1.2
This requirement is an implementation issue and should not be in the standards. Remove this.

Sequence number: 7
Author: Vixel
Date: 1/14/2003 5:30:03 PM
Type: Strikeout
ACCEPT - TODO (Jan WG vote)
Clause 10.3.1.2
This fanout expander requirement is an implementation issue and should not be in the standards. Remove this.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 3:32:41 PM
Type: Note
ACCEPT - DONE
10.3.1.3 REPORT MANUFACTURER INFORMATION function
Add two paragraphs after Table 133 - REPORT MANUFACTURER INFORMATION response
1) "The SMP FRAME TYPE field shall be set to 41h." and
2) "The FUNCTION field shall be set to 01h."

Sequence number: 2

Author: MXO Mark Evans
Date: 12/30/2002 2:38:26 PM
Type: Highlight
ACCEPT - DONE
10.3.1.3 REPORT MANUFACTURER INFORMATION function
After Table 133 - REPORT MANUFACTURER INFORMATION response: delete the paragraph describing the ADDITIONAL
LENGTH field, as there is no field of this name in table 133.

Sequence number: 3
Author: SEG wordenj
Date: 1/22/2003 9:25:55 AM
Type: Note
ACCEPT - DONE (removed the field per Jan WG)
10.3.1.3 REPORT MANUFACTURER INFORMATION function
the <ADDITIONAL LENGTH field> location is not listed in table 133 - report manufacture information response

Sequence number: 4
Author: IBM
Date: 1/22/2003 9:35:00 AM
Type: Highlight
ACCEPT - DONE (Jan WG; with mods per 03-060; George will propose that SPC-3 use "shall" here too)
10.3.1.3 REPORT MANUFACTURER INFORMATION function
****
The statement << The vendor identification string should be one defined >> should be << The vendor identification string shall be
as defined >>

Sequence number: 5
Author: KnowledgeTek
Date: 12/31/2002 1:28:51 PM
Type: Highlight
ACCEPT - DONE (removed paragraph)
10.3.1.3 REPORT MANUFACTURER INFORMATION function.
This paragraph does not apply and should be deleted or the field does apply and needs to be added to table 133.
The ADDITIONAL LENGTH field indicates the length in bytes of the parameters, including the ADDITIONAL
LENGTH field. If the ADDITIONAL REQUEST BYTES of the SMP_REQUEST is too small to transfer all of the
parameters, the ADDITIONAL LENGTH shall not be adjusted to reflect the truncation.

Sequence number: 6
Author: PostLB
Date: 1/25/2003 5:41:04 PM
Type: Note
REFER EDITORS WG
ASCII strings shouldn't have (MSB)/(LSB) labels. Strings are arrays of 8-bit bytes. Each byte has an MSB/LSB. The string
doesn't as a whole. [an array of dwords wouldn't be labeled thusly]

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/21/2003 7:12:39 PM
Type: Highlight
ACCEPT - TODO (Jan WG)
10.3.1.4 DISCOVER function
Second paragraph below table 134. Why not use a FUNCTION RESULT of PHY DOES NOT EXIST, which we define in table 136?

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 2:38:35 PM
Type: Note
ACCEPT - DONE
10.3.1.4 DISCOVER function
Add two paragraphs after Table 134 - DISCOVER request:
1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
2) "The FUNCTION field shall be set to 10h (see 9.4.2)."

Sequence number: 3

Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    The statement << by the phy, as well as the routing attribute supported >> should be << by the phy and the routing attribute supported >>

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    REFER EDITORS WG - I'm inclined to reject; small caps are good for a value closely related to the field
    10.3.1.4 DISCOVER function
    global
    The usage of small caps should be limited to field names only. The use when talking about the value is not correct (e.g., NUMBER OF PHYS and FUNCTION RESULT) here. This needs to be fixed.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:38:43 PM
Type: Note
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    Add two paragraphs after Table 134 - DISCOVER response:
    1) "The SMP FRAME TYPE field shall be set to 41h." and
    2) "The FUNCTION field shall be set to 10h."

Sequence number: 2
Author: PostLB
Date: 1/25/2003 5:39:50 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    Change SATA TARGET to SATA DEVICE

Sequence number: 3
Author: PostLB
Date: 1/21/2003 7:12:05 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    Change Reserved bit to ATTACHED SATA HOST
    An ATTACHED SATA HOST bit of one indicates a SATA host is attached. A bit of zero ...
    NOTE: Support for SATA hosts is outside the scope of this standard.
    (from Bill Galloway, Pivot3)

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 3:47:44 PM
Type: Highlight
    ACCEPT - DONE (also rearranged OPEN and IDENTIFY address frame fields in ch7)
    10.3.1.4 DISCOVER function, after Table 137 - Routing attributes
    Move the description of the ATTACHED DEVICE TYPE field to be before the description of the ROUTING ATTRIBUTE field so that they are in the common-practice order of their appearance in the table (i.e., top to bottom and left to right).

Sequence number: 2
Author: MXO Mark Evans

Date: 1/6/2003 9:56:45 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 Discover, paragraph after Table 138 - Attached device types
    The second sentence is unclear. Reword this to be something like: "The negotiated physical link rate may be less than the programmed minimum physical link rate or greater than the programmed maximum physical link rate if one of the programmed rates has been changed since the link reset sequence."

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    The statement << complete (when a SAS device is attached) or after the initial Register - Device to Host FIS has been received (when a SATA device is attached). >> should be << complete if a SAS device is attached or after the initial Register - Device to Host FIS has been received if a SATA device is attached. >>

Sequence number: 4
Author: IBM
Date: 1/21/2003 7:10:12 PM
Type: Highlight
    ACCEPT - DONE (see Vixel comment: second sentence removed, "method" added into descriptions in table)
    10.3.1.4 DISCOVER function
    The statement << The ROUTING ATTRIBUTE field shall not change based on the attached device type. The routing method used by the expander connection manager shall change based on the attached device type as described in table 137. >> If not clear as to the point that is trying to be made. This needs to be fixed or deleted.

Sequence number: 5
Author: Vixel
Date: 1/21/2003 7:09:40 PM
Type: Highlight
    ACCEPT - DONE (use the term "method" in the table Descriptions. Change the Name column to use "attribute" too. Then delete this sentence)
    Clause 10.3.1.4
    This sentence is confusing because of the sentence it immediately follows. It appears to describe something that is not related to the table. It would be clearer if this sentence was made a separate paragraph, or a note.

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Sequence number: 1
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
    10.3.1.4 DISCOVER function
    "The ATTACHED SAS ADDRESS field contains the SAS address of the attached phy."
    It's really the SAS address of the attached port, as reported by the attached phy.

Sequence number: 2
Author: HP relliott
Date: 12/30/2002 10:06:58 AM
Type: Highlight
    10.3.1.4 DISCOVER function
    "The SAS ADDRESS field contains the SAS address of this phy."
    It's really the address reported by this phy, not the address of this phy.

Sequence number: 3
Author: LSI John Lohmeyer
Date: 12/30/2002 10:07:04 AM
Type: Highlight
    10.3.1.4 DISCOVER function
    The paragraph between tables 138 and 139 wraps onto the next page even though there is room on the previous page for the whole paragraph.

Sequence number: 4
Author: MXO Mark Evans

Date: 1/6/2003 10:04:57 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    Part one: change the order of the following field descriptions so that they are in the common-practice order of their appearance in the table (i.e., top to bottom and left to right): PROGRAMMED MINIMUM PHYSICAL LINK RATE, HARDWARE MINIMUM PHYSICAL LINK RATE, PROGRAMMED MAXIMUM PHYSICAL LINK RATE, and HARDWARE MAXIMUM PHYSICAL LINK RATE.

Sequence number: 5
Author: MXO Mark Evans
Date: 1/6/2003 10:04:08 AM
Type: Highlight
    REJECT - duplicate comment
    10.3.1.4 Discover, paragraph after Table 138 - Attached device types
    Part two of the previous comment, and move this part of the sentence to be with the previous part.

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (see Maxtor resolution)
    10.3.1.4 DISCOVER function
    In the statement << link rate if they have been >> what it the << they >> referring to. This needs to be fixed.

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
    Table 139
    The statement << in its local data structures >> should be deleted as that kind of data structure is not defined anywhere.

Sequence number: 8
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    REJECT - these sentences just refer to the other bits for their meaning. Will add cross references to the IDENTIFY address frame.
    10.3.1.4 DISCOVER function
    All the << The xxx bit indicates the xxx value received during the link reset sequence. >> should be for example<< An ATTACHED SSP INITIATOR bit set to one indicates an SSP initiator is attached. An ATTACHED SSP INITIATOR bit set to zero indicates an SSP initiator is not attached. >>

Sequence number: 9
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    The statement << completes, when a SAS device is attached; >> should be << completes if a SAS device is attached; >>

Sequence number: 10
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    The statement << completes, when a SATA device is attached; >> should be << completes if a SATA device is attached; >>

Sequence number: 11
Author: PostLB
Date: 1/6/2003 10:01:44 AM
Type: Note
    10.3.1.4 DISCOVER function
    Mention what the ATTACHED SAS ADDRESS field contains if a SATA target is attached

Sequence number: 12
Author: DSS
Date: 1/6/2003 3:40:06 PM
Type: Note

72. (T) Section 10.3.1.4, the paragraphs below table 139 that describe the
SAS ADDRESS field.
According to the definition of SAS Address in 3.1.99, Phys don't have SAS
Addresses. These must be
either the SAS address of the Port or the device.

Sequence number: 13
Author: PostLB
Date: 1/21/2003 4:45:06 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    The a) b) list belongs to ATTACHED SAS ADDRESS not SAS ADDRESS. The SAS ADDRESS field itself should always be
known.

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/6/2003 10:08:24 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.4 DISCOVER function
    Part two: change the order of the following field descriptions so that they are in the common-practice order of their appearance in
the table (i.e., top to bottom and left to right): PROGRAMMED MINIMUM PHYSICAL LINK RATE, HARDWARE MINIMUM
PHYSICAL LINK RATE, PROGRAMMED MAXIMUM PHYSICAL LINK RATE, and HARDWARE MAXIMUM PHYSICAL LINK
RATE.

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 10:07:56 AM
Type: Note
    ACCEPT - DONE
    10.3.1.5 REPORT PHY ERROR LOG function
    Add two paragraphs after Table 141 - REPORT PHY ERROR LOG request:
    1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
    2) "The FUNCTION field shall be set to 11h (see 9.4.2)."

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 2:39:03 PM
Type: Note
    ACCEPT - DONE
    10.3.1.5 REPORT PHY ERROR LOG function, first paragraph after Table 141 - REPORT PHY ERROR LOG request
    Add a sentence to the paragraph: "If the value is not within the range of zero to NUMBER OF PHYS (see 9.4.4.2), the target port
shall return a FUNCTION RESULT of SMP FUNCTION FAILED in the response frame."

Sequence number: 4
Author: IBM
Date: 1/14/2003 7:34:27 PM
Type: Highlight
    ACCEPT - TODO (Jan WG)
    10.3.1.4 DISCOVER function
    The statement << The default value for PARTIAL PATHWAY TIMEOUT VALUE shall be 7 µs. >> is a problem. We have never
specified a default value for a mode page value. Why are we going it here? I don't believe we should start now. We could possibly
recommend the value in a note. Reword to << Note xx: If this function is implemented a it is recommend that this value be 7 µs. >>

Sequence number: 5
Author: PostLB
Date: 1/21/2003 4:43:05 PM
Type: Note
    ACCEPT - DONE
    10.3.1.5 DISCOVER function
    The default value shall be the hardware ... physical link rate.

Sequence number: 6

Author: PostLB
Date: 1/25/2003 5:18:40 PM
Type: Note
   10.3.1.4 DISCOVER function
   Open issue pending other comments
   for DISCOVER page, make 0 value on the programmed rates mean "not programmable"

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:39:12 PM
Type: Note
   ACCEPT - DONE
   10.3.1.5 REPORT PHY ERROR LOG function
   Add two paragraphs after Table 142 - REPORT PHY ERROR LOG response:
   1) "The SMP FRAME TYPE field shall be set to 41h." and
   2) "The FUNCTION field shall be set to 11h."

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:39:29 PM
Type: Note
   ACCEPT - DONE
   10.3.1.6 REPORT PHY SATA function
   Add two paragraphs after Table 144 - REPORT PHY SATA request:
   1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
   2) "The FUNCTION field shall be set to 12h (see 9.4.2)."

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 10:13:54 AM
Type: Note
   ACCEPT - DONE
   10.3.1.5 REPORT PHY ERROR LOG function
   Add the following paragraph after the paragraph describing the FUNCTION RESULT field: "The PHY IDENTIFIER field indicates
   the phy (see 4.2.6) for which physical configuration link information is being returned."

Sequence number: 3
Author: MXO Mark Evans
Date: 1/6/2003 10:12:30 AM
Type: Highlight
   ACCEPT - DONE
   10.3.1.5 REPORT PHY ERROR LOG function, the three paragraphs below Table 143 - Function results for REPORT PHY
   ERROR LOG
   Delete the parentheses around the phrase "outside of phy reset sequences".

Sequence number: 4
Author: SEG Coomesj
Date: 1/25/2003 5:18:06 PM
Type: Highlight
   REFER PROTOCOL WG (I hate to put a state machine reference crossing all the layers here...)
   10.3.1.5 REPORT PHY ERROR LOG function
   The meaning of "outside of phy reset sequences" is not specific.
   Suggest substituting:
   "while PhyReady is valid from the SP state machine" each counter in this clause to be more specific.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM

Type: Highlight
ACCEPT - DONE
10.3.1.5 REPORT PHY ERROR LOG function
The statement << have been received (outside of phy reset sequences). >> should be << have been received outside of phy reset sequences. >>

Sequence number: 6
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.3.1.5 REPORT PHY ERROR LOG function
The statement << have been received (outside of phy reset sequences). >> should be << have been received outside of phy reset sequences. >>

Sequence number: 7
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
10.3.1.5 REPORT PHY ERROR LOG function
The statement << has been lost (outside of phy reset sequences). >> should be << has been lost outside of phy reset sequences. >>.

Sequence number: 8
Author: KnowledgeTek
Date: 12/31/2002 1:28:25 PM
Type: Highlight
ACCEPT - DONE (they stop at the maximum and do not wrap)
10.3.1.5 REPORT PHY ERROR LOG function
None of the following fields indicates if the field wraps or freezes at max count.
INVALID DWORD COUNT
DISPARITY ERROR COUNT
LOSS OF DWORD SYNCHRONIZATION COUNT
PHY RESET PROBLEM COUNT

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:39:41 PM
Type: Note
ACCEPT - DONE
10.3.1.6 REPORT PHY SATA function
Add two paragraphs after Table 145 - REPORT PHY SATA response:
1) "The SMP FRAME TYPE field shall be set to 41h." and
2) "The FUNCTION field shall be set to 12h."

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 10:16:53 AM
Type: Note
ACCEPT - DONE
10.3.1.6 REPORT PHY SATA function, first paragraph after Table 144 - REPORT PHY SATA request
Add a sentence to the paragraph: "If the value is not within the range of zero to NUMBER OF PHYS (see 9.4.4.2), the target port shall return a FUNCTION RESULT of SMP FUNCTION FAILED in the response frame."

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Sequence number: 1
Author: MXO Mark Evans
Date: 1/6/2003 10:14:29 AM

Type: Note
    ACCEPT - DONE
    10.3.1.6 REPORT PHY SATA function
    Add the following paragraph after Table 146 - Function results for REPORT PHY SATA: "The PHY IDENTIFIER field indicates the
    phy (see 4.2.6) for which physical configuration link information is being returned."

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 10:19:06 AM
Type: Strikeout
    ACCEPT - DONE
    10.3.1.7 REPORT ROUTE INFORMATION function, first paragraph
    In the last sentence, delete "primarily".

Sequence number: 3
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (with "may be used")
    10.3.1.7 REPORT ROUTE INFORMATION function
    The statement << This function is used primarily as a diagnostic tool to resolve
    topology issues. >> should be << This function is used to resolve topology issues. >>

Sequence number: 4
Author: PostLB
Date: 12/30/2002 2:30:56 PM
Type: Highlight
    ACCEPT - DONE
    Table 146 - Function results for REPORT PHY SATA
    11h PHY DOES NOT SUPPORT SATA should mention "rest of data is invalid"

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:39:53 PM
Type: Note
    ACCEPT - DONE
    10.3.1.7 REPORT ROUTE INFORMATION function
    Add two paragraphs after Table 147 - REPORT ROUTE INFORMATION request:
    1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
    2) "The FUNCTION field shall be set to 13h (see 9.4.2)."

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.7 REPORT ROUTE INFORMATION function
    The statement << the table routing attribute (see 4.x.x.x) the >> needs a real cross reference.

Sequence number: 3
Author: DSS
Date: 1/6/2003 3:41:12 PM
Type: Note
    ACCEPT - DONE
    73. (E) Section 10.3.1.7, third paragraph below table 147. Reference numbers
    need to be fixed.

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Sequence number: 1

Author: MXO Mark Evans
Date: 12/30/2002 2:40:01 PM
Type: Note
    ACCEPT - DONE
    10.3.1.7 REPORT ROUTE INFORMATION function
    Add two paragraphs after Table 148 - REPORT ROUTE INFORMATION response:
    1) "The SMP FRAME TYPE field shall be set to 41h." and
    2) "The FUNCTION field shall be set to 13h."

Sequence number: 2
Author: PostLB
Date: 12/30/2002 10:41:13 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.7 REPORT ROUTE INFORMATION
    Table y should be Table 148

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 11:36:48 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.8 CONFIGURE ROUTE INFORMATION function
    Second paragraph below table 150. The link to 9.4.4.2 is wrong and does not work.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 2:40:09 PM
Type: Note
    ACCEPT - DONE
    10.3.1.8 CONFIGURE ROUTE INFORMATION function
    Add two paragraphs after Table 150 - CONFIGURE ROUTE INFORMATION request:
    1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
    2) "The FUNCTION field shall be set to 90h (see 9.4.2)."

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/6/2003 10:20:45 AM
Type: Highlight
    ACCEPT - DONE (fixed the reference)
    10.3.1.8 CONFIGURE ROUTE INFORMATION function
    Third paragraph below table 150. Either find the subclause number for the see 4.x.x.x reference or delete it.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/6/2003 10:20:14 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.8 CONFIGURE ROUTE INFORMATION function
    Paragraph between tables 151 and 152. The reference to table 149 should be to table 152.

Sequence number: 3
Author: MXO Mark Evans
Date: 12/30/2002 2:40:17 PM
Type: Note
    ACCEPT - DONE
    10.3.1.8 CONFIGURE ROUTE INFORMATION function
    Add two paragraphs after Table 151 - CONFIGURE ROUTE INFORMATION response:

1) "The SMP FRAME TYPE field shall be set to 41h." and
2) "The FUNCTION field shall be set to 90h."

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    10.3.1.8 CONFIGURE ROUTE INFORMATION function
    The statement << the table routing attribute (see 4.x.x.x) the >> needs a real cross reference.

Sequence number: 5
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
    REJECT - in this response there is no such data to worry about - just the CRC
    Table 152
    What happened to the << rest of data is invalid. >> statement in the two descriptions. It should be stated here also.

Sequence number: 6
Author: DSS
Date: 1/6/2003 3:41:03 PM
Type: Note
    ACCEPT - DONE
    74. (E) Section 10.3.1.8, third paragraph after table 150. Reference numbers
    need to be fixed.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:40:26 PM
Type: Note
    ACCEPT - DONE
    10.3.1.9 PHY CONTROL function
    Add two paragraphs after Table 153 - PHY CONTROL request:
    1) "The SMP FRAME TYPE field shall be set to 40h (see 9.4.2)." and
    2) "The FUNCTION field shall be set to 91h (see 9.4.2)."

Sequence number: 2
Author: MXO Mark Evans
Date: 1/6/2003 10:24:14 AM
Type: Highlight
    ACCEPT - DONE
    10.3.1.9 PHY CONTROL function
    After Table 153 - PHY CONTROL request: move the paragraph describing the CRC field to the end of the clause so that it is in the
    common-practice order of its appearance in the table (i.e., top to bottom and left to right).

Sequence number: 3
Author: MXO Mark Evans
Date: 1/6/2003 10:18:15 AM
Type: Note
    ACCEPT - DONE
    10.3.1.9 PHY CONTROL function, first paragraph after Table 153 - PHY CONTROL request
    Add a sentence to the paragraph: "If the value is not within the range of zero to NUMBER OF PHYS (see 9.4.4.2), the target port
    shall return a FUNCTION RESULT of SMP FUNCTION FAILED in the response frame."

Sequence number: 4
Author: PostLB
Date: 1/25/2003 5:17:01 PM
Type: Note
    10.3.1.9 PHY control function
    Options discussed at Jan WG:
    * write enable bits for min+max rate, and pptv in byte 11 (Bill votes for this) DISCOVER returns these as 1 if they are writable.
    or:
    phy operations of:

set PPTV (uses pptv field)
link reset (uses rate field)
hard reset (uses rate field)
or:
phy operation to return changeable fields like mode pages

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Sequence number: 1
Author: IBM
Date: 1/21/2003 4:41:38 PM
Type: Highlight
ACCEPT - DONE
10.3.1.9 PHY CONTROL function
The << PROGRAMMED MINIMUM PHYSICAL LINK RATE field >> and << PROGRAMMED MAXIMUM PHYSICAL LINK RATE
field >> need to be described in separate paragraphs.

Sequence number: 2
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT (but raises a bigger issue filed as a PostLB comment)
10.3.1.9 PHY CONTROL function
The statement << may be set beforehand >> should be << may be sent in an operation other than a LINK RESET operation before
a LINK RESET is sent. >>

Sequence number: 3
Author: PostLB
Date: 1/21/2003 4:37:21 PM
Type: Highlight
TODO (make value of 0h be "no change" is a good idea, but may be overcome by a solution for both link rate fields and PPTV)
10.3.1.9 PHY CONTROL function
The programmed link rate fields shall be set in the same request where a LINK RESET or HARD RESET operation is invoked.
There's no code that means "no change".

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:32:23 PM
Type: Note
ACCEPT - DONE
10.3.1.9 PHY CONTROL function
Add two paragraphs after Table 156 - PHY CONTROL response:
1) "The SMP FRAME TYPE field shall be set to 41h." and
2) "The FUNCTION field shall be set to 91h."

Sequence number: 2
Author: KnowledgeTek
Date: 1/9/2003 5:56:09 PM
Type: Highlight
ACCEPT - DONE (it is updated regardless)
10.3.1.9 PHY CONTROL function
PARTIAL PATHWAY TIMEOUT VALUE description does not state if this value is always update or not regardless of phy operation
requested.

Sequence number: 3
Author: PostLB
Date: 1/25/2003 5:17:17 PM
Type: Note
10.3.1.9 PHY control function
Option discussed at Jan protocol WG: add a PHY OPERATION to set the PPTV. Only if that is selected is this field honored.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
ACCEPT - DONE (this response frame doesn't have any "rest of data" to worry about, so removed it from 10h. This comment prompted adding it to one of the REPORT PHY SATA results).
Table 157
What happened to the << rest of data is invalid. >> statement in the two descriptions. It should be stated here also.

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Sequence number: 1
Author: MXO Mark Evans
Date: 12/30/2002 2:26:13 PM
Type: Highlight
ACCEPT - DONE
A.1 Compliant jitter test pattern (CJTPAT), first paragraph
In the first sentence change "low-density pattern" to "low transition density pattern" in two places.

Sequence number: 2
Author: MXO Mark Evans
Date: 12/30/2002 2:40:49 PM
Type: Highlight
REFER PHY WG
A.1 Compliant jitter test pattern (CJTPAT), paragraph below Table A.1- CJTPAT for RD+
Change this paragraph to be something like: "If the same 8b characters are used when there is negative running disparity (RD-) and when there is positive running disparity, the resulting 10b pattern generated for each disparity type is different. 8b characters used when there is RD- may not provide the critical phase shifts as the same characters used when there is RD+. To achieve the same phase shift effects with RD- as with RD+, a different 8b pattern is required to be used for each disparity type."

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
ACCEPT - DONE
A.1 Compliant jitter test pattern (CJTPAT)
The statements << The second column (8b data dword) lists the >> and << The third column (Scrambler output dword) lists >> and << The fourth column (Scrambled 8b data dword) shows >> need to reference the table to which they are referencing.

Page: 321

Sequence number: 1
Author: SEG Alvin E Cox
Date: 12/30/2002 10:14:14 AM
Type: Highlight
ACCEPT - DONE
A.1 Compliant jitter test pattern (CJTPAT)
Case of the next to the last character is incorrect. 35B5A9Edh should be 35B5A9EDh

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Sequence number: 1
Author: SEG Alvin E Cox
Date: 12/30/2002 10:14:40 AM
Type: Highlight
    ACCEPT - DONE
    A.1 Compliant jitter test pattern (CJTPAT)
    Case of the next to the last character is incorrect. 8CF328Eah should be 8CF328EAh

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Sequence number: 1
Author: SEG Alvin E Cox
Date: 12/30/2002 10:16:34 AM
Type: Highlight
    ACCEPT - DONE
    A.1 Compliant jitter test pattern (CJTPAT)
    Case of the next to the last character is incorrect. AFF087Ebh should be AFF087EBh

Sequence number: 2
Author: SEG Alvin E Cox
Date: 12/30/2002 10:16:29 AM
Type: Highlight
    ACCEPT - DONE
    A.1 Compliant jitter test pattern (CJTPAT)
    Case of the next to the last character is incorrect. E21035Efh should be E21035EFh

Page: 324

Sequence number: 1
Author: LSI John Lohmeyer
Date: 12/30/2002 2:24:46 PM
Type: Highlight
    ACCEPT - DONE
    B.1 SAS phy reset sequence examples
    In the first paragraph, replace "Figure A.1" with "Figure B.1".

Sequence number: 2
Author: LSI John Lohmeyer
Date: 12/30/2002 2:24:52 PM
Type: Highlight
    ACCEPT - DONE
    B.1 SAS phy reset sequence examples
    In the first paragraph below figure B.1, replace "Figure A.2" with "Figure B.2".

Sequence number: 3
Author: LSI John Lohmeyer
Date: 1/8/2003 6:11:13 PM
Type: Highlight
    ACCEPT - DONE (An ordered list works much better. Also tossed the "valid" and "invalid" wording.)
    B.1 SAS phy reset sequence examples
    First paragraph, last sentence. This sentence does not make sense. Consider replacing "...(invalid), that phy then selects..." with
    "...(invalid). Both phys then select...".

Sequence number: 4
Author: SEG wordenj
Date: 12/30/2002 2:24:35 PM
Type: Highlight
    ACCEPT - DONE
    B.1 SAS phy reset sequence examples

change <phy B> to
"phy A" ?????

Sequence number: 5
Author: SEG Coomesj
Date: 12/30/2002 10:19:02 AM
Type: Highlight
    ACCEPT - DONE
    B.1 SAS phy reset sequence examples
    Figure A.1
    S.B.
    Figure B.1

Sequence number: 6
Author: SEG Coomesj
Date: 12/30/2002 1:18:07 PM
Type: Highlight
    ACCEPT - DONE
    B.1 SAS phy reset sequence examples
    Figure A.2
    S.B.
    Figure B.2

Sequence number: 7
Author: LSI Brian Day
Date: 1/21/2003 4:15:08 PM
Type: Note
    ACCEPT - DONE (all 3 parts)
    Annex B
    page 324
    Replace references to figures A.1 and A.2 to B.1 and B.2 respectively. (DONE)
    In Figure B.1, sequence for Phy A Tx/ Phy B Rx should say "Not supported by phy A". (DONE)
    For consistency, swap the sequences so that Figures B.1 and B.2 are consistent as far as which Rx/Tx is shown on top. (In B.1,
    Phy A Rx is shown on top, where in B.2 Phy A Tx is shown on top).   (DONE)

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/8/2003 6:11:27 PM
Type: Highlight
    ACCEPT - DONE (An ordered list works much better. Also tossed the "valid" and "invalid" wording.)
    B.1 SAS phy reset sequence examples
    Paragraph above Figure B.2, last sentence. This sentence does not make sense. Consider replacing "...invalid), that phy then
    selects..." with "...invalid). Both phys then select...".

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE (deleted the whole paragraph)
    C.1 CRC generator and checker implementation examples
    The statement << 1, 2, and 3 below are included to provide a validation >> needs a more precise. The reference to <<below >>
    needs to be more accurate.

Page: 327

Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 2:20:21 PM
Type: Highlight
    ACCEPT - DONE
    C.3 CRC implementation with XORs
    Change:
    These equations generate the 32 bit CRC for frame transmission.
    To:
    These equations generate the multiplier function shown in figures C.1 and C.2.

Page: 330

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
    ACCEPT - DONE
    D.1 Hashing overview
    The statement << 4.2.2 describes hashed SAS addresses >> should be << See 4.2.2 for a description of the hashed SAS
    addresses >>

Sequence number: 2
Author: IBM
Date: 1/20/2003 6:12:26 PM
Type: Note
    REJECT (all the decimal points are lined up, which makes these bizarre ISO formatted numbers more readable)
    Table D.1
    Center all the cells.

Sequence number: 3
Author: PostLB
Date: 12/30/2002 2:17:26 PM
Type: Highlight
    ACCEPT - DONE
    D.3 Hash generation
    show should be shown

Sequence number: 4
Author: DSS
Date: 1/17/2003 11:33:47 AM
Type: Note
    REJECT (but added "to help" in 4.2.3)
    75. (T) Annex D. This annex indicates that hashed address collisions should be very infrequent, but they will still happen. What
    action is taken when a collision is detected?

Sequence number: 5
Author: PostLB
Date: 1/23/2003 1:44:43 PM
Type: Highlight
    ACCEPT - DONE
    D.2 Hash collision probability
    and global
    vendor specific should be
    vendor-specific

Sequence number: 6
Author: PostLB
Date: 1/23/2003 1:45:36 PM
Type: Highlight
    ACCEPT - DONE
    D.2 Hash collision probability
    Four models were used for the models for the simulations.
    Add : and an a)b)c)d) list of the four models.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE also changed the may later in the sentence
D.3 Hash generation
The statement << length can be treated as >> should be << length is treated as >>.

Sequence number: 2
Author: PostLB
Date: 1/23/2003 1:47:59 PM
Type: Highlight
ACCEPT - DONE
Figure D.1 BCH code generator
The text is 12 pt and should be 10 pt

Page: 332

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
D.5 Hash implementation with XORs
The statement << 24-bit HASHED SAS ADDRESS field for the SSP frame >> should be << 24-bit hashed SAS address for the SSP frame >> .

Page: 333

Sequence number: 1
Author: PostLB
Date: 1/24/2003 9:10:22 AM
Type: Note
ACCEPT - DONE
D.6 Hash examples
Add all-0s and all-Fs examples
Add some examples that hash to the same value

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Strikeout
ACCEPT - DONE
E.1 Scrambler implementation in C
The term << specified >> should be deleted.

Sequence number: 2
Author: PostLB
Date: 12/30/2002 1:15:12 PM
Type: Highlight
ACCEPT - DONE
E Scrambling

Figure E.1 — Scrambler
Figure is using 8 point font; should be 10 point.

Sequence number: 3
Author: PostLB
Date: 12/30/2002 1:15:03 PM
Type: Note
ACCEPT - DONE
E Scrambling
Hanging paragraph at top of annex

Sequence number: 4
Author: PostLB
Date: 1/8/2003 1:27:12 PM
Type: Note
ACCEPT - DONE
E Scrambling
figure E.1 Scrambler
Need to add an arrow on the line going into the left side of
the Context register box

Page: 339

Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 10:25:08 AM
Type: Highlight
ACCEPT - DONE
F.1 STP differences from SATA
Add:
h) BIST activated frames not supported.

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Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
REJECT - why use 11 characters when 4 suffice?
F.3 Byte and bit ordering
The statement << Thus, the first byte contains the least >> should be << As a result the first byte contains the least >>

Page: 341

Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 1:08:59 PM
Type: Highlight
ACCEPT - DONE
F.3 Byte and bit ordering, Figure F2
change byte order to:
(4th : 3rd : 2nd : 1st)
to match Figure F.3

Sequence number: 2
Author: SEG Coomesj
Date: 12/30/2002 1:09:06 PM
Type: Highlight
ACCEPT - DONE

F.3 Byte and bit ordering, Figure F2
change byte order to:
(1st : 2nd : 3rd : 4th)
to match Figure F.3

Page: 343

Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 10:29:24 AM
Type: Highlight
ACCEPT - DONE
G.1 Overview, Table G.1
For completeness, continue table to include representations for PHYs W & Z…should be a cut-and-paste of what's there with a replacement of X->W and Y->Z plus device A -> C and B->D.

Sequence number: 2
Author: PostLB
Date: 12/30/2002 10:29:31 AM
Type: Highlight
ACCEPT - DONE
G Expander handling of connections
G.1 Overview
Table G.1 - Column descriptions
RX should be Rx, TX should be Tx

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Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 10:37:23 AM
Type: Highlight
ACCEPT - DONE (in table G.1 instead of here)
G.2 Connection request - Open accept, Figure G.2
Add reference Fig 26 and Fig 27 to help the reader understand how to interpret req/rsp and cnf/ind columns in the figures.

Page: 360

Sequence number: 1
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Highlight
ACCEPT - DONE
H.1 Overview
The statement << Hamming distance (the number of bits different in two patterns) of at least >> should be << Hamming distance (i.e., the number of bits different in two patterns) of at least >>.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 4:56:59 PM
Type: Highlight
ACCEPT - DONE ("initialize before use")
I.2 Header file
The statement << SMP Request, must be initialized >> should be << SMP Request, is initialized >>.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 4:57:33 PM
Type: Highlight
ACCEPT - DONE ("initialize before use")
I.2 Header file
The statement << SMP Response, must be initialized >> should be << SMP Response, is initialized >>

Page: 370

Sequence number: 1
Author: IBM
Date: 1/25/2003 4:58:21 PM
Type: Highlight
ACCEPT - DONE
I.2 Header file
The statement << file will perform the >> should be << file performs the >>.

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Sequence number: 1
Author: SEG Coomesj
Date: 12/30/2002 10:39:18 AM
Type: Highlight
ACCEPT - DONE
I.3 Source file
Should:
header file
Be:
code file

Sequence number: 2
Author: IBM
Date: 1/25/2003 5:04:08 PM
Type: Highlight
ACCEPT - DONE

I.3 Source file
The statement << change primitives will initiate >> should be << change primitives initiate >>.

Sequence number: 3
Author: IBM
Date: 1/25/2003 5:04:32 PM
Type: Highlight
ACCEPT - DONE
I.3 Source file
The statement << discover information will end up >> should be << discover information ends up >>.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 5:05:06 PM

Type: Highlight
    ACCEPT - DONE
    I.2 Header file
    The statement << expander in the chain must be configured >> should be << expander in the chain is configured >>.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 5:07:15 PM
Type: Highlight
    ACCEPT - DONE (removed warning)
    I.2 Header file
    The statement << production code must handle >> should be << production code handles >>. Requirements cannot be in an informative annex.

Sequence number: 2
Author: IBM
Date: 1/25/2003 5:06:29 PM
Type: Highlight
    ACCEPT - DONE (this isn't a requirement it's a warning that the code isn't complete here. Removed, however.)
    I.2 Header file
    The statement << production code must handle >> should be << production code handles >>. Requirements cannot be in informative annex.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 5:08:01 PM
Type: Highlight
    ACCEPT - DONE
    I.3 Source file
    The statement << this routine will add a SAS Address >> should be << this routine adds a SAS Address >>.

Sequence number: 2
Author: IBM
Date: 1/25/2003 5:08:04 PM
Type: Highlight
    ACCEPT - DONE
    I.3 Source file
    The statement << this routine will add a SASAddress >> should be << this routine adds a SASAddress >>.

Sequence number: 3
Author: IBM
Date: 1/25/2003 5:08:07 PM
Type: Highlight
    ACCEPT - DONE
    I.3 Source file
    The statement << this routine will reset the ChainEntry >> should be << this routine resets the ChainEntry >>.

Page: 375

Sequence number: 1
Author: IBM
Date: 1/25/2003 5:08:12 PM
Type: Highlight
    ACCEPT - DONE
    I.3 Source file

The statement << this routine will get the route index >> should be << this routine gets the route index >>.

Sequence number: 2
Author: IBM
Date: 1/25/2003 5:08:15 PM
Type: Highlight
ACCEPT - DONE
I.3 Source file
The statement << this routine will get the >> should be << this routine gets the >>.

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Sequence number: 1
Author: LSI John Lohmeyer
Date: 1/25/2003 5:13:55 PM
Type: Highlight
ACCEPT - DONE
Annex I
Global
There are several places where C comments wrap to the next line. This code will not compile correctly. We need to correct these wrapping comments.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 5:09:13 PM
Type: Highlight
ACCEPT - DONE
I.3 Source file
The statement << this routine will append >> should be << this routine appends >>.

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Sequence number: 1
Author: IBM
Date: 1/25/2003 5:09:23 PM
Type: Highlight
ACCEPT - DONE
I.3 Source file
The statement << DiscoverProcess will get >> should be << DiscoverProcess gets >>.

Sequence number: 2
Author: IBM
Date: 1/25/2003 5:09:51 PM
Type: Highlight
ACCEPT - DONE
I.3 Source file
The statement << we find will naturally move >> should be << we find naturally moves >>.

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Sequence number: 1
Author: HP relliott
Date: 1/25/2003 5:15:13 PM
Type: Highlight

ACCEPT - TODO
Annex J SAS logo
Figure J.1 — SAS logo
The SCSI Trade Association has a new logo for SAS to replace this one.

Sequence number: 2
Author: LSI John Lohmeyer
Date: 1/25/2003 5:15:21 PM
Type: Note
ACCEPT - TODO
Annex J SAS logo
Figure J.1 — SAS logo
We should change this logo to match the one selected by the SCSI Trade Association.

Sequence number: 3
Author: MXO Mark Evans
Date: 1/25/2003 5:14:52 PM
Type: Note
ACCEPT - TODO
Annex J, Figure J.1 - SAS logo
Replace the old logo with the new logo.

Sequence number: 4
Author: IBM
Date: 1/6/2003 6:16:00 PM
Type: Note
REJECT - I see no such header with Acrobat 5.0.5
Annex J
There seems to a bogus frame title at the end of the document. It shows up as an << untitled >> entry in the bookmarks list in
Acrobat which seems to be hyper linked to something on page 172.