802.5t/D2.1B Comment Report

Comment NAJ-27

Section 0.0   **Line** 1   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Title does not reflect the new 802.5t PAR

Solution: Fix it

Response: Question is on line 10 (and others) over the terms "2 pair
cabling and Multimode".

1. Deleted lines 9 and 10.
2. Modified lines 14, 15 and 18 to remove reference to
   "2 pair cabling and multimode fibre".

Comment NAJ-28

Section 0.0   **Line** 1   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: IEEE copyright notice missing

Solution: Add one.

Response: Done.

Comment ANF-01

Section 1.0   **Line** 354   **Severity** Q   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: "Provide static impedance capability defined in 8."

What is this and where is it defined?

Solution: This is copied straight from 1.8.2.2 & 1.8.3.2, so I guess it's actually a
maintenance item?

Response: It was agreed to have KTWilson rewrite 1.6 through 1.10.
See holding item NAJ-30.

Comment BBT-10

Section 1.4　　**Line** 56　　**Severity** A/C　　**Type** TECH　　**Status** ACCEPTED

Highlight To Committe ☑　　**Commenter Agrees?** ☑　　**Editing Complete** ☑

Concern: The reference is the Ethernet base standard, we are only using 802.3u (in 9.8 is the only reference used 802.3u)

802.3u-1995 IEEE Standards for Local and Metropolitan Area Networks: Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications: Media Access Control (MAC) Parameters, Physical Layer, Medium Attachment Units, and Repeater for 100 Mb/s Operation, Type 100 Base-T (Clauses 21-30)

Solution:

Response: First decision is whether reference [17] be eliminated. I do not think so.

Note: Reference numbers [n] are not used anymore in
　　ISO/IEC 8802-5:1998 and ISO/IEC 8802-5:1998 Amd.1.

Thus, add the following reference after line 59.

802.3u-1995 IEEE Standards for Local and Metropolitan Area Networks: Supplement to Carrier Sense Multiple Access with Collision Detection (CSMA/CD) Access Method and Physical Layer Specifications: Media Access Control (MAC) Parameters, Physical Layer, Medium Attachment Units, and Repeater for 100 Mb/s Operation, Type 100 Base-T (Clauses 21-30). This standard is referred to in this addendum as "[802.3u]".

Comment NAJ-30

Section 1.8　　**Line** 71　　**Severity** Q　　**Type** ED　　**Status** ACCEPTED

Highlight To Committe ☐　　**Commenter Agrees?** ☐　　**Editing Complete** ☑

Concern: Why do we have these sections in our document. This is a duplication of Annex A in words *and it is wrong*.

Solution: I suggest we remove these sections, and refer the reader to Annex A.

Response: It was decided to keep the clause 1 conformance statements at a high level and refer the reader to Annex A for a detailed set of statements of conformance their references.

Clauses 1.6 through 1.10 have been rewritten to replace Draft 2.1B lines 70 through 425.

Notes: Reader is referred to Draft 2.2 Clause 1 update
　　　because this change is too long to put response in
　　　this database.

Comment NAJ-31

Section 1.9　　**Line** 421　　**Severity** A/C　　**Type** ED　　**Status** MODIFIED

Highlight To Committe ☐　　**Commenter Agrees?** ☑　　**Editing Complete** ☑

Concern: You can't replace 1.6.1.2 with 13.9.8.1.5, and then delete 1.6.1.2 items g) and h).

Solution: Remove bullet items on lines 422 and 423

Response: It was agreed to have KTWilson rewrite 1.6 through 1.10.
　　　See holding item NAJ-30.

Comment NAJ-33

Section 2.2   **Line** 1   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Page numbering is not consistent with document.

Solution: Should be 2-x.

Response: Fixed page numbers to include clause number.

Comment RJK-01

Section 2.2   **Line** 10   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Comment still outstanding from Draft 2.1.

This section is not "High Media Rate". The description of the MII and the diagrams 2.2.1 and 2.2.2 are only valid at 100Mbit/s. "High Media Rate" is a term used for 100 and higher. The text and diagrams are wrong for 1000Mbit/s.

Solution: Either:
1. Change title of section (and diagrams on lines 55 and 57) from "High Media Rate" to "100Mbit/s", and add a placeholder for clause 2.2.3 1000Mbit/s like we did for 9.8.2.
Or:
2. Keep the title and change the text to remove specific 100Mbit/s bits. Remove over-detailed specific references to MII, MLT-3, (de)scrambler, phantom etc in Figs 2.2.1 and 2.2.2. This level of detail is shown later in diagrams in clause 9.7.

Response: Solution 1 accepted by committee.

The committee decided that KTWilson was to be given the "opportunity" to own this clause.

Comment NAJ-29

Section 2.2   **Line** 17   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: This introduction does not reflect the new 802.5t PAR. For example mulitmode fibre is mentioned, which is not in the PAR.

Solution: Fix it.

Response: Removed reference to "multimode" as done in clause 1.

Modify lines …..

Comment NAJ-32

Section 2.2   **Line** 22   **Severity** A/C   **Type** ED   **Status** REJECTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: List item a) seems to have been subsumed into the paragraph.

Solution: Fix it.

Response: OK in master – PDF problem. Neil Jarvis note this.

Comment ANF-02

Section 2.2 **Line** 33 **Severity** A/C **Type** TECH **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Reference here to PM_STATUS.indication is wrong.

PM_STATUS.indication is only defined within 9.7.2.

Solution: Remove reference to PM_STATUS.indication and reword lines 33 - 36 to read:

"The PMAC/SMAC/PHY internal service interface (PM_CONTROL.request) provides the control mechanism of the PHY functions by the MAC protocol."

Response: Andy and Ken to come up with words for lines 22 through 36 by 9Jul1998.

Andy supplied the following words on 7Jul98:

a. The PMC/PSC internal service interface
   (PM_UNITDATA.request; PM_UNITDATA.indication) defines
   the information exchange between the physical media
   components (PMC) specified in 9.7 and 9.8 and the
   physical signalling components (PSC) specified in 9.8.
   This service interface is defined in 9.8.

b. The PSC/MAC internal service interface
   (PS_UNITDATA.request, PS_UNITDATA.indication) defines
   the information exchange between the physical signalling
   components (PSC) specified in 9.8 and the MAC sublayer
   specified in clauses 9 and 14. Clause 14 defines frame
   formats and station facilities. Clause 9 also specifies
   the C-Port's PMAC and Station's SMAC protocol that uses
   the formats and facilities defined in clause 14 to
   receive and transmit information. This service interface
   is defined in 9.8.

c. The PMAC/SMAC/PHY internal service interface
   (PM_CONTROL.request, PS_CONTROL.request, and
   PS_STATUS.indication) provides the mechanism for controlling
   the PHY functions by the MAC protocol and the mechanism
   for indicating the status of the PHY functions to the
   MAC protocol. PM_CONTROL.request
   is defined in 9.7. PS_CONTROL.request and
   PS_STATUS.indication are defined in 9.8.

As the result of the above words, the PSC block in figures 2.2-1 and 2.2-2 have
been changed to refer to (9.8).

Comment RJK-02

Section 2.2 **Line** 50 **Severity** DIS **Type** ED **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☐ **Editing Complete** ☑

Concern: Comment still outstanding from draft 2.1.

The abbreviation for physical media components is not PHY, it's PMC!

Solution: Change line 50 to read:
"The physical layer (PHY) of the Station and C-Port consists of the physical media
components (PMC), specified in …"

Response: OK - KTWilson will correct.

Comment NAJ-34

Section 2.2   **Line** 54   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Figure 2.2-1 should have a Ring Access Control (RAC) box and an optional Phantom Function box.

Both Stations and C-Ports must support RAC at all rates and media types. From my reading of 5.9, a RAC only supplies the interface to the MAC, and signals the PHY to perform actions. Therefore the RAC is always required, but the PHY may or may not support the actions.

Solution: Add RAC box.

Response: The problem of RAC for DTR has been added as a Amd1 maintenance item list. No changes have been made to 2.2.

Comment NAJ-36

Section 2.2   **Line** 54   **Severity** A/C   **Type** TECH   **Status** REJECTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Figure 2.2-1.

Boxes "MLT-3 Decoder…" and "Scrambler & MLT-3…" do not add anything to this picture, except clutter.

Solution: Remove them.

Response: Committee rejects this comment because they are from [802.3u]. "MLT-3 Decoder" and "Scrambler & MLT-3" are required for copper, but are not used by Fibre (see figure 2.2-2).

Comment NAJ-35

Section 2.2   **Line** 56   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Figure 2.2-2.

Figure needs a Ring Access Control (RAC) box. See comment NAJ-35.

Solution: Add one.

Response: Withdrawn by Neil Jarvis - refer to NAJ-34 for resolution.

Comment SJH-01

Section 9.0   **Line** 70   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: TKP Access Protocol isn't defined by 9.3 - only the entry points into other tables are defined. Text is misleading.

Solution: change to "…and entry into the TKP Access Protocol tables when operating at 4 Mbit/s or 16 Mbit/s."

Response: The confusion is that the definition of the C-Port in Port mode using TKP Access Protocol is spred over three subclauses: 4.3.5 (base standard) and, 9.3 and 9.4 (Amd.1 standard).

Two changes: one to make 9.0 more clear (at least for the present) and the other a ISO/IEC 8802-5:1998 Amd.1 maintenance item.

1. Clarify 9.0: Add the following two sentences immediately following "Mbit/s." on line 71:

   Mbit/s. 9.3 defines the Join, Transmit and Monitor functions for the TXI Access Protocol. 9.3 defines the Join function for the TKP Access Protocol while the Transmit and Monitor functions for the TKP Access Protocol are defined in 9.4."

2. Maintenance item: This will be added as a maintenance item against ISO/IEC 8802-5:1998 Amd.1 as follows.

   For consistency with other subclauses in 9, move all C-Port in Port Mode support of the TKP Access Protocol into subclause 9.4 (except the required 9.3 exit points). This is analogous to REF 1002 on page 9.3-15.

Comment NAJ-37

Section 9.1   **Line** 108   **Severity** Q   **Type** TECH   **Status** ANSWERED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Doesn't this section, in conjunction with item ii) on line 80 mandate that an abort sequence must be transmitted on an octet boundary?

Solution:

Response: Neil has put together Document 07-20 which defines our interpertation of how different transmit and receive abort sequences are handled. This will be sent to implementors via the reflector and the Web-site for their input. Response is needed by 9Jul98.

Vote 07-23 asks for the following words to be added to clause 14:

"An abort sequence shall be transmitted on an octet boundary, but may optionally be transmitted on any nibble boundary in the case of a STATION_ERR or PORT_ERR.

An implementation shall be capable of receiving an abort sequence on any nibble boundary. An implementation may optionally count a frame received with an abort sequence on a non-octet boundary as a line error."

Comment SJH-02

Section 9.1   **Line** 148   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This section talks about FPRPT directly controlling the C-Port's hardware repeat function and transmit state machine. All of these actions occur only when a hardware repeat path is in place. Since we have decided that FPRPT will be set and reset regardless of the type of repeat path in use, the descriptions here need updating to gate on FPRPTO=1.

Solution: Messy. Change FPRPT=1 (line 149) to FPRPT=1 & FPRPTO=1. Similarly with FPRPT=0 on line 151. And on through the text - lines 157, 158, 172, 173

Response: Reword lines 139 and 140 as follows.

    From: "6. The C-Port repeat function, when using the TXI
            Access Protocol and operating at the 4 Mbit/s and
            16 Mbit/s media rates or the High Media Rates, is
            performed as follows."

    To: "6. The C-Port repeat function, when using the TXI
            Access Protocol and operating at the 4 Mbit/s and
            16 Mbit/s media rates, or operating at the High
            Media Rates and the C-Port's option flag FPRPTO=1
            (indicating the hardware repeat path is
            supported), is performed as follows."

    Reword line 148 as follows.

    From: "The following flag, defined in 9.3, is used to
           control the C-Port's repeat function."

    To: "The following flag, defined in 9.3, is used to
           control the C-Port's repeat function when the
           C-Port's option flag FPRPTO=1."

Comment SJH-03

Section 9.1   **Line** 170   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Repeat path isn't allowed to set A and/or C bits in the repeated frame. Implementations must be allowed to set the A & C bits in a repeated frame - especially since this paragraph applies to 4/16 speeds as well as HMR.

Solution: Change line 171 to "…of the E-bit, A bits and C bits, which, if present, may or may not be set)."

Response: Accepted: Change line 171

    From: "of the E-bit, which, if present, may or may not be
          set)."

    To: "of the A-bits, the C-bits and the E-bit, which may
         or may not be set)."

Comment NAJ-38

Section 9.1   **Line** 209   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: 9.1.1.2 should be part of 9.1.1.9, not a subclause on its own.

Solution: Move it?

Response: Committee agreed with this movement.

This item was not done due to the impact upon other subclauses and the lack of time.

This item should be opened as an Editorial correction against 2.2.

Comment NAJ-39

Section 9.1   **Line** 277   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Missing from this list is:
* FA(xxx) set to 0.
* No frames queued for transmission
* No frames queued for reception

Solution: Add items.

<<This is also a maintenance PAR item>>

Response: This will be added to the base and Amd1 maintenance lists.

Add after line 284 the following bullets.
* FA(LMT) and FA(monitor) shall be set to 0.
* All transmit and receive queues shall be flushed.

Comment RJK-03

Section 9.1   **Line** 317   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Properties B and D are still on the same line.

Solution: <CR>

Response: Again, this is correct in the master, but will insure master PDF file is OK before releasing Draft 2.2.

Neil Jarvis: note this item - The same problem existed in 2.1 and 2.1A and hopefully accepting all changes will correct this.

Comment SJH-04

Section 9.1   **Line** 325   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: FR_WITH_ERR is broken. It requies a FR_WITH_ERR to have at least one code violation immediately preceding the ESD.

Solution: Condition M should be changed to:
"Ends with a code violation in both code symbols preceding a valid ESD signal."
And the two conditions on lines 332 and 334 should be:
A & F & H & -M & (-E or -G or -J or -K)

A & -F & H & -M & (-E or -J)

Response: Refer to NAJ-40 for solution.

Comment NAJ-40

Section 9.1   **Line** 325   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Oh dear, this looks like a failure to negate a boolen expression!

M as stated mandates that all FR_WITH_ERR shall have a violation in the last two symbols preceding the ESD signal. NO! Please refer back to RJK-01, which caused this change. Richards words for M were correct.

Solution: Change M to read

M - Ends with at least one hexadecimal value (0 through F) in the two code symbols preceding a valid ESD signal.

Response: Accepted - change line 325 to:

M - Ends with at least one hexadecimal value (0 through F)
      in the two code symbols preceding a valid ESD signal.

Comment RJK-05

Section 9.1   **Line** 332   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This line currently states that *every* FR_WITH_ERR must have a code violation in one of the two code symbols preceding a valid ESD. This is still wrong!

However, there are 2 alternative ways to fix it.

Ideally we would keep definitions exactly as we had for 16/4 so that:

FRAMEa …/D/D/T/R/ = FR/FR_WITH_ERR
FRAMEb …/D/V/T/R/ = FR_WITH_ERR
FRAMEc …/V/V/T/R/ = Aborted so undefined
FRAMEd …/D/D/I/   = Imperfect ESD so undefined

The problem is that we cannot distinguish between FRAMEb and FRAMEe at the MII level. So we cannot have those definitions. There are therefore 2 questions we need to answer:

Q1 - Should we change FRAMEe to be FR_WITH_ERR (ie not what we did for 16/4)? Or should we change FRAMEb to be unclassified/aborted (therefore allowing a single bit error to abort the frame and to not report code violations in ET as FR_WITH_ERR)?
Q2 - How should FRAMEc be classified?

Solution: Line 325 should be:
M — Ends with a code violation in ONLY ONE of the two code symbols preceding a valid ESD signal.

Depending upon our answer to the question above, lines 332-334 should be either:
A & F & H & (M or L) & (M or -E or -G or -J or -K)))
    (for MAC and LLC frames)
A & -F & H & (M or L) & (M or -E or -J)
    (for undefined frame formats)

OR

A & F & H & L & (-E or -G or -J or -K)
    (for MAC and LLC frames)
A & -F & H & L & (-E or -J)
    (for undefined frame formats)
In the latter case, M is not used and it's definition can be deleted.

Response: Resolved by NAJ-40.

Comment NAJ-41

Section 9.1   **Line** 346   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Line errors are only counted if E=0.

Solution: Add text explaining this.

Response: Change line 346 as follows.

```
From: "Media Rate), the frame is not processed other than
       to count the error condition (e.g., Line Error,
       etc.)."

To:    "Media Rate), the frame is not processed other than
       to count the error condition (e.g., Line Error when
       the E-bit=0, etc.)."
```

Comment NAJ-42

Section 9.1   **Line** 347   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: The bullet item "Transmission Errors" is a duplicate of what is stated in 9.1.1.1

Solution: Remove it.

Response: Agreed. KTWilson will rework lines 342 through 346 on page 9.1-10 and delete lines
          347 on page 9.1-10 through 367 on page 9.1-11.

Comment SJH-05

Section 9.1   **Line** 353   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: At HMR, for all types of abort it is permissible to send a frame with an invalid
          FCS and the E bit set.

Solution: Descriptions starting at lines 353 and 356 need to include a second option for
          FMRO>1 (in a similar way to option 3, line 359, which includes two options for
          FPASO).

Response: This item was withdrawn because of the solution provided by item NAJ-42.

Comment NAJ-43

Section 9.1   **Line** 427   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Reading this made me realise that TXI protocol checking is not performed in
          JS=xSHMRTU. Is this intentional? If yes, then make a statement here. If no,
          then add the new states here, and add a whole bunch more transitions to 9.2 and 9.3

Solution:

Response: Words will be added to 9.1.2 on page 9.13 to indicate that during the JS=xHMRTU
          state all frames are ignored.

Comment SJH-06

Section 9.1   **Line** 516   **Severity** A/C   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: The C-Port also stores the PD value from the REG_REQ frame.

Solution: Add at line 521:
4. C-Port saves the Station's requested Phantom Drive (PD) in its Stored Phantom
Drive (SPD).

Response: Add the following after line 520 on page 9.1-16.

4. C-Port saves the Station's Phantom Drive (PD) subvector
value in its Stored Phantom Drive (SPD).

Comment SJH-07

Section 9.1   **Line** 520   **Severity** A/C   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: It says the C-Port doesn't support multiple Individual Addresses. Is this correct?

Solution: Remove sentence if wrong.

Response: This item was withdrawn because it is true that the C-Port does not support
multiple individual addresses.

Comment SJH-08

Section 9.1   **Line** 523   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Start of line is indented too far.

Solution: Remove indent.

Response: Actual problem was that for some reason, item 1 at the end of line 522 on page 9.1-
16 is a not list item as it should do. Corrected this and this fixed above problem.

Comment SJH-09

Section 9.1   **Line** 529   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Doesn't include the response when tradeup is about to start.

Solution: Add:
"…for the TXI Access Protocol, or a value of X'0004' for the High Media Rate
Tradeup Protocol."

Response:

Comment SJH-10

Section 9.1   **Line** 536   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: The text here wants AP_RSP to be equal to its AP_REQ in order for the TXI access
protocol to start. In the case where tradeup is denied, AP_RSP (=0002) will not be
equal to AP_REQ (=0006) but the TXI access protocol will still be established.

Solution: Change text to say "…and its AP_RSP subvector is equal to 0002, the C-Port has
accepted…"
This is what the state tables actually check.

Response: OK.

Comment NAJ-44

Section 9.1   **Line** 553   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Transition 3182 needs to be documented here.

Solution: Do it.

Response: Look up and do it.

Comment NAJ-45

Section 9.1   **Line** 592   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: The state change is delayed until after the frame is transmitted.

Solution: End first sentence at X'0004' (line 592). Delete "then", and start next sentence
with "After the frame has been transmitted"

Response: Look up and do it.

Comment SJH-11

Section 9.1   **Line** 607   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Missing "'s" on "Station request"

Solution: Change to "Station's request"

Response: Look up and do it.

Comment SJH-12

Section 9.1   **Line** 689   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: This sentence is misleading because when a hardware repeat path is in operation,
it will be established throughout PREG and PLT. Therefore the C-Port does not
start its support of a repeat path on receipt of a LMTN frame.

Solution: Change to "…to request the C-Port to prepare for the LMT Testing Stage."

Response: Look up and do it.

Comment DWW-03

Section 9.1   **Line** 715   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: In the case where replacement frames are generated there is no repeat path during lobe test - general frames are not repeated, lobe test frames may be repeated or responded to by the port. Given the history of token ring, the phrase 'repeat path' implies that all frames will be repeated which is misleading and potentially confusing.

Solution: It would be better if 'repeat path' was in quotes when describing lobe test. Even then, the term is misleading and confusing, a better term may be 'lobe test path'

Response: I changed line 715 as follows.

```
From: "1. If FPRPTO=0, then the C-Port shall provide a PMAC
           repeat path as follows."

To:   "1. If FPRPTO=0, then the C-Port shall provide a PMAC
           Lobe Media Test repeat mechanism as follows."
```

Also, through agreement with Dave Wilson, I changed other lines to reflect "repeat mechanism" or "Lobe Media Test repeat mechanism" instead of "repeat path".

Comment SJH-13

Section 9.1   **Line** 853   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This transmit function description is completely missing the repeat state TS=PRPT.

Solution: Add the description and entry for TS=PRPT, gating it on FPRPTO=1.

Response: Agreed.

Add the following after line 869.

o Transmit Repeat (TS=PRPT):

   This state is used by the C-Port to provide a repeat path when FPRPTO=1 to support the Station's TXI LMT function defined in 9.1.6.

   This repeat path, which is activated by the Transmit Normal state (TS=PTXN) detecting the flag FPRPT=1 and FPRPTO=1, is not required to examine data being repeated, but the C-Port must receive any frame with a destination address equal to any of its addresses.

   This repeat path is deactivated upon detection of the flag FPRPT being set to 0. The C-Port starts transmitting idles (FPTI=1) and returns to the Transmit Normal state (TS=PTXN).

   The characteristics of the repeat path used by the C-Port are found in 9.7.2.

Also, to be more correct for 4 Mbit/s and 16 Mbit/s, change reference in line 851 from "9.7." to "9.7.1".

Comment SJH-14

Section 9.1   **Line** 918   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Missing word, "to".
Also line 924.

Solution: Add word: "…conditions to occur."
Also on line 924

Response: Look up and do it.

Comment SJH-38

Section 9.1   **Line** 964   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Station Wire Fault Delay usage is very inconsistent. It was decided to make the
station always go through SWFD during hard error recovery to avoid timer
complications. The description on 9.1.25 is correct, but on page 9.1.27 line 964,
the text says SWFD is only entered if phantom is active (FSPDA=1). This is wrong.
Diagram on 9.2.4 fig 9.2-3 is wrong because it shows a path to SIT avoiding SWFD.
The state description on 9.2.13 is correct, as are the state table transitions on
page 9.2.29.

Solution: Fix incorrect descriptions and diagram.

Response: 1. Fixed Diagram 9.2-3 on page 9.2-4 to agree with state
tables.

2. Changed line 964 as follows.

From: "When FSPDA=1 (Wire Fault is active), the Station's
Wire Fault Delay state is entered when the Station "

To: "The Station's Wire Fault Delay state is entered when
the Station "

Comment SJH-16

Section 9.1   **Line** 993   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Two commas after (SPD=0001)

Solution: Remove one.

Response: Look up and do it.

Comment SJH-15

Section 9.1   **Line** 997   **Severity** A/C   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Incorrect description. "Phantom is not supported (SPD=0002)" is wrong. It should read "Phantom detection is not supported (FPINSLE=0)".

Additionally, the paragraph would make more sense if it mentioned that it is the reception of an LMTN frame which kicks off these events.

Solution: Change paragraph to:
When operating at the High Media Rate and Phantom detection is not supported (FPINSLE=0), the C-Port performs the following actions on reception of a Lobe Media Test Notification frame from the Station. It transmits a Lobe Media Test Notification frame if its PMAC repeat path is being supported (FPRPTO=0). It informs its Join Machine to re-enter the C-Port's Lobe Test state (JS=PLT) by setting FPBNT=1 (see 9.3.3.2).

Response: Words for lines 997-1000.

Change 993:
"When operating at any media rate and Phantom detection is supported, the C-Port waits for"

Change paragraph 997-1000 to:
When operating at the High Media Rate and Phantom detection is not supported, the C-Port performs the following actions on reception of a Lobe Media Test Notification frame from the Station. It transmits a Lobe Media Test Notification frame if its PMAC repeat path is being supported (FPRPTO=0). It informs its Join Machine to re-enter the C-Port's Lobe Test state (JS=PLT) by setting FPBNT=1 (see 9.3.3.2).

Comment DWW-02

Section 9.1   **Line** 1085   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Section 14 provides values for AP_MASK which allow for Gigabit. As 9.1 is describing trade up with respect to "higher media rates" rather than 100 Mbit/s, the description of trade up could provide an outline of how trade up will work when Gigabit happens. Maybe this description is not needed in the standard, but I would like to see some evidence that the issue has been thought through and we will not need to have an even bigger bodge for Gigabit.

Solution: Explain to me how trade up will work when Gigabit TR happens

Response: Neil Jarvis work: Clause 14 to remove gigabit definitions.

Things to do in the gigabit Draft (802.5v - Richard Knight).

  Need to evaluate changing the Port and Station Operation
  Tables to eliminate the misuse of bit-masks.

Comment DWW-01

Section 9.1   **Line** 1085   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: General Concern The trade up mechanism description in 9.1 is inaccurate, referring to an option flag which does not exist. The whole mechanism appears to be a rush job which has not been thought through properly. However, my understanding (or lack of understanding) of the mechanism as documented (see other comments) may be as a result of the poor description. For example, 9.1 states that the station has been asked by management to open at 4/16, but is allowed to operate at 100. Why would management do that? I thought the purpose of trade up was to cope with the situation when you accidentally end up at a lower speed than the link could operate at - does it allow this?

Solution: Correct the section in 9.1 so that it is an accurate description of the trade up mechanism. Also this needs to be referenced in 9.1.4, otherwise comments such as on line 589 are unclear.

Response: Neil Jarvis provided new words for the 9.1.4 and 9.1.14 Defintions. Dave Wilson and I discussed Neil's change, made a couple of improvements and this has been included in Draft 2.2.

Comment SJH-17

Section 9.1   **Line** 1137   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Two wrong states mentioned (PRAP and SRAP).

Solution: Change to PRAW and SRAW.

Response: Remove Alert has been rewritten.

Comment KTW-01

Section 9.2   **Line** 96   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Line 96 on page 9.2-7 shows the beginning of the defintion of "Counter, Remove Alert Transmit (CSRAT). This should be a new line.

Solution: Well, this is correct in the Master used to produce this output. So, I guess no correction is necessary.

Response: Hopefully accepting all changes will finally correct this item. Done.

Comment SJH-18

Section 9.2   **Line** 97   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Description of CSRAT incomplete.

Solution: Change to "Counter, Station Remove Alert Transmit (CSRAT)."

Response: See KTW-01 for resolution of formatting problem.

Comment **SJH-19**

Section 9.2   **Line** 98   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Wrong description (FSLMTO=1). It has nothing to do with lobe test method. It should be conditioned on FSMR>1.

Solution: Change it.

Response: Changed on line 98 page 9.2-7 "FSLMTO=1" to "FSMR>1".

Comment **SJH-20**

Section 9.2   **Line** 140   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Cut'n'paste failure. FSHMRTUA has inherited FSHBA's description. It is also only set when running at 4/16Mbit/s.

Solution: Change to:
Flag, Station High Media Rate Trade-up Active (FSIRD), 4 Mbit/s and 16 Mbit/s only.

Response: Description is correct. Solution identified incorrect flag abbreviation (thus marked modified). Changed line 140 on page 9.2-8 to the following.

"Flag, Station High Media Rate Trade-up Active (FSHMRTUA), 4 Mbit/s and 16 Mbit/s only."

Comment **SJH-21**

Section 9.2   **Line** 184   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Text is inaccurate. FSPDC is only set to 0 by set_initial_conditions. The text talks about a link-status assertion signal during SREG which is wrong - the station wouldn't be in SREG unless link status was asserted.

Solution: Fix by changing description:
Flag FSPDC is set to 0 by the set_initial_conditions action.

Response: Changed lines 184 and 184 as follows.

From:
"(JS=SREG) has been rejected. Flag FSPDC is set to 0 when the Station in the JS=SREG state detects the PS_STATUS.indication(Link_status=Asserted) signal. Flag FSPDC is set to 1 when the Station"

To:
"(JS=SREG) has been rejected. Flag FSPDC is set to 0 by the Set_initial_conditions action. Flag FSPDC is set to 1 when the Station"

Comment **KTW-02**

Section 9.2   **Line** 297   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Lines 297 through 306 should be together.

Solution: I have corrected the text by putting pagination control in place, but the Master has a different pagination format (9.2.4 header is at top of page), so I will just assume this correct the PDF output.

Response: Have set formatting control correct.

Comment SJH-22

Section 9.2   **Line** 307   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This paragraph talks about remove alert being activated because of an error condition. A management request may also activate Remove Alert and this should be mentioned.

Solution: Changes:
"…because of an error condition or management request…"
Also in all the other places "error condition" is mentioned (or change the wording to avoid too much repetition).

Response: Change lines 308 through 313 on page 9.2-12 as follows.

From:
"This state is entered when the Station in the Join Complete state (JS=SJC) detects that it needs to enter the Bypass state (JS=BP) because of an error condition and this error condition allows the Station to notify the C-Port it is entering the Bypass state. The initial Remove Alert MAC frame is transmitted by detection of the error condition that causes the Station to enter the Remove Alert Wait state, while counter CSRAT controls the number of Remove Alert MAC frame transmission retries in the Remove Alert Wait state. When counter CSRAT reaches zero, the Station enters the Bypass state."

To:
"This state is entered when the Station in the Join Complete state (JS=SJC) detects that it needs to enter the Bypass state (JS=BP) because of an error condition or a management action. The Remove Alert function allows the Station to notify the C-Port it is entering the Bypass state. The initial Remove Alert MAC frame is transmitted by the detection of any condition causing the Station to enter the Remove Alert Wait state. The counter CSRAT controls the number of Remove Alert MAC frame transmitted while in the Remove Alert Wait state. When counter CSRAT reaches zero, the Station enters the Bypass state."

ALSO, The Remove Alert functional description in Draft 2.2 lines 1123 through 1163 has been rewritten.

The changes needed to accomplish everything it says are identified in a. and b. below.

a. Draft 2.2 changes in 9.2 include the following.
   i)   Modification of REF 3133, p. 9.2-16
   ii)   New REF 3183, p. 9.2-16
   iii) Modification of REF 3180, p. 9.2-16
   iv)   Modification of REF 3123, p. 9.2-16
   v)   New REF 3193, p. 9.2-16
   vi)   Modification of REF 3126, p. 9.2-21
   vii) New REF 3197, p. 9.2-21
   viii) Modification of REF 3191, p. 9.2-23
   ix)   New REF 3188, p. 9.2-23
   x)   Modification of REF 3157, p. 9.2-27
   xi)   New REF 3181, p. 9.2-27
b. Draft 2.2 changes in 9.3 include the following.
   i)   Modification of REF 1040, p. 9.3-15
   ii)   New REF 1152, p. 9.3-15
   iii) Modification of REF 1026, p. 9.3-16
   iv)   New REF 1153, p. 9.3-16
   v)   Modification of REF 1129, p. 9.3-24
   vi)   New REF 1147, p. 9.3-24
   vii) New REF 1146, p. 9.3-24
   viii) Modification of REF 1130, p. 9.3-24

Comment SJH-33

Section 9.2   **Line** 372   **Severity** DIS   **Type** TECH   **Status** REJECTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Phantom/remove alert in the Station can cause the C-Port management to see false open attempts.

If phantom is active until the end of the Remove Alert transmit sequence, then you could get a situation where a C-Port goes into bypass after the first Remove Alert from a closing Station, but the Station continues to transmit Remove Alert until CSRAT=0 (possibly 9 further frames). If the C-Port's management issues a Connect.PMAC immediately after the C-Port goes into BP, the C-Port will see phantom and assume a classic open is being attempted, resulting in JS=PANNC.

Additionally, to an auto-detect C-Port algorithm, phantom could look like the start of a 16/4 join.

This could generate spurious open failures, as seen by the C-Port management.

Solution: I can see two solutions to this problem.
1) The C-Port enters bypass through a remove-alert-bypass-wait state which guarantees that either a) there is time enough for the station to have removed phantom, or b) phantom has been "undetected" - which has lockup implications.
2) The station drops phantom before remove alert is transmitted.

Number 2 sounds good to me.
This would require changes to:
9.2.16: 3180 Add action: Remove_station
9.2.19: 3185 Add action: Remove_station
9.2.22: 3187 Remove "Remove_station" from action.
9.2.24: 3192 Remove "Remove_station" from action.

Response: The current Join Station Operation Table has inconsistant use of Remove Alert and Remove station. Correct this as follows.

1. Rewrite the definition of the Remove Alert function in 9.1.15.

2. Make the necessary changes in 9.2 and 9.3 to implement the definition in 9.1.15.

Comment SJH-23

Section 9.2   **Line** 395   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Description in table's n8 entry:
"…transmitted by the Station's High Media Rate before exiting…"
We say:
"…transmitted by the Station at High Media Rate before exiting…"

Solution: Change "'s" to " at"

Response: Modified the proposed solution by changing the description entry for parameter "n8" as follows.

From:
"n8 is the initial setting of CSRAT which governs the number of Remove Alert MAC Frames transmitted by the Station's High Media Rate before exiting to the Bypass state (JS=BP)."

To:
"n8 is the initial setting of CSRAT which governs the number of Remove Alert MAC Frames transmitted at the High Media Rate by the Station's Remove Alert state (JS=SRAW) before exiting to the Bypass state (JS=BP)."

<mark>Comment</mark> NAJ-E-161

Section 9.2   **Line** 398   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This item was identified at the UNH Interoperability Lab the week of July 13 through 17. A document was posted on the 802.5 Web-site (UNH Changes 3).

In the Join Station Operation Table, REF 3189 on page 9.2-21 handles the returning to bypass after the Lobe Media Test specified by Table 9.2-7 (FSLMTO=1) has indicated the Lobe Media Test has failed (FSLMTF=1). However, the logic used in the Station when returning to the Bypass state (JS=BP) is not the same logic as used in the C-Port under the same type of error condition (the C-Port first executes the Remove Alert function and then enters Bypass).

Solution: It is proposed that REF 3189 be changed to incorporate the Remove Alert function when the Lobe Media Test failure occurs as the result of a High Media Rate (FSMR>1) Hard Error recovery (FSJC=1).

The solution makes the following changes.

1. One technical change by modifying 3189 and adding two new REFs 3188 and 3191 to the Join Station Operation Table on page 9.2-21.

2. Editorial changes to the Join Station Operation Table transition 3189.

Response: 1. Modify REF 3189 on page 9.2-21 as follows.

```
S/T:    JB0
REF:    3189
Event:  FSLMTF=1 & FSJC=0 & JS=SLT
        << Reason for LMT failure is determined when
           FSLMTF is set to 1 (see Table 9.2-7). >>
Action: JS=BP
        << Lobe Media Test function failure during
           initial join. >>
```

2. Add the following two new transitions.

```
A) S/T:     JB0
   REF:     3191
   Event:   FSLMTF=1 & FSJC=1 & FSMR<2 & JS=SLT
            << Reason for LMT failure is determined when
                FSLMTF is set to 1 (see Table 9.2-7). >>
            << 4 Mbit/s and 16 Mbit/s only >>
   Action: JS=BP
            << Hard Error Recovery Lobe Media Test
               failure – enter Bypass >>
B) S/T:     JBF
   REF:     3188
   Event:   FSLMTF=1 & FSJC=1 & FSMR>1 & JS=SLT
            << Reason for LMT failure is determined when
                FSLMTF is set to 1 (see Table 9.2-7). >>
            << High Media Rate only >>
   Action: JS=SRAW; CSRAT=n8; TSRAP=R; TXI_RMV_ALRT
            << Hard Error Recovery Lobe Media Test
                failure – start the Remove Alert process >>
```

Comment SJH-35

Section 9.2   **Line** 398   **Severity** A/C   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: The Station uses a policy flag FSHMRTUO to decide whether to request tradeup. This is inconsistent with the C-Port which uses a bit in PPV(AP_MASK) to determine the same thing. Should the station use a bit in SPV(AP_MASK) instead of FSHMRTUO? It may make gigabit tradeup easier to add.

Solution: The solution would require a number of changes - it is probably not worth the risk and effort of changing something like this so far down the line, unless someone feels strongly that it should be fixed.

Response: This will be considered by 802.5v and has been added to the meeting minutes for work to be done.

Comment SJH-27

Section 9.2   **Line** 398   **Severity** A/C   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: 3171 (9.2.20), processing of Remove Alert reception, should really be conditioned on FSMR>1 since this protocol is only defined to run at High Media Rates.

Solution: Add FSMR>1 to event conditions of REF 3171.
Also for REF 1120 in 9.3.21; add FPMR>1.

Response: Committee agreed with this change for 9.2 and 9.3.
Changed REFs 3186 and 3171 on page 9.2-20 by adding
"FSMR>1 &" and
changed REF 1120 on page 9.3-21 by adding "FPMR>1 &" to the event columns.

Comment SJH-26

Section 9.2   **Line** 398   **Severity** A/C   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: 3150 (9.2-18) doesn't need SPV(PD)=0001 because if SPV(PD) is not equal to 0001 then FSPDC will be 1 and the transition will not fire.

Solution: Remove condition.

Response: Accepted. REF 3150 on page 9.2-18 changed by deleting
"& SPV(PD)=0001" from event column.

Comment SJH-25

Section 9.2   **Line** 398   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: <<Protocol Errors>> are inconsistent:
[Page 9.2.17]
3138, 3112, 3103, 3101, 3137: <<OPEN ERROR = Protocol Error>>
3146, 3107, 3167: <<Protocol Error>>
And other transitions.

Solution: Make consistent.

Response: Logic used for "OPEN ERROR" is a protocol error that occurs while in any state except the Join complete state.

Found only REF 3167 on page 9.2-18 in error - changed as follows.

From: "<< Protocol Error >>
To: "<< OPEN ERROR = Protocol Error >>

Comment SJH-24

Section 9.2   **Line** 398   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Station remains operational during Remove Alert transmission. Should set FSOP=0 during this process. Compare with TKP going into Bypass Wait.

Solution: Add new transition in Monitor Machine (9.2.29):
Event/Conditions: JS=SRAW & FSOP=1
Actions/Outputs: FSOP=0

Response: Agree with problem, but not solution. Only two transitions cause entry into JS=SRAW: 3180 on page 9.2-16 and 3185 on page 9.2-19. It is my belief that creating a new transition to set FSOP=1 is more confusing than adding "FSOP=0" to REF 3180 and 3185 actions.

Committee accepted changing REFs 3180 and 3185. This change also needs to be made in the C-Port (see SJH-29).

Change made as follows.

   Added "FSOP=0;" to REF 3180 (page 9.2-16) and REF 3185 (page 9.2-19) action columns.

Comment KTW-07

Section 9.2   **Line** 398   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3186 on page 9.2-30 action column has an extra ";".

Solution: Remove it.

Response: Done (this does not show up as a change since a crossed-out semicolon is difficult to read).

Comment KTW-06

Section 9.2   **Line** 398   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3183 on page 9.2-20 has an incorrect S/T entry. Should be the same as REF 3149 (for example). Only impact is to annex L.

Solution: Change REF 3183 S/T from "JD0" to "JD0C".

Response: Done.

Comment KTW-05

Section 9.2   **Line** 398   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3181 on page 9.2-16 has an incorrect S/T entry. Should be the same as REF 3149 (for example). Only impact is to annex L.

Solution: Change REF 3181 S/T from "JD0" to "JD0C".

Response: Done.

Comment IKN-09

Section 9.2   **Line** 398   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This proposal was generated as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following proposal.

Overview of Proposal:

Subclauses 9.2 and 9.3 activate the 100 Mbit/s PHY as part of the Trade-up process. However, REFs 3178 on page 9.2-19 and 1141 on page 9.3-17 accomplish this activation through words of explanation rather than using an interface signal defined in 9.8.

9.8.1.1.4 defines the interface signal "PS.CONTROL.request(Initialize)" to initialize the PHY and the signal "PS.CONTROL.request(Medium_rate)" to set the media rate.

It is proposed that 9.2, 9.3 and 9.8 be modified to use this PS.CONTROL.request signal in such a way that it is expandable to support not only 100 Mbit/s but 1000 Mbit/s operation.

Solution: Solution part 2 of 3 - See IKN-08 and IKN-10 for other parts of this solution.

9.2 REF 3178 on page 9.2-19 has words of explanation for the activation of the PHY at 100 Mbit/s. It is proposed that the following replace the action column of 3178.

```
JS=SHMRTU; TSHMRW=R;
PS_CONTROL.request
  (Initialize, Media_rate=2)

<< Station activates the 100 Mbit/s link and enters High
   Media Rate Wait state waiting for Link activation as
   follows.
o If Link activation occurs before timer TSHMRW expires,
  then enter the Registration state (JS=SREG).
o If timer TSHMRW expires before Link activation occurs,
  then enter the Bypass state (JS=BP). >>
```

Response: The committee accepted this change.
Done.

Comment KTW-11

Section 9.2   **Line** 400   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3215 on page 9.2-27 is incorrect. Counter CSTFQ is used only for 4 and 16 Mbit/s, but is always decremented by this High Media Rate reference.

Solution: Remove from REF 3215 "; If JS=SDAC then CSTFQ(CSTFQ-1)

Response: Accepted. Change made.

Comment KTW-10

Section 9.2   **Line** 400   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3205 on page 9.2-26 is incorrect. Counter CSTFQ is used only for 4 and 16 Mbit/s, but is always decremented when supporting the High Media Rate. Needs to be broken into two REFs (second half of change).

Solution: Add new REF 3221 to operate only at the High Media Rate as follows and modify REF 3205 (done by item KTW-09).

```
S/T:    TBAB
REF:    3221
Event:  EOD & FSMR>1 & TS=STXD
        << The last octet of the Frame's Information
           Field has been transmitted. >>
            << High Media Rate only >>
Action: TS=STXN; TX_FCS; TX_EFS(E=0);
        FSTI=1
```

Response: Accepted. Change made.

Comment KTW-12

Section 9.2   **Line** 400   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3219 on page 9.2-28 is incorrect. Counter CSTFQ is used only for 4 and 16 Mbit/s, but is always decremented by this High Media Rate reference.

Solution: Remove from REF 3219 "; If JS=SDAC then CSTFQ(CSTFQ-1)

Response: Accepted. Change made.

Comment NAJ-46

Section 9.2   **Line** 400   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Refs 3207, 3204, 3213, 3212, 3214 (all on page 9.2-26)

All these transitions send an abort sequence, but do not count it in CxABE. Now at the back of my mind, there was an issue in 4/16 DTR, where aborted cut-through frames could not be counted by some vendors. But for HSTR, we should mandate this counter. Shouldn't we?

Solution:

Response: Incrementing of CSABE will not be done in the proposed REFs, but rather in the Error Handling Station Operation Table.

1. Station Changes:

   Have added the counting of the Station abort sequence (CSABE) to Error Handling Station Operation Table.

   A new flag, FSTAS is set to 1 when an Abort Sequence is transmitted. The Error Handling Station Operation Table detects this condition, sets FSTAS is set to 0 and the CSABE counter is incremented appropriately. Flag FSTAS is set to 1 in REFS 3207, 3204, 3213, 3212, and 3214 (all on page 9.2-26), REFs 3216 and 3215 on page 9.2-27, and REFs 3206 and 3209 on page 9.2-28.

   A. Original REFs 3418, 3417, 3420 and 3419 on pages 9.2-31 and 9.2-32 have been deleted.

   B. Two new REFs, 3417 and 3418, have been developed to count the transmission of the Abort Sequence.

2. Port Changes:

   Have added the counting of the C-Port abort sequence (CPABE) to Error Handling Station Operation Table.

   A new flag, FPTAS is set to 1 when an Abort Sequence is transmitted. The Error Handling Station Operation Table detects this condition, sets FPTAS is set to 0 and the CPABE counter is incremented appropriately. Flag FPTAS is set to 1 in REFS 1203, 1215, 1210, 1209 and 1216 (all on page 9.3-25), and REFs 1205 and 1218 on page 9.3-26.

   A. Original REFs 1614 and 1617 on pages 9.3-28 have been deleted.

   B. Two new REFs, 1614 and 1617, have been developed to count the transmission of the Abort Sequence.

3. Have added a maintenance item to cover 4 and 16 Mbit/s change for Amd1. Done by Neil Jarvis.

Comment KTW-09

Section 9.2   **Line** 400   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: REF 3205 on page 9.2-26 is incorrect. Counter CSTFQ is used only for 4 and 16 Mbit/s, but is always decremented when supporting the High Media Rate. Needs to be broken into two REFs (First half of change).

Solution: Modify REF 3205 to operate only for 4 Mbit/s and 16 Mbit/s as follows and add new REF 3221 (done by item KTW-10).

```
S/T:    TBAB
REF:    3205
Event:  EOD & FSMR<2 & TS=STXD
        << The last octet of the Frame's Information
           Field has been transmitted. >>
           << 4 Mbit/s and 16 Mbit/s only >>
Action: TS=STXN; TX_FCS;
        TX_EFS(I=E=0);
        FSTI=1;
        If JS=SDAC then CSTFQ=(CSTFQ-1)
```

Response: Accepted. Change made.

Comment SJH-28

Section 9.2   **Line** 403   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Transition to start beacon test is missing.

Solution: Add transition 3322:
```
Event: TSLMT=E & MS=SIT
Action: FSBNT=1
```

Response: Agreed. Also see KTW-08. Added REF 3322 as per solution.

Comment KTW-08

Section 9.2   **Line** 403   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Monitor Station Operation Table on page 9.2-29 is missing transition "REF 3322".

Solution: Add REF 3322 inadvertently deleted between Draft 1 and Draft 2.0 as follows.

```
S/T:    Blank
REF:    3322
Event:  TSLMT=E & MS=SIT
Action: FSBNT=1
```

Response: Agreed. Also see SJH-28. Done.

Comment JLM-01

Section 9.2   **Line** 405   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Transitions 3409, 3410, 1606, 1607 have not been made compatible with FxASO=1 (alternative way of aborting frames). I have entered this comment twice, once for 9.2 and once for 9.3.

Solution: In order to support operation with FxASO=1, transitions 3409, 3410, need to be gated with "E=0". Change "FR_WITH_ERR" to "FR_WITH_ERR(E=0)".

Response: Agreed:

1. This is an error in Amd.1, but is correct in the 1998 base standard. Added to Amd.1 maintenance list.

2. Change 3409 and 3410 on page 9.2-31 by changing "FR_WITH_ERROR" to "FR_WITH_ERROR(E=0). Done.

Comment DWW-04

Section 9.3   **Line** 1   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: General comment The times when remove alert frames are transmitted in the state tables has changed significantly between draft 2 and 2.1b. However this has not be reflected in the resolution of ballot comments against draft 2 - eg DWW-16 on draft 2 stated that the action on ref 1052 p 9.3-20 should send remove alert frames and the comment was accepted. However, in 2.1b - the subsequent document we are balloting on, this change has not been made and a number of other states which previously caused remove alert frames to be sent have been modified.

Solution: Please explain the rationale being used for remove alert frames - ie what are the general principles guiding the decisions for which transitions should cause remove alert frames to be sent?

Response: Add to 9.1 a rationale paragraph for using the Remove Alert process.

Please refer to item SJH-33 for resolution.

Comment **IKN-05**

Section 9.3   **Line** 372   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 2:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPD to detect the failure of phantom presence. However, at 100 Mbit/s, phantom detection may or may not be supported by the C-Port. Draft 2.1B fails to take this into account and starts timer TPPD whether or not the C-Port supports phantom detection. This causes an unexpected condition and causes the C-Port to enter the bypass state (JS=BP) in error. This requires a clarification in the definition of the timer TPPD.

Solution: Solution part 1 of 3 - See IKN-06 and IKN-07 for other parts of this solution.

Add conditioning to action "TPPD=R" found in REFs 1039, 1047 and 1076 found on page 9.3-23. The conditioning consists of determining whether the C-Port supports phantom drive detection (SPD=0001 is yes, other SPD values are no).

Change REFs 1039, 1047 and 1076 as follows:

From: "… TPPD=R; …"
To: "… If SPD=0001 then TPPD=R; …"

Response: Changed REFs 1039, 1047 and 1076 as proposed in solution.

Comment IKN-02

Section 9.3   **Line** 372   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 1:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPLD only to detect the absence of Phantom loss. However, the purpose of this detection is to determine whether the C-Port's Ring Recovery should proceed or the C-Port should enter the bypass state (JS=BP). At 100 Mbit/s, phantom detection may or may not be supported by the C-Port. When the C-Port does not support phantom detection, another detection mechanism must be used to make this determination. It has been assumed (but missing from Draft 2.1B) this mechanism would be the absence of the LMTN MAC frame. Further, it was determined the duration of TPPLD needed to be extended to handle the various forms of failure.

Solution: Solution part 2 of 4 - See IKN-01, IKN-03 and IKN-04 for other parts of this solution.

Make the following editorial change to REF 1130 on page 9.3-24 action column to clarify the explanation in the action column.

From: << Expected Phantom loss is not detected. Attempt to notify Station C-Port is returning to Bypass. >>

To: << Expected Phantom loss or LMTN MAC frame is not detected. Attempt to notify Station C-Port is returning to Bypass. >>

Response: Changed REF 1130 as proposed in solution.

Comment SJH-34

Section 9.3   **Line** 372   **Severity** A/C   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: No assured delivery for HSTR trade-up protocol.

At the moment all registration response frames are sent using an assured delivery mechanism. This is not true of HSTR tradeup response frames. Losing this one response frame will cause at least the station to fail, and probably the port as well, depending on whether the station retries at 100Mbit/s quickly enough.

Solution: It is tricky to implement an assured delivery mechanism because of the speed change involved. I can think of two ways of implementing this:
1) Transmit a block of paced frames before changing speed - in the same way as Remove Alert
2) Go into a wait state and delay the speed change. During the wait state, a transition similar to 1025 (pg 9.3-21) can provide responses for any request frames received as the station retries.

Response: Vote 07-25 asks the mechanism to be added. On July 10, Ivar Jeppesen, Simon Harrison and Ken Wilson agreed with a change to correct problem.

Neil Jarvis has put on the reflector Web-site paper 07-21 "Assured delivery for HSTR Trade-up".

Awaiting approval from committee (Changed 9.3 as per paper 07-21).

<mark>Comment</mark> IKN-06

Section 9.3   **Line** 372   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 2:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPD to detect the failure of phantom presence. However, at 100 Mbit/s, phantom detection may or may not be supported by the C-Port. Draft 2.1B fails to take this into account and starts timer TPPD whether or not the C-Port supports phantom detection. This causes an unexpected condition and causes the C-Port to enter the bypass state (JS=BP) in error. This requires a clarification in the definition of the timer TPPD.

Solution: Solution part 2 of 3 - See IKN-05 and IKN-07 for other parts of this solution.

Change the description of the event in REF 1129 on page 9.3-24 as follows.

From: << Station has approval to insert, but the Station has failed to provide Phantom in allotted time. >>

To: << Station has approval to insert and C-Port supports phantom drive detection, but the Station has failed to provide Phantom in allotted time. >>

Response: Changed REF 1129 as proposed in solution.

Comment IKN-10

Section 9.3   **Line** 372   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This proposal was generated as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following proposal.

Overview of Proposal:

Subclauses 9.2 and 9.3 activate the 100 Mbit/s PHY as part of the Trade-up process. However, REFs 3178 on page 9.2-19 and 1141 on page 9.3-17 accomplish this activation through words of explanation rather than using an interface signal defined in 9.8.

9.8.1.1.4 defines the interface signal "PS.CONTROL.request(Initialize)" to initialize the PHY and the signal "PS.CONTROL.request(Medium_rate)" to set the media rate.

It is proposed that 9.2, 9.3 and 9.8 be modified to use this PS.CONTROL.request signal in such a way that it is expandable to support not only 100 Mbit/s but 1000 Mbit/s operation.

Solution: Solution part 3 of 3 - See IKN-08 and IKN-09 for other parts of this solution.

9.3 REF 1141 on page 9.3-17 has no action but only words of explanation for the activation of the PHY at 100 Mbit/s. It is proposed that the following replace the action column of 1141.

```
  PS_CONTROL.request
    (Initialize, Medium_rate=2)

  << C-Port activates the
     High Media Rate link >>
```

Response: Changed REF 1141 as proposed in solution.

Comment SJH-29

Section 9.3   **Line** 372   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: C-Port should cease to be operational when entering Remove Alert Wait (c.f. BPW in TKP).

Solution: Add transition:
Event: JS=PRAW & FPOP=1
Action: FPOP=0

Response: Agree with problem, but not solution. Only two transitions cause entry into JS=PRAW: 1118 on page 9.3-16 and 1130 on page 9.3-24. It is my belief that creating a new transition to set FPOP=1 is more confusing than adding "FPOP=0" to REF 1118 and 1130 actions. Also add to the High Media Rate transition for 1129 (page 9.3-24).
Have added "FPOP=0;" to all High Media Rate transitions that cause entry into JS=PRAW (REFs 1118 and 1130, and the new transition "REF 1147 put in table by SJH-36.

Comment SJH-37

Section 9.3   **Line** 372   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: 1130 (9.3.24) can fire for all media rates but the remove alert protocol it starts should only be used at higher media rates.

Solution: Split into two transitions conditioned on FPMR, one which starts off the remove alert protocol and the other that just does JS=BP

Response: Accepted. Changed REF 1130 and added REF 1146 as follows.

```
1. REF 1130 - added "& FPMR>1" and
              marked with "<< High Media Rate only >> "

2. Added REF 1146 for 4 and 16 Mbit/s as follows.

   S/T:    JP0
   REF:    1146
   Event:  TPPLD=E & FPPLD=1 & FPMR<2 & JS=PJCI
           << 4 Mbit/s and 16 Mbit/s only >>
   Action: JS=BP
           << Expected Phantom loss is not detected, thus
              return to the bypass state. >>
```

Comment SJH-36

Section 9.3   **Line** 372   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: 1129 (9.3-24) should use the Remove Alert protocol, not just bypass, because there is a good chance that the Station will respond to the RMV_ALERT frames and this will be better from a management perspective.

Solution: Make 1129 conditional on FPMR<2. Make another transition conditional on FPMR>1 which starts up the remove alert protocol, as in 1130.

Response: Committee agrees. Changed 1129 and added 1147 as follows.

```
1. REF 1129 - added "& FPMR<2" and
              marked "<< 4 Mbit/s and 16 Mbit/s only >>"

2. Added REF 1147 for the High Media Rate as follows.

   S/T:    JPW
   REF:    1147
   Event:  TPPD=E & FPINSLE=0 & FPMR>1 & JS=PJCI
           << Station has approval to insert, but has
              failed to provide Phantom in allotted time. >>
           << High Media Rate only >>
   Action: JS=PRAW; FPOP=0; CPRAT=n9; TPRAP=R; TXI_RMV_ALRT
           << Expected Phantom presence is not detected.
              Attempt to notify Station that the C-Port is
              returning to Bypass. >>
```

Comment NAJ-47

Section 9.3   **Line** 374   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Refs 1203, 1215, 1210, 1209, 1209, 1216.

All these transitions send an abort sequence, but do not count it in CxABE. Now at the back of my mind, there was an issue in 4/16 DTR, where aborted cut-through frames could not be counted by some vendors. But for HSTR, we should mandate this counter.

Solution:

Response: This item needs more work. Max looking at our implementation. In any case, incrementing of CPABE will not be done in the proposed REFs, but rather in the Error Handling Port Operation Table.

1. Add the counting of the abort sequence (CPABE) to the Error Handling Port Operation Table as follows.

    Modified transitions that cause the Abort Sequence to be transmitted and the Station or C-Port remain open by using a new flag FxTAS.

2. Have added a maintenance item to cover 4 and 16 Mbit/s change for Amd1.

Comment SJH-31

Section 9.3   **Line** 376   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: 1407 (9.3.27) doesn't disable the phantom loss protocol. Nor does it fire at the correct time (eg it should fire when phantom is being used by the station but the C-Port doesn't support detection).

Solution: Change condition SPD=0002 to FPINSLE=0.
Add action: FPPLD=0.

Response: IKN-01 was withdrawn in favor of this solution. It can be shown that FPINSLE=0 is a better indicator that Phantom Drive detection is not being used.

See Meeting paper 07-21 for explanation of why FPINSLE=0 is the correct signal to use.

Comment **IKN-01**

Section 9.3   **Line** 376   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 1:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPLD only to detect the absence of Phantom loss. However, the purpose of this detection is to determine whether the C-Port's Ring Recovery should proceed or the C-Port should enter the bypass state (JS=BP). At 100 Mbit/s, phantom detection may or may not be supported by the C-Port. When the C-Port does not support phantom detection, another detection mechanism must be used to make this determination. It has been assumed (but missing from Draft 2.1B) this mechanism would be the absence of the LMTN MAC frame. Further, it was determined the duration of TPPLD needed to be extended to handle the various forms of failure.

Solution: Solution part 1 of 4 - See IKN-02, IKN-03 and IKN-04 for other parts of this solution.

Add a new REF (assigned as 1410) to the Monitor Port Operation Table on page 9.3-27 to cause the flag, FPPLD to be set to 0. The setting of FPPLD to 0 indicates that either the C-Port has detected phantom or the reception of the LMTN MAC frame and prevents REF 1130 on page 9.3-24 reacting to the TPPLD=E event. This is the only technical change made to resolve this problem.

Add the following transition to the Monitor Port Operation Table on page 9.3-27:

```
S/T:    Blank
REF:    1410
Event:  FR_LMTN(DA=broadcast) & MS=PIT & JS=PJCI
Action: FPPLD=0
        << Reset protocol loss detection function. >>
```

Response: Withdrawn in favor of SJH-31.

Comment IKN-03

Section 9.3 **Line** 376 **Severity** A/C **Type** ED **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 1:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPLD only to detect the absence of Phantom loss. However, the purpose of this detection is to determine whether the C-Port's Ring Recovery should proceed or the C-Port should enter the bypass state (JS=BP). At 100 Mbit/s, phantom detection may or may not be supported by the C-Port. When the C-Port does not support phantom detection, another detection mechanism must be used to make this determination. It has been assumed (but missing from Draft 2.1B) this mechanism would be the absence of the LMTN MAC frame. Further, it was determined the duration of TPPLD needed to be extended to handle the various forms of failure.

Solution: Solution part 3 of 4 - See IKN-01, IKN-02 and IKN-04 for other parts of this solution.

Make the following editorial changes to REFs 1401, 1404 and 1403 on page 9.3-27.

Add the following words of explanation immediately following the current actions in the action column.

        << Start protocol loss detect function (TPPLD=R) >>

Response: IKN-01 was withdrawn in favor of SJH-31.
Changed REFs 1401, 1404 and 1403 as proposed in solution.

Comment JLM-02

Section 9.3 **Line** 378 **Severity** DIS **Type** TECH **Status** MODIFIED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Transitions 3409, 3410, 1606, 1607 have not been made compatible with FxASO=1 (alternative way of aborting frames). I have entered this comment twice, once for 9.2 and once for 9.3.

Solution: In order to support operation with FxASO=1, transitions 1606, 1607 need to be gated with "E=0". Change "FR_WITH_ERR" to "FR_WITH_ERR(E=0)". Copy the definition of FR_WITH_ERR(criteria) currently present on page 9.2-43 and add it to page 9.3-35.

Response: Agreed:

1. This is an error in Amd1, but is correct in base 1998 standard.

2. Changed 1606 and 1607 on page 9.3-28 by changing: "FR_WITH_ERROR" to "FR_WITH_ERROR(E=0).

3. KTWilson to correct 9.2 and 9.3 definitions of FR_WITH_ERR and FR_WITH_ERR(criteria) in the precise spec sections (add and new references for 100 Mbit/s).

Comment DWW-04

Section 9.3   **Line** 1108   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Note references are against draft 2 as this comment is outstanding. ref 1108 page 9.3-17, 1109 on 9.3-18, 1110 on 9.3-19 and throughout state tables. The modification which have been made are incorrect as there is not always a general repeat path available. The use of FPRPT=1 in the case of the MAC lobe test path is misleading - it was better when the state tables distinguished between these cases. The description of FPRPT does not discuss what happens when a MAC lobe test path is used. It should either describe this, or FPRPT should not be used in the state tables in this case.

Solution: Preferably modify the state tables so that FPRPT is not set in actions when the MAC lobe test path is being used. Alternatively, modify the description of FPRPT to describe what happens (ie nothing) when the MAC lobe test path is in use and add "& FPRPTO=1" to the condition in ref 1213 on page 9.3-25

Response: 1. Update the description of FPRPT on page 9 to the words supplied by Dave Wilson and agreed to by the committee.

2. Adding "& FPRPTO=1" to REF 1213 is incorrect and was not made.

Comment KTW-13

Section 09.7   **Line** 46   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Subclause 9.7.1.2.2 is not up-to-date. Lines 46 through 57 on page 9.7-2 need to be changed to agree with the agreements made as it relates to the PM_CONTROL.request(..) and PS_CONTROL.request(..) signals.

Solution: The following changes are needed in 9.7.1.2.2 on page 9.7-2.

1. Line 49: Change "Remove_Station" to "Remove_station"

2. Lines 50 and 51: Change "Medium_Rate" to "Media_rate"

3. Lines 51 and 55: Change "Repeat_Mode" to "Transmit_mode"

Response: Done.

Comment RJK-04

Section 9.7   **Line** 51   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Carriage return required before "Medium Rate is specified…"

Solution: <CR>

Response: There's one there in W97 …

So were'd it go in Agrobrat?

Comment NAJ-48

Section 9.7   **Line** 62   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Update Figure 9.7-2 with the result of NAJ-34

Solution:

Response: No change made. See response to NAJ-34.

Comment ANF-19

Section 9.7　　**Line** 76　　**Severity** A/C　　**Type** ED　　**Status** ACCEPTED

Highlight To Committe ☐　　**Commenter Agrees?** ☑　　**Editing Complete** ☑

Concern: References still very variable: sometimes 'clause' sometimes 'section' and so on.

Solution: Correct references to clauses etc., to bring into line with IEEE 802.5 Editorship rules for committee editors in 00-04rl.

Response: Done.

Comment KTW-14

Section 9.7　　**Line** 95　　**Severity** A/C　　**Type** ED　　**Status** ACCEPTED

Highlight To Committe ☐　　**Commenter Agrees?** ☐　　**Editing Complete** ☑

Concern: Definition is hard to read because it crosses page boundary.

Solution: Keep together lines 95 through 102.

Response: Page break inserted at line 95.

Comment KTW-15

Section 9.8　　**Line** 1　　**Severity** A/C　　**Type** ED　　**Status** ACCEPTED

Highlight To Committe ☐　　**Commenter Agrees?** ☐　　**Editing Complete** ☑

Concern: This document uses different font sizes at random. An example is lines 16 through 22 where two different font sizes are used.

Solution: Fix it for the whole document.

Response: I'll fix it but can somebody explain to me what the difference is between:

'Times New Roman' and 'TimesNewRoman' is, and how someone is daft enough to produce a WP that allows this sort of dim confusion to arise?

Comment ANF-20

Section 9.8　　**Line** 4　　**Severity** A/C　　**Type** ED　　**Status** ACCEPTED

Highlight To Committe ☐　　**Commenter Agrees?** ☑　　**Editing Complete** ☑

Concern: References still very variable: sometimes 'clause' sometimes 'section' and so on.

Solution: Correct references to clauses etc., to bring into line with IEEE 802.5 Editorship rules for committee editors in 00-04rl.

Response: Done.

Comment NAJ-49

Section 9.8　　**Line** 35　　**Severity** Q　　**Type** ED　　**Status** ANSWERED

Highlight To Committe ☐　　**Commenter Agrees?** ☑　　**Editing Complete** ☑

Concern: What ISO layers? Should the title not be about the comparison with 802.3?

Solution:

Response: This diagram is so confusing now that we have changed Figs. 2.2-1, 2.2-2 etc., & Fig. 9.7-2 to show how the MII, PSC & Repeat paths fit together that I have just deleted the whole of Fig 9.8-1 and all text / references associated with it.

So there.

Comment ANF-03

Section 9.8   **Line** 97   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Delete barren wasteland between line 97 & 98.

Solution: Done.

Response: Done.

Comment RJK-06

Section 9.8   **Line** 97   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: Big space

Solution: Delete big space

Response: See ANF-03.

Section 9.8   **Line** 150   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This proposal was generated as part of the UNH Interoperability Testing. This set
of words will be repeated in each item opened against the following proposal.

Overview of Proposal:

Subclauses 9.2 and 9.3 activate the 100 Mbit/s PHY as part of the Trade-up
process. However, REFs 3178 on page 9.2-19 and 1141 on page 9.3-17 accomplish this
activation through words of explanation rather than using an interface signal
defined in 9.8.

9.8.1.1.4 defines the interface signal "PS.CONTROL.request(Initialize)" to
initialize the PHY and the signal "PS.CONTROL.request(Medium_rate)" to set the
media rate.

It is proposed that 9.2, 9.3 and 9.8 be modified to use this PS.CONTROL.request
signal in such a way that it is expandable to support not only 100 Mbit/s but 1000
Mbit/s operation.

Solution: Solution part 1 of 3 - See IKN-09 and IKN-10 for other parts of this solution.

The term "Medium_rate" used in the PS.CONTROL.request signal should be changed to
"Media_rate" to be consistent with the rest of 802.5t.

  Change line 124 on page 9.8-5 from "Medium_rate" to
  "Media_rate".

The 9.8 definition of Medium_rate found on page 9.8-6, lines 150 and 151, needs to
be replaced with the following.

  "Media_rate is a request from the PMAC or SMAC for the PHY
   to operate at a specified rate. Media_rate has the
   following values.

     o Media_rate=2
     o other values reserved

   Media_rate=2 causes the PHY to operate at 100 Mbit/s. The
   100 Mbit/s rate is supported by setting bit 0.13 of the
   [802.3u] clause"

This concept would also apply to 1000 Mbit/s (Richard Knight's 802.5v, Draft 0.1,
June 1998 document on pages
9.8-13 and 9.9-14). It is proposed that the words on page 9.9-14, lines 444 and
445 be changed to the following.

  "Media_rate is a request from the PMAC or SMAC for the PHY
   to operate at a specified rate. Media_rate has the
   following values.

     o Media_rate=2 (100 Mbit/s)
     o Media_rate=3 (1000 Mbit/s)
     o other values reserved

   Media_rate=3 causes the PHY to operate at 1000 Mbit/s. The
   1000 Mbit/s rate is supported by setting bit 0.13 to a

Response: Done.

Comment KTW-16

Section 9.8   **Line** 154   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: To me, the definition of Crystal_transmit is confusing. Why do we insist on defining a Crystal_transmit state that is not used in the support of 100 Mbit/s?

Solution: I would prefer the removal of the state "Deasserted".

Response: Reword after 'local crystal' on line 154 by adding, 'Therefore Crystal Transmit is always asserted.'

and delete the rest of this line and lines 155 and 156.

Also, since the definition of PM_CONTROL.request has no real meaning, lines 172 to 180 have been deleted.

Comment BBT-16

Section 9.8   **Line** 161   **Severity** DIS   **Type** TECH   **Status** REJECTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: lines 161 to 180
Here we define actions between layers located between the MII and the wire. All the actions between MII and wire is detailed descreibed in 802.3u and TP-PMD standards. I think we should descreibe our standard only at the MII.

Solution:

Response: Leave standard as is because all the work has already been done and leaving this stuff in does no harm.

In addition, the solution implicit in your concern requires a lot of work to recast the standard in terms of the MII.

Comment ANF-04

Section 9.8   **Line** 171   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Delete line.

Solution: Done.

Response: Done.

Comment ANF-05

Section 9.8   **Line** 180   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Insert line or change paragraph format to increase spacing between lines 180 & 181.

Solution: Line inserted.

Response: Done.

Comment NAJ-50

Section 9.8   **Line** 212   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: "maximum frame size" entry needs to say 18207 for HSTR.

Solution: Do it.

Response: 18207 it is.

Comment ANF-06

Section 9.8   **Line** 213   **Severity** Q   **Type** ED   **Status** ANSWERED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: In table 9.8-4, should maximum frame size be 18207 octets (c.f. discussion on IFG etc.)?

Solution:

Response: See NAJ-50.

Comment ANF-07

Section 9.8   **Line** 238   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: In view of the cable length and impedance matching issues raised and the comments received from participants in this discussion - particularly with respect to the experiences of a number of implementors regarding the extended operating distance achieved over STP cabling in a 100 ohm impedance environment - the measurement environment for transmit return loss as specified in TP-PMD should be relaxed so that the return loss limits for both UTP and STP can be met using a single impedance.

Solution: Add new paragraph:

9.8.1.11 Replacement of 9.1.5 "Return loss"

The UTP and STP Active Output Interface shall be implemented such that the following return loss characteristics are satisfied for each of the specified line impedances.

  Greater than 16 dB from 2MHz to 30 MHz.
  Greater than (16 - 20 log(f/30MHz)) dB from 30MHz to 60MHz
  Greater than 10 dB from 60MHz to 80MHz

The impedance environment for the measurement of the UTP AOI return loss shall be 100+/-1 Ohms; the environment for the STP AOI return loss shall be 150+/-1.5 Ohms. The impedance environments shall be nominally resistive, with a magnitude of phase angle less than 3 degrees over the specified frequency range.

Response: Discussion to be continued after conference call to IBM.

Following extensive discussion and the results of Interoperability testing at UNH, the following changes have been made. These include any changes needed to the output voltage tolerance specifications as a result of the initial changes to return loss and permissible matching impedances. Specifically the STP output voltage tolerances have been relaxed to allow for a 100 ohm driving impedance operating into a 150 load, and the UTP limits have been slightly relaxed to ease the practical conformance of real Phy devices in recognition of problems encountered in many 100BASE-TX implementations.

XXXXXXXXXXXXXXX

9.8.1.3.11 Change to 9.1.1.2 STP Differential output voltage

The peak differential output voltage shall be:

 1125mV £ Vout £ 1325m

9.8.1.3.12 Change to 9.1.2.2 UTP Differential output voltage

The peak differential output voltage shall be:

 920mV £ Vout £ 1080m

9.8.1.3.13 Replacement of 9.1.5 "Return loss"

The UTP Active Output Interface (AOI) shall be implemented such that the following return loss characteristics are satisfied:

 Greater than 16 dB from 2MHz to 30 MHz
 Greater than (16 - 20 log(f/30MHz)) dB from 30MHz to 60MH
 Greater than 10 dB from 60MHz to 80MH

The STP AOI shall be implemented such that the following return loss characteristics are satisfied:

 Greater than 11 dB from 2MHz to 30 MH
 Greater than (11 - 6.67 log(f/30MHz)) dB from 30MHz to 60MH
 Greater than 9 dB from 60MHz to 80MH

The impedance environment for the measurement of the UTP AOI return loss shall be 100±1 Ohms; the environment for the STP AOI return loss shall be 150±1 Ohms. A single measurement in each impedance impedance environment shall be sufficient to demonstrate compliance. The impedance environment shall be nominally resistive.

9.8.1.3.14 Replacement of 9.2.2 "Differential input impedance"

The UTP Active Input Interface (AII) shall be implemented such that the following return loss characteristics are satisfied:

  Greater than 16 dB from 2MHz to 30 MHz
  Greater than (16 – 20 log(f/30MHz)) dB from 30MHz to 60MH
  Greater than 10 dB from 60MHz to 80MH

The STP AII shall be implemented such that the following return loss characteristics are satisfied:

  Greater than 11 dB from 2MHz to 30 MH
  Greater than (11 – 6.67 log(f/30MHz)) dB from 30MHz to 60MH
  Greater than 9 dB from 60MHz to 80MH

The impedance environment for the measurement of the UTP AII return loss shall be 100±1 Ohms; the environment for the STP AII return loss shall be 150±1 Ohms. A single measurement in each impedance impedance environment shall be sufficient to demonstrate compliance. The impedance environment shall be nominally resistive.

9.8.1.3.16 Change to 9.1.10 "Characteristics of Active Output Interface"

The zero to peak differential signal voltages for UTP and STP given in Table 3 shall be changed to reflect the figures given in 9.8.1.3.11 and 9.8.1.3.12:
In accordance with 9.8.1.3.15, Transmit Jitter in this table shall be restated to show the parameter is measured with AOI transmitting scrambled IDLEs.

Characteristic Minimum Maximum Units
Differential Signal, UTP, zero-peak 920 1080 mVpk
Differential Signal, STP, zero-peak 1125 1325 mVpk
Transmit Jitter (IDLE) 0,0 1,4 ns

9.8.1.3.21 Change to annex J, "Twisted Pair Active Output Interface template"

Template measurement for the eye pattern of the differential output voltage may be carried out with the AOI transmitting scrambled IDLEs.
When scaling the amplitude for the best fit eye pattern, the UTP scaling factor is a minimum of 0.92 and a maximum of 1.08. For STP the scaling factor is a minimum of 1.125 and a maximum of 1.325. The differential peak output voltage, Vout, as defined in 9.8.1.3.11 and 9.8.1.3.12 is the best fit multiplied by 1000mV.

Comment ANF-08

Section 9.8   **Line** 238   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: In view of the cable length and impedance matching issues raised and the comments received from participants in this discussion - particularly with respect to the experiences of a number of implementors regarding the extended operating distance achieved over STP cabling in a 100 ohm impedance environment - the measurement environment for receive return loss as specified in TP-PMD should be relaxed so that the return loss limits for both UTP and STP can be met using a single impedance.

Solution: Add new paragraph:

9.8.1.12 Replacement of 9.2.2 "Differential input impedance"

The differential input impedance of the UTP and STP Active Input Interface shall be such that the following return loss characteristics are satisfied for each of the specified line impedances.

Greater than 16 dB from 2MHz to 30 MHz.
Greater than (16 - 20 log(f/30MHz)) dB from 30MHz to 60MHz
Greater than 10 dB from 60MHz to 80MHz

The impedance environment for the measurement of the UTP AOI return loss shall be 100+/-1 Ohms; the environment for the STP AOI return loss shall be 150+/-1.5 Ohms. The impedance environments shall be nominally resistive, with a magnitude of phase angle less than 3 degrees over the specified frequency range.

Response: See ANF-07

Comment ANF-09

Section 9.8   **Line** 238   **Severity** A/C   **Type** ED   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: If ANF-07 & ANF-08 are accepted then paragraph numbering needs to be changed and any references to these paragraphs updated.

Solution: Renumber existing paragraphs 9.8.1.11 to 9.8.1.17 as a result of ANF-13 & ANF-14. Check that references elswhere in document are updated as necessary.

Response: Renumbering as a result of ANF-07 and ANF-08. See ANF-07.

Comment BBT-03

Section 9.8   **Line** 259   **Severity** DIS   **Type** TECH   **Status** REJECTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: In the TR standard is the polarity of the connector interface not defined, and a compliant implementation can have both. Autonegotiation requires a defined polarity.

Solution: Most of the PHY's can correct polarity errors automatically. It migth require enabling of the function.

Put in a comment about this issue, so implementors know the problem.

Response: Of all the Phy chips that do Auto-polarity detection and / or correction, *very* few do this for 100BASE-TX.

It would appear that this function is only required for correct LINK INTEGRITY operation at 10BASE-T using Normal Link Pulses (NLP).

802.3u says (28.1.4.1):

"NOTE: Auto-Negotiation does not support the transmission of the NLP sequence. The 10BASE-T PMA provides this
function if it is connected to the MDI. In the case where an Auto-Negotiation able device without a 10BASE-T PMA is
connected to a 10BASE-T device without Auto-Negotiation, the NLP sequence is not transmitted because the Auto-Negotiation function has no 10BASE-T PMA to enable that can transmit the NLP sequence."

This implies that Auto-negotiation at 100BASE-TX is *not* polarity sensitive. Since we do not operate with any form of a 10BASE-T Phy, there is no requirement for us to either implement or be concerned about polarity detection or correction.

This is not currently an issue since Auto-negotiation is not yet defined. Any necessary notes and cautions will be added to Annex Z when Auto-negotiation is defined.

This item has been opened as a maintenance item against 802.5t.

Comment NAJ-13

Section 11.0   **Line** 1   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: MGT_ACTION need to support speed trade-up.

Solution: Lots of work - someone go and do it.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-08

Section 11.1   **Line** 232   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`With the new SPV(PD) values added for HSTR, we need to add a new actionRequestType to MGT_ACTION.request and add a new actionResponseType to MGT_ACTION.response`

Solution: `Add new actionRequestType:`

`RequestPhantomMethod which tracks SPV(PD).`

`Add new actionResponseType:`

`ResponsePhantomMethod which tracks SPV(PD).`

Response: `NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.`

`Done.`

Comment NAJ-01

Section 11.1   **Line** 232   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`RequestMediumRate has not been updated for 100 Mbit/s`

Solution: `Add appropriate text.`

Response: `NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.`

`Done`

Comment NAJ-06

Section 11.1   **Line** 232   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`RequestAccessProtocolMask has not been updated with HSTR.  In particular, trade-up is missing.`

Solution: `Add appropriate words.`

Response: `NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.`

`Done.`

Comment NAJ-02

Section 11.1   **Line** 233   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

ResponseStatus is missing the new HSTR failure cases.

Solution: Update table 11-4

Add:

Link_Status missing
Remove Alert MAC received

Update refs for:

sLobeTestFailure
sLobeTestTimeout

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Done.

Comment NAJ-03

Section 11.1   **Line** 234   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

ResponseMediaRate does not support HSTR.

Solution: Add appropriate text.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Done.

Comment NAJ-05

Section 11.1   **Line** 236   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

Event Status has not been updated for HSTR

Solution: Update table 11-6 with

LINK_STATUS deasserted
Remove Alert received

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Done.

Comment NAJ-04

Section 11.2 **Line** 1 **Severity** DIS **Type** TECH **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

```
ResponseStatus does not have new HSTR codes, nor the maintenance item against DTR
which adds the TPPD and TPPDL timers.
```

Solution: `Update table 11-12:`

```
Add:

Link_status loss
Remove Alert received
Phantom not detected (TTPD)
Hard Error Recovery Protocol not operating (TPPLD)
```

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

```
Done.
```

Comment NAJ-07

Section 11.2 **Line** 242 **Severity** DIS **Type** TECH **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

```
RequestAccessProtocolMask has not been updated for HSTR.  In particular, trade-up
is missing.
```

Solution: `Add appropriate words.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-09

Section 11.2 **Line** 242 **Severity** DIS **Type** TECH **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

```
With the new PPV(PD_MASK) values added for HSTR, we need to add a new
actionRequestType to MGT_ACTION.request and add a new actionResponseType to
MGT_ACTION.response
```

Solution: `Add new actionRequestType:`

```
RequestPhantomMethodMask which tracks PPV(PD_MASK).
```

```
Add new actionResponseType:
```

```
ResponsePhantomMethodMask which tracks PPV(PD_MASK).
```

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment **NAJ-10**

Section 11.2   **Line** 243   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

RequestMediumRate has not been updated for 100 Mbit/s

Solution: Add appropriate words.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment **NAJ-11**

Section 11.2   **Line** 245   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

ResponseMediumRate has not been updated for 100 Mbit/s

Solution: Add appropriate words.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment **NAJ-12**

Section 11.2   **Line** 246   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

Event Status has not been updated for HSTR

Solution: Update table 11-6 with

LINK_STATUS deasserted
Remove Alert received
TPPLD/TPPD expired

Response: Done.

Comment **NAJ-19**

Section 11.3   **Line** 1   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

dtrStationPhantomDriveSupport needs new HSTR values.

Solution: Do it.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-14

Section 11.3   **Line** 257   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`txiProtocolJoinState missing new HSTR states.`

Solution: `Add them.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-15

Section 11.3   **Line** 259   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`txiProtocolEventStatus needs HSTR values`

Solution: `Add:`

```
Link status deasserted
Remove Alert received
TPPD expired
TPPLD expired
```

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-17

Section 11.3   **Line** 261   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`dtrStationAccessProtocolResponse needs HSTR values`

Solution: `Do it.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-16

Section 11.3   **Line** 261   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`dtrStationRequestedAccessProtocol needs HSTR values.`

Solution: `Do it.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-18

Section 11.3   **Line** 262   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`dtrStationAccessProtocolMask needs HSTR values`

Solution: `Do it.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-20

Section 11.3   **Line** 262   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`dtrStationMaxFrameSize needs to be increased to 18207 for HSTR.`

Solution: `Do it.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-21

Section 11.3   **Line** 263   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`Items missing for new HSTR option flags.`

Solution: `Add (or updated) items for:`

`FSANO, FSASO, FSHMRTUO, FSLMTO, FSMRO`

`for both dtrStationAdminXXXOption and dtrStationOpenXXXOption.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-24

Section 11.3   **Line** 268   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: `<< Note "Line number" is Amd. 1 page number >>`

`dtrCportPhantomDriveMask needs HSTR values.`

Solution: `Add them.`

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-22

Section 11.3   **Line** 268   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

dtrCportAccessProtocolMask needs HSTR values.

Solution: Add them.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-23

Section 11.3   **Line** 268   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

dtrCportMaxFrameSize needs to be increased to support 18207.

Solution: Do it.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment NAJ-25

Section 11.3   **Line** 268   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

Items missing for new HSTR option flags.

Solution: Add (or updated) items for:

FPANO, FPASO, FPHMRTUO, FPMRO

for both dtrCportAdminXXXOption and dtrCportOpenXXXOption.

Response: NAJ to generate an updated clause 11 from sources of draft 7.1 supplied by RDLove by 13th July.

Comment ANF-21

Section 13.9   **Line** 3   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: References still very variable: sometimes 'clause' sometimes 'section' and so on.

Solution: Correct references to clauses etc., to bring into line with IEEE 802.5 Editorship rules for committee editors in 00-04rl.

Response:

Comment NAJ-51

Section 13.9   **Line** 25   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☐   **Editing Complete** ☑

Concern: "maximum frame size" entry needs to say 18207 for HSTR.

Solution: Do it.

Response: And there are 18207 octets: count them kids!

Comment NAJ-52

Section 14.1   **Line** 25   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Abort sequence must be transmitted on octet boundaries, but may be received on any boundary. Say so.

Solution:

Response: This will be updated with words from 07-20, as modified by discussion on Thursday, 9 July.

Words from 07-20 to be used.

Comment KTW-17

Section 14.1   **Line** 26   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: I am concerned over the words "The abort sequence may occur anywhere after the SSD".

I believe this should be changed to indicate that the abort sequence is octet aligned after the SSD.

Solution: I would like to discuss the words to be written.

Response: This is covered by NAJ-52. The solution will be captured there.

Comment NAJ-53

Section 14.2   **Line** 98   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☑   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Is the IFG length of 12 octets on the MII, or on the wire? Discuss and fix.

Solution:

Response: Complete solution is captured in BBT-11.

Comment BBT-11

Section 14.2   **Line** 100   **Severity** DIS   **Type** TECH   **Status** MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: We originally defined the IFG to be 12 Bytes at the MII. The definition of IFG in clause 14 is on the wire. 24 idle symbols require 26 IDLE nibbles at the MII (IFG equal to 13 bytes).

Solution: Change the number of IDLE symbols to 22, and note that this requires 24 Nibbles at the MII.

Response: New words:

"For TXI Access Protocol operation, the IFG shall be transmitted on the wire as a minimum of 24 /I/ symbols. Note that if an MII device is being employed, then a minimum of 26 symbols are required at the MII interface to satisfy the IFG requirement, as the first two symbols on the interface are converted into the End-of-Sequence Delimiter, /T/R/, by the MII device."

Comment SJH-30

Section 14.3   **Line** 124   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Missing word "entity" between "receiving" and "receives".

Solution: Add it.

Response: Done it.

Comment IKN-07

Section 14.4   **Line** 228   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 2:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPD to detect the failure of phantom presence. However, at 100 Mbit/s, phantom detection may or may not be supported by the C-Port. Draft 2.1B fails to take this into account and starts timer TPPD whether or not the C-Port supports phantom detection. This causes an unexpected condition and causes the C-Port to enter the bypass state (JS=BP) in error. This requires a clarification in the definition of the timer TPPD.

Solution: Solution part 3 of 3 - See IKN-05 and IKN-06 for other parts of this solution.

To avoid definition problems in the future, the following change needs to be added as the last sentence of the definition of FPPD found on page 14-10, lines 228 through 231.

   "This timer is only used when phantom detection is
    supported by the C-Port."

Response: New TPPD definition:

"Each C-Port shall have a timer TPPD. This timer is used to ascertain if a C-Port fails to detect phantom being raised by the Station after the two entities have entered their Join complete states. The value of TPPD shall be between 1.8s and 2.2s. A value of 2s is recommended. This timer is only used when phantom detection is supported by the C-Port."

Comment NAJ-54

Section 14.4   **Line** 232   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Timer renamed to be "C-Port Protocol Loss Detect"

Solution: Update description.

Response: See IKN-04 for complete solution.

Comment IKN-04

Section 14.4   **Line** 232   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: This problem was found and resolved as part of the UNH Interoperability Testing. This set of words will be repeated in each item opened against the following general problem.

General Problem 1:

An unexpected expiration of the timer TPPLD causes the C-Port to enter Bypass instead of continuing Ring Recovery.

Overview of Problem:

Draft 2.1B uses TPPLD only to detect the absence of Phantom loss. However, the purpose of this detection is to determine whether the C-Port's Ring Recovery should proceed or the C-Port should enter the bypass state (JS=BP). At 100 Mbit/s, phantom detection may or may not be supported by the C-Port. When the C-Port does not support phantom detection, another detection mechanism must be used to make this determination. It has been assumed (but missing from Draft 2.1B) this mechanism would be the absence of the LMTN MAC frame. Further, it was determined the duration of TPPLD needed to be extended to handle the various forms of failure.

Solution: Solution part 4 of 4 - See IKN-01, IKN-02 and IKN-03 for other parts of this solution.

The timer TPPLD has been changed in both its meaning and its duration.

1. The meaning has been changed to include the the time it takes to detect either of the following two conditions.

   A) When phantom drive detection is supported by both the C-Port and the Station, the failure of Station to assert phantom drive.
   B) When phantom drive detection is not supported by the C-Port, the failure of the Station to start its Lobe Media Test.

2. The duration has been changed to cover both of the above two conditions.

The definition of TPPLD currently contained on page 14-10 and 14-11, lines 232 through 236, needs to be replaced with the following.

14.4.2.3 Timer, C-Port Protocol Loss Detect (TPPLD).

Each C-Port shall have a timer TPPLD. This timer is used during error recovery to ensure that the protocol is operating correctly. The timer expiring indicates that the protocol is not operating correctly, and the C-Port should return to bypass. The error conditions this timer catches are either phantom, if supported, not being deasserted, or the start of lobe media test not being detected. The value of TPPLD shall be between 15.8s and 16.2s. A value of 16s is recommended.

Response: New words:

14.4.2.3 Timer, C-Port Protocol Loss Detect (TPPLD).

Each C-Port shall have a timer TPPLD. This timer is used during error recovery to ensure that the protocol is operating correctly. The timer expiring indicates that the protocol is not operating correctly, and the C-Port should return to bypass. The error conditions this timer catches are either phantom, if supported, not being deasserted, or the start of lobe media test not being detected. The value of TPPLD shall be between 15.8s and 16.2s. A value of 16s is recommended.

Comment SJH-32

Section 14.4   **Line** 235   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: TPPLD is too short. It breaks hard error recovery because it can time out before the beacon/lobe test process has had time to start.

Solution: Increase in value from 8s nominal to 16s.

Response: See IKN-04 for a complete solution.

Comment NAJ-55

Section 14.4   **Line** 235   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Timer value is wrong. Detailed analysis shows that it should be 16s.

Solution: Fix values.

Response: See IKN-04 for complete solution.

Comment MJH-01

Section A.0   **Line** 1   **Severity** DIS   **Type** TECH   **Status** WITHDRAWN

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Following Station Policy Flags should be added to Annex A :-
FSANO, FSASO, FSLMTO

Solution: Do it!

Response: Neil has completely rewritten Annex A, after discovering that it was very broken in Amd 1 and would be very difficult to update for 100 Mbit/s

Detailed review required!

Comment ANF-12

Section A7.2   **Line** 1   **Severity** A/C   **Type** ED   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Title of A.7.2.3 is wrong.

Solution: Change 100BASE-TX to 100BASE-FX.

Response: Yes, and done it.

Comment NAJ-26

Section K.6   **Line** 341   **Severity** DIS   **Type** TECH   **Status** ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: << Note "Line number" is Amd. 1 page number >>

dtrCRFMaxInfo needs to be updated to support new HSTR MAX_TX.

Solution: Do it.

Response: Vote 07-24 directs Neil to generate an Annex K change page.

Done.

Comment NAJ-56

Section L.0   **Line**   1   **Severity** A/C   **Type** ED   **Status**   ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Out of date.

Solution:

Response: I have updated Annex L.

Comment NAJ-57

Section M.0   **Line**   1   **Severity** A/C   **Type** ED   **Status**   ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Out of date.

Solution:

Response: I have updated Annex M.

Comment ANF-13

Section U1.0   **Line**   23   **Severity** Q   **Type** ED   **Status**   MODIFIED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Should maximum frame size be 18207 octets (c.f. discussion on IFG etc.)?

Solution:

Response: Yes.

Comment RJK-07

Section W.0   **Line**   10   **Severity** A/C   **Type** ED   **Status**   REJECTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Remove carriage(s) return after ISO/IEC

Solution: Press delete key

Response: This appears to be an issue related to document formating in word. When revision
        history is turned off this formats correctly.

Comment RJK-08

Section W.0   **Line**   12   **Severity** A/C   **Type** ED   **Status**   ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Spelling of supplement

Solution: Change i to e

Response: except after c.
        Will do.

Comment ANF-14

Section W0.0 **Line** 11 **Severity** Q **Type** ED **Status** ANSWERED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Why is the ISO/IEC 802.3-1996 reference here different from that used elsewhere in the document? Do this mean that we need to change all other references to this?

Solution:

Response: Will change to match other references in document.

Comment ANF-15

Section W1.1 **Line** 28 **Severity** A/C **Type** ED **Status** MODIFIED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Wording needs clarification.

Solution: Change words so that the text in lines 28 - 29 reads;

This section addresses MII signals that support 100 Mbit/s token ring functions, but which do not exist in all 100Base-X implementations, or 100Base-X functions that do not exist in 100 Mbit/s token ring.

Response: will add "all" before "100Base-X" on line 29.

Comment ANF-16

Section W2.0 **Line** 47 **Severity** A/C **Type** ED **Status** REJECTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Does W.2 need to start on a new page?

Solution: If accepted, remove preceding page break.

Response: Again this is related to word reformating the document with revision history turned on. When turned off this appears OK.

Comment ANF-17

Section W2.2 **Line** 66 **Severity** A/C **Type** ED **Status** ACCEPTED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Reference to Annex Y should be to Annex Z.

Solution: Change Y to Z.

Response: Will do.

Comment ANF-18

Section W2.3 **Line** 71 **Severity** Q **Type** ED **Status** ANSWERED

Highlight To Committe ☐ **Commenter Agrees?** ☑ **Editing Complete** ☑

Concern: Has frame size has increased to 18207 octets(c.f. discussion on IFG etc.)?

Solution:

Response: If it has, this will be modified accordingly.

Comment **KTW-03**

Section Y.1   **Line**   53   **Severity** A/C   **Type** ED   **Status**   ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: Timer notations are incorrect.

Solution: Change to define timers TASC and TARFRW.

Response: I have done this change.

Comment **KTW-04**

Section Y.1   **Line**   54   **Severity** A/C   **Type** ED   **Status**   ACCEPTED

Highlight To Committe ☐   **Commenter Agrees?** ☑   **Editing Complete** ☑

Concern: AS=SDET is incorrect.

Solution: Change "AS=SDET" to "AS=SDETECT".

Response: I have done this change.

Comment Summary

Total Comments:: 162