

# 1000 Mbit/s Dedicated Token Ring 802.5v/d1.0: Comment Index

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Section 1.	0 Line 1 Severity DIS Type TECH Status ACCEPTED	
Highlight To Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🖌		
Concern:	In reviewing 802.5v, I found that many changes were made, but some do NOT include change bars and underscores to reflect the changes made (by 802.5v to 802.5t).	
	This is a serious problem since only by change bars and underscores does one realize the changes made to 802.5t in support of 1000 Mbit/s.	
Solution:	This must be corrected. I have identified the obvious omissions in other comments, but I did not attempt to find omissions. Subclause/clause editor is responsible.	
Response:	Annex to be added that highlights differences between 802.5v and 802.5t. Change bars will be an indication solely of changes between adjacent drafts. KTW accepts this solution.	
Rebuttal:		
Commen	t SJH-01	
Section 9.	0 Line 19 Severity A/C Type ED Status ACCEPTED	
Highlight 1	To Committe ☐ Commenter Agrees? ☐ Editing Complete ✔	
Concern:	Extra word "symbols". Also on line 23.	
Solution:	Remove it.	
Response:	ANF to check. Also note line 14 "L" uses "code-groups" not "symbols". Answer: "Code-groups" is correct. Remove the word "symbols" in both cases.	
Rebuttal:		
Commen	t KTW-01	
Section 9.	1 Line 22 Severity A/C Type ED Status ACCEPTED	
Highlight 1	To Committe	
Concern:	This line is marked with a change bar, but I do not see anything underlined or changed. Also, there is a period missing at the end of the sentence.	
Solution:	Fix it with underline or removed change bar. Add period at end of sentence.	
Response:	Word issue when generating pdf. Add period. Note this is in 9.2	
Rebuttal:		
Commen	t SJH-02	
Section 9.1	2 Line 2 Severity DIS Type TECH Status ACCEPTED	
Highlight 1	o Committe ✔ Commenter Agrees?   Editing Complete ✔	
Concern:	Resolve tradeup.	
Solution:	Suggest removing references to 1000Mbit/s tradeup altogether, based on fesibility of multiple-Phy implementations and on requirements.	
Response:	Committee agrees.	
Rebuttal:		
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### **Comment** SJH-03

Section 9.2	2 Line 50 Severity DIS Type TECH Status ACCEPTED
Highlight T	o Committe 🔄 Commenter Agrees? 🗌 Editing Complete 🖌
Concern:	This table talks about a counter "MAX_FR". This counter does not exist.
	This is a problem with 802.5t and Amd.1
	Note that the C-Port equivilent diagram doesn't mention any counters. One possible solution is to omit the counters from the Station diagram.
Solution:	There is no Maximum Frame Length Exceeded counter. The correct counter is CSABE (abort error transmitted).
Response:	This diagram will be fixed to use the same wording as the Abort error counter above. The inconsistancy between Station and Port diagrams will not be addressed here. An errata comment will be raised to address these issues in Amd.1 and 802.5t.
Debuttel	

### Rebuttal:

### Comment KTW-02

Section 9.2 Line 63 Severity DIS Type TECH Status MODIFIED

Highlight To Committe 🗸 Commenter Agrees?

**Concern:** FSANO is defined, but not used in any table. It is defined in 14 (page 14-12), but it is not correct there either.

This is a general problem in 802.5v and needs to be resolved. Because of the way the tables are started, it was decided to have the Connect.SMAC and Connect.PMAC require the PS\_STATUS.indication(Link\_status=Asserted. This signal occurs AFTER the FSANO (this subclause) and FPANO (subclause 9.3) flags need to be examined.

I have also opened the following items against this issue: KTW-13, KTW-23 and KTW-25, all being DIS/TECH.

- Solution: I suggest that 9.1 be changed to explain the meaning of FSANO and FPANO, and how and why it is to be used. Since I am not sure just how or why autonegotiation is used or not used at 1000 Mbit/s, I leave the solution to Andy, Neil and Simon.
- Response: Add text in 14 lines 327: "This flag is used prior to Connect.PMAC during Phy initialisation. See table 9.8-7.

Also for Station, line 276. Check KTW-23 and keep wording consistent.

### **Rebuttal:**

### **Comment** SJH-04

Section 9.2 Line 66 Severity A/C Type ED Status ACCEPTED
Highlight To Committe □ Commenter Agrees? □ Editing Complete ✔
Concern: 3 lines with lower-case "station".
Solution: Change to Upper case.
Response: OK.
Additionally this is an errata item in t.

Comment KTW-03
Section 9.2 Line 188 Severity DIS Type TECH Status ACCEPTED
Highlight To Committe 🖌 Commenter Agrees?
<b>Concern:</b> Line 188 on page 9.2-8 makes the statement: "that all requests should be made without phantom." This is incorrect because other clauses indicate that phantom will not be used at 1000 Mbit/s.
Solution: Change line 188 as follows.
FROM: " all requests should be" TO:    " all requests shall be"
Response: <sup>Ok</sup>
Rebuttal:
Comment SJH-05
Section 9.2 Line 372 Severity DIS Type TECH Status ACCEPTED
Highlight To Committe □ Commenter Agrees? □ Editing Complete 🗸
<b>Concern:</b> These paragraphs talk about 100Mbit/s transmit state machine but not 1000Mbit/s.
Solution: Two extra paragraphs must be added to reference relevant 9.8 sections for 1000Mbit/s operation.
Response: OK
Rebuttal:
Comment SJH-06
Section 9.2 Line 406 Severity DIS Type TECH Status REJECTED
Highlight To Committe 🗌 Commenter Agrees? 🖌 Editing Complete 🖌
Concern: There is a general problem with the state tables and their use of the OPEN ERROR indication within angle brackets. This is used to indicate to management that the current open process has failed. Many transitions that sent up an OPEN ERROR actually fire during Hard Error Recovery. The incorrect Station transitions are: 3164, 3134, 3124, 3135, 3125, 3138, 3112, 3103, 3136, 3137, 3139, 3126, 3140, 3127, 3162, 3165, 3130, 3131, 3144.
Note this applies to Amd.1 and 802.5t as well.
Solution: Something like: if FSJC=0 << OPEN ERROR = Protocol Error >> if FSJC=1 << Protocol Error >>
Response: This will be addressed as an errata item in 00-05.
Rebuttal:

Section 9.2 Line 406 Severity DIS Type TECH Status REJECTED Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete See KTW-04 as problem started there. Concern: The TSIS=E event needs to have a 1000 Mbit/s transition (OR greater) because of the requirement that SPV(PD)=0002 (transitions 3177 allows SPV(PD) to be either 0001 or 0002). Solution: Add a new transition as follows. S/T: blank REF: (Simon needs to assign) EVENT: TSIS=E & FSMR>2 & JS=SREG << DTR Station makes its first request for TXI Access Protocol setup by setting subvector values for the REG\_REQ\_MAC frame and then queues the frame for transmission. >> << NOTE: 1000 Mbit/s requires Phantom Drive to be inactive [SPV(PD)=0002]. >> << High Media Rate only >> ACTION: CSREQ=n6; TSREQ=R; FSPDC=1; FSPDA=0; TXI\_REG\_REQ (AP\_REQ=0002; IAC=SPV(IAC); PD=0002) << Transmit Registration Request with the AP\_REQ, IAC and PD Subvectors setup. >> Also, note that I have used  $\ensuremath{\mathsf{FSMR}}\xspace^2$  indicating greater than 100 Mbit/s is being supported since I assume speeds greater than 1000 Mbit/s will also not use phantom.

Finally, this new transition should include change bars and underscores.

### Response: See KTW-04

Section 9.2 Line 406 Severity DIS Type TECH Status REJECTED

### Highlight To Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🗸

Concern: Transition 3177 on page 9.2-24 is a dangerous transition because operates at either 100 Mbit/s or 1000 Mbit/s, but phantom SPV shall be 0002 for 1000 Mbit/s. Therefore, transition 3177 should operate at only 100 Mbit/s (see item KTW-05 for 1000 Mbit/s).

Also, while we are here, there were changes made to this transition, but no change bars or underscores are included.

**Solution:** Change event column as follows.

FROM: TSIS=E & FSMR>1 & JS=SREG TO: TSIS=E & FSMR=2 & JS=SREG

Also, remove the 4th and 5th lines of the note (see KTW-05).

Finally, this changed transition should include change bars and underscores.

**Response:** The state tables have been modified in such a way so that phantom is not precluded. Policy variables are the correct method for enforcing constraints due to particular hardware implementations and capabilities. It would be more dangerous to preclude phantom through some states but not others.

#### **Rebuttal:**

### **Comment KTW-06**

Section 9.2 Line 408 Severity DIS Type TECH Status MODIFIED

### Highlight To Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🗸

**Concern:** Transition 3210 on page 9.2-29 needs to be changed to agree with clause 14 which states that maximum frame size is 18207. If clause 14 is correct, then CSBTX needs to be set to 14. If clause 14 is incorrect, then CSBTX needs to be set to the appropriate number and clause 14 needs to be corrected.

Also, note that changes are made, but no underscores and change bars are included.

This error is also addressed in items KTW-07, KTW-15, KTW-16, KTW-24 and KTW-26.

Solution: 1. If clause 14 is correct, then make the following change to the action column of ref 3210.

FROM: "If FSMR=3 then CSBTX=,,SJH: ?>>;"
TO: "If FSMR=3 then CSBTX=14;"

2. If clause 14 is incorrect, then correct both and put the right number here.

Finally, any change that is made must include change bars and underscores.

Response: See KTW-07

Section 9.2 Line 408 Severity DIS Type TECH Status MODIFIED

Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete 🗸

Transition 3211 on page 9.2-30 needs to be changed to agree with clause 14 Concern: which states that maximum frame size is 18207. If clause 14 is correct, then CSBTX needs to be set to 14. If clause 14 is incorrect, then CSBTX needs to be set to the appropriate number and clause 14 needs to be corrected. Also, note that changes are made, but no underscores and change bars are included. This error is also addressed in items KTW-06, KTW-15, KTW-16, KTW-24 and KTW-26. Solution: 1. If clause 14 is correct, then make the following change to the action column of ref 3211. FROM: "If FSMR=3 then CSBTX=,,SJH: ?>>;" TO: "If FSMR=3 then CSBTX=14;" 2. If clause 14 is incorrect, then correct both and put the right number here. Finally, any change that is made must include change bars and underscores. Response: See note posted to reflector. Values to be adopted are:

CxBTX=18 (hex) MAX\_TX=18211 (decimal)

### **Rebuttal:**

### **Comment** SJH-08

 Section 9.2
 Line 408
 Severity DIS
 Type TECH
 Status
 MODIFIED

 Highlight To Committe
 Commenter Agrees?
 ✓
 Editing Complete
 ✓

 Concern:
 States 3211 and 3210 have unresolved values for CSBTX. See SJH-7 for more information.

Solution:

Response: See KTW-07

**Rebuttal:** 

### **Comment** IMJ-01

Section 9.2 Line 408 Severity DIS Type TECH Status MODIFIED Highlight To Committe □ Commenter Agrees? ✓ Editing Complete ✓ Concern: REF 3210, 3211 CSBTX value at 1000 Mbit/s not specified. Solution: Response: See KTW-07 Rebuttal:

#### **Comment KTW-08** Section 9.2 **Line** 426 Severity A/C Type ED Status ACCEPTED Highlight To Committe Commenter Agrees? Editing Complete 🗸 There is a change bar on ref 3801, but I do not see any change that was made Concern: (may be Table 9.2-7?). Either mark change in ref 3801 with underscores or remove change bar. Solution: In any case, put a space between "9.2-7" and "Starting Point". Also, change font size of "Table 9.2-7 Starting Point" to agree with rest of transition. Response: Ok. This also applies to 802.5v. **Rebuttal: Comment KTW-09** Section 9.2 Severity A/C Status ACCEPTED **Line** 437 Type ED Highlight To Committe Commenter Agrees? Editing Complete On page 9.2-44 correct PS\_STATUS.indication(Link\_status=Asserted) and Concern: PS\_STATUS.indication(Link\_status=Not\_sserted) so the references agree with the ones on page 9.3-37. Solution: I am not sure which is correct, so I will leave this change to Simon. Response: OK. Correct reference is 9.8.1.1.3 (note 802.5t does not have this error.) **Rebuttal: Comment** KTW-11 Severity A/C Type ED Section 9.2 **Line** 445 **Status REJECTED** Highlight To Committe Commenter Agrees? Editing Complete In meaning of TX\_AB on page 9.2-48, the last bullet defining 1000 Mbit/s is Concern: new, but not underscored or marked with change bars. Solution: Fix it. Response: Again the change bars were in draft 0.3 **Rebuttal: Comment KTW-12** Status REJECTED Section 9.2 **Line** 445 Severity A/C Type ED Highlight To Committe Commenter Agrees? Editing Complete In meaning of TX\_SFS(P=value; R=value), the last bullet defining 1000 Mbit/s Concern: is new, but not underscored or marked with change bars. Solution: Fix it. Response: The change marks were in draft 0.3. Change bars refer to changes since the last draft only (in this case draft 0.4).

Commen	t KTW-10
Section 9.	2 Line 445 Severity A/C Type ED Status ACCEPTED
Highlight 1	Fo Committe □ Commenter Agrees? □ Editing Complete ✔
Concern:	Verify the references on page 9.2-47 in the following action terms to make them agree with same actions on page 9.3-39:
	PM_CONTROL.request(Transmit_mode=Fill
	through
	PS_CONTROL.request(Transmit_mode=No_fill)
Solution:	Fix it.
Response:	These references are correct.
Rebuttal:	
Commen	t KTW-13
Section 9.	3 Line 79 Severity DIS Type TECH Status MODIFIED
Highlight 1	Fo Committe ✔ Commenter Agrees? ✔ Editing Complete ✔
Concern:	FPANO is defined, but not used in any table. It is defined in 14 (page 14- 12), but it is not correct there either.
	This is a general problem in 802.5v and needs to be resolved. Because of the way the tables are started, it was decided to have the Connect.SMAC and Connect.PMAC require the PS_STATUS.indication(Link_status=Asserted. This signal occurs AFTER the FPANO (this subclause) and FSANO (subclause 9.2) flags need to be examined.
	I have also opened the following items against this issue: KTW-02, KTW-23 and KTW-25, all being DIS/TECH.
	Note: This is the same problem as defined in KTW-02.
Solution:	I suggest that 9.1 be changed to explain the meaning of FSANO and FPANO, and how and why it is to be used. Since I am not sure just how or why auto- negotiation is used or not used at 1000 Mbit/s, I leave the solution to Andy, Neil and Simon.

Response: See KTW-02

Section 9.3 Line 378 Severity DIS Type TECH Status MODIFIED

### Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete 🗸

**Concern:** Transition 1202 on page 9.3-27 needs to be changed to agree with clause 14 which states that maximum frame size is 18207. If clause 14 is correct, then CPBTX needs to be set to 14. If clause 14 is incorrect, then CPBTX needs to be set to the appropriate number and clause 14 needs to be corrected.

Also, note that changes are made, but no underscores and change bars are included.

This error is also addressed in items KTW-06, KTW-07, KTW-16, KTW-24 and KTW-26.

Solution: 1. If clause 14 is correct, then make the following change to the action column of ref 1202.

FROM: "If FPMR=3 then CPBTX=,,SJH: ?>>;"
TO: "If FPMR=3 then CPBTX=14;"

2. If clause 14 is incorrect, then correct both and put the right number here.

Finally, any change that is made must include change bars and underscores.

Response: See KTW-07

### Rebuttal:

**Comment SJH-07** 

Section 9.3 Line 378 Severity DIS Type TECH Status MODIFIED

Highlight To Committe Commenter Agrees? V Editing Complete V

Concern: Transitions 1202 and 1201 both have placemarkers for CPBTX at 1000Mbit/s

Solution: Use the same value as at 100Mbit/s (14 hex) for the following reason: Maximum media-independent data length is to be the same for 16M, 100M and 1000M. This is the main objective of the maximum frame lengths. The Maximum CPBTX values for 100M and 1000M are already defined as 18207 octets. Therefore CPBTX must be initialised to 14H to keep the media-independent section the same length.

A note should be added to 14 to explain the purpose of specifying the different maximum-transmit values for the speeds 16M, 100M and 1000M; the maximum data length should be the same for all these rates. [See SJH-10]

Response: See KTW-07

Section 9.3 Line 378 Severity DIS Type TECH Status MODIFIED

Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete 🗸

**Concern:** Transition 1201 on page 9.3-27 needs to be changed to agree with clause 14 which states that maximum frame size is 18207. If clause 14 is correct, then CPBTX needs to be set to 14. If clause 14 is incorrect, then CPBTX needs to be set to the appropriate number and clause 14 needs to be corrected.

Also, note that changes are made, but no underscores and change bars are included.

This error is also addressed in items  $KTW-06,\ KTW-07,\ KTW-15,\ KTW-24$  and KTW-26.

Solution: 1. If clause 14 is correct, then make the following change to the action column of ref 1201.

FROM: "If FPMR=3 then CPBTX=,,SJH: ?>>;"
TO: "If FPMR=3 then CPBTX=14;"

2. If clause 14 is incorrect, then correct both and put the right number here.

Finally, any change that is made must include change bars and underscores.

Response: See KTW-07

#### Rebuttal:

### **Comment** KTW-14

Section 9.3 Line 378 Severity DIS Type TECH Status MODIFIED

Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete 🗸

**Concern:** Transition 1147 on page 9.3-24 (hopefully this is the right page since 9.3 has no page numbers) is correct, but I believe it is misleading. This ref can only occur at 100 Mbit/s because phantom is not allowed at 1000 Mbit/s or greater. I think it would be better to make it exactly correct by changing the test of FPMR.

Solution: If this is accepted, then change ref 1147 as follows.

FROM: "... FPMR>1 ..." TO: "... FPMR=2 ..."

**Response:** The real issue here is that the comment in angle-brackets is confusing. The transition itself is correct. Change to "High Media Rate when phantom is supported".

Rebuttal:

### **Comment** IMJ-02

Section 9.3 Line 380 Severity DIS Type TECH Status MODIFIED Highlight To Committe □ Commenter Agrees? ✓ Editing Complete ✓ Concern: REF 1201, 1202 CPBTX value at 1000 Mbit/s not specified. Solution: Response: See KTW-07 Rebuttal:

#### **Comment** KTW-17 Section 9.3 **Line** 401 Severity A/C Type ED Status ACCEPTED Highlight To Committe Commenter Agrees? Editing Complete On page 9.3-37 correct PS\_STATUS.indication(Link\_status=Asserted) and Concern: PS\_STATUS.indication(Link\_status=Not\_sserted) so the references agree with the ones on page 9.2-44. Solution: I am not sure which is correct, so I will leave this change to Simon. Response: See KTW-09. **Rebuttal: Comment KTW-20** Section 9.3 **Line** 408 Severity A/C Type ED Status REJECTED Highlight To Committe Commenter Agrees? Editing Complete In meaning of TX\_SFS(P=value; R=value) on page 9.3-41, the last bullet Concern: defining 1000 Mbit/s is new, but not underscored or marked with change bars. Solution: Fix it. Response: Change bars went in to draft 0.3 for this alteration so no change bars are required here. **Rebuttal: Comment** KTW-19 Section 9.3 **Line** 408 Severity A/C Type ED Status REJECTED Highlight To Committe Commenter Agrees? Editing Complete In meaning of TX\_AB on page 9.3-40, the last bullet defining 1000 Mbit/s is Concern: new, but not underscored or marked with change bars. Solution: Fix it. Response: Change bars were included in draft 0.3 for this item. **Rebuttal: Comment** SJH-09 Section 9.3 **Line** 408 Severity A/C Type ED Status ACCEPTED Highlight To Committe Commenter Agrees? Editing Complete Concern: Five definitions have missing references with placemarkers: PM\_CONTROL.request(Transmit\_mode=Fill) to PS\_CONTROL.request(Transmit\_mode=Repeat) Solution: Add references. Response: OK

Comment	KTW-18
Section 9.3	Line 408 Severity A/C Type ED Status ACCEPTED
Highlight T	o Committe 🔄 Commenter Agrees? 🗌 Editing Complete 🖌
Concern:	Verify the references on page 9.3-39 in the following action terms to make them agree with same actions on page 9.2-39:
	PM_CONTROL.request(Transmit_mode=Fill
	through
	<pre>PS_CONTROL.request(Transmit_mode=No_fill)</pre>
Solution:	Fix it.
Response:	ОК.
Rebuttal:	
Comment	KTW-21
Section 9.8	Line 5 Severity A/C Type ED Status REJECTED
Highlight T	o Committe 🗌 Commenter Agrees? 🗹 Editing Complete 🖌
Concern:	Changes have been made to this paragraph, but no underscores or change bars exist.
Solution:	Fix it.
Response:	Change bars were included in draft 0.3 for this item.
Rebuttal:	
Comment	KTW-22
Section 9.8	Line 16 Severity A/C Type ED Status ACCEPTED
Highlight T	o Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🖌
Concern:	The last sentence is confusing.
Solution:	Change lines 16 through 18 as follows.
	FROM:
	This section replaces clause 5: Station specific components, clause 7: Station attachment specifications, and clause 8: Concentrator specifications, for 1000 Mbit/s operation.
	то:
	For 1000 Mbit/s operation, this subclause replaces clause 5: Station Specific Components, clause 7: Station Attachment Specifications, and clause 8: Concentrator Specifications.
	Note that in above fix, I have put some words in title case because it refers to a specific clause.
Response:	Accepted. Additionally, clarification is aided by placing this text in a new paragraph.
Rebuttal:	

Commen	KR-01
Section 9.8	B Line 19 Severity A/C Type ED Status ACCEPTED
Highlight T	o Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🗸
Concern:	Too wordy. The use of PSC-X implies the use of twin-axial cable and optical fibre.
Solution:	Remove "for twin-axial cable and optical fibre media types" from the sentence.
Response:	Done.
Rebuttal:	
Commen	KR-02
Section 9.8	B Line 34 Severity DIS Type TECH Status MODIFIED
Highlight T	o Committe 🗌 Commenter Agrees? 🖌 Editing Complete 🖌
Concern:	Big OOPS. You should do here what you did for PSC-X. (Part 1 of 3. See also KR-03 and KR-04)
Solution:	Replace "The 1000BASE-T PSC and PMC for twisted pair media are" with "The PSC-T is".
Response:	Still need " and PMC for" so just swap "1000BASE-T PSC" with "PSC-T".
	The wording has been changed to:
	"The PSC-T and the 1000 Mbit/s PMC for twisted pair media (hereafter referred to as PMC-T) are specified by incorporating portions of the [802.3] Sstandard, by reference with the modifications noted below. The PSC-T sublayer is analogous to the combination of the PCS and PMA sublayers of [802.3] 40. The PMC-T sublayer is analogous to the PMD sublayer of [802.3] 40 together with a new Reconciliation Sublayer (RS) which provides an interface to the MAC."
	Note also that in introducing this definition of PMC-T, definitions have also been introduced for PMC-X including PMC-XF for optical fibre and PMC-XT for twin axial cable.
	These definitions have a knock-on effect throughout the rest of 9.8.2 and also in 13.10. Where necessary, the text in both clauses has been changed to reflect these definitions.
Rebuttal:	OK
Commen	EDTR-71
Section 9.8	3 Line 35 Severity A/C Type ED Status ACCEPTED

Section 9.8 Line 35 Severity A/C Type ED Status ACCEPTE Highlight To Committe □ Commenter Agrees? □ Editing Complete ✓ Concern: Capital "S" on Standard inappropriate. Solution:

- Response:
- •

Comment IXR-05
Section 9.8 Line 36 Severity DIS Type TECH Status ACCEPTED
Highlight To Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🗸
<b>Concern:</b> Big OOPS. You should do here what you did for PSC-X. (Part 2 of 3. See also KR-02 and KR-05)
Solution: Add this at end of paragraph after "[802.3]40" "together with a new Reconciliation Sublayer (RS) which provides an interface to the MAC"
Response: See response to KR-02.
Rebuttal:
Comment KR-05
Section 9.8 Line 37 Severity DIS Type TECH Status MODIFIED
Highlight To Committe 🗌 Commenter Agrees? 🗸 Editing Complete 🗸
<b>Concern:</b> Big OOPS. You should do here what you did for PSC-X. (Part 3 of 3. See also KR-02 and KR-03)
Solution: Add the following paragraph either after lin 36 or before line 37
"The 1000 Mbit/s PMC for twisted pair media (hereafter TP-PMD) is specified by incorporating portions of the PMD sublayer of [802.3] 40."
<b>Response:</b> Committee doesn't agree with wording of suggested solution, especially in the use of TP-PMD. ANF to suggest different wording.
See response to KR-02.
<b>Rebuttal:</b> I am agreeable with whatever wording the committee agrees upon as long as the essence of what I am trying to do here (I.e. a unique name for the 1000Mbit/s PMC for GBTR) is done.
Comment KR-06
Section 9.8 Line 45 Severity A/C Type ED Status ACCEPTED
Highlight To Committe 🗌 Commenter Agrees?
<b>Concern:</b> Although their use is correct, there may be confusion over the use of the terms 1000BASE-X PSC and PMC in this sentence.
Solution: Add "in [802.3]" after "is precisely defined"
Response: Done.
Rebuttal:
Comment KR-07
Section 9.8 Line 47 Severity DIS Type TECH Status ACCEPTED
Highlight To Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🖌
<b>Concern:</b> Here the use of "1000BASE-X" is incorrect since the draft standard is talking about using the TBI in gigabit token ring systems.

Solution: Replace "1000BASE-X" with "PSC-X".

**Response:** To put this sentence into the context introduced in support of the response to KR02, the wording has been changed to:

"Exposing the TBI instead of the GMII is recommended for interfacing between the PSC-X and PMC-X systems sublayers since it provides a more convenient partition between the high frequency circuitry associated with the PMC sublayer and the logic functions associated with the PSC and MAC sublayers. "

**Rebuttal:** 

26-May-99

802.5/99/05-05

Section 9.8 Line 54 Severity A/C Type ED Status ACCEPTED
Highlight To Committe □ Commenter Agrees? □ Editing Complete ✓
Concern: "standardised" is the British spelling
Solution: Replace "standardised" with "standardized"
Response: Corrupted, oops, I mean corrected to the American spelling.
 See responses to KR-08 and KR-10

### Rebuttal:

### Comment KR-08

00111101	
Section 9.	8 Line 54 Severity DIS Type TECH Status MODIFIED
Highlight 1	o Committe 🗌 Commenter Agrees? 🗸 Editing Complete 🖌
Concern:	"1000BASE-X" - WRONG! 1000Base-X usage incorrect.
Solution:	Replace "1000BASE-X PHY" with "[FC-PMD]"
Response:	Remove reference to fibre-channel since 802.3 modifies fibre-channel. We want to use the 802.3 PHY, not the fibre-channel one. Solution is incorrect. Change to: "Define a PHY compatible with standardized and implemented versions of 1000BASE-X."
	Following Karls rebuttal; his words have been used.
Rebuttal:	Although I debate the fact that PSC-X uses a Fibre Channel PHY (don't forget CX is Fibre Channel based) making the reference to 1000BASE-X would cover both. I will agree to the change if the wording is as follows

CX is Fibre Channel based) making the reference to 1000BASE-X would cover both. I will agree to the change if the wording is as follows... "Define a PHY based on standardized and implemented versions of 1000BASE-X." I fear that the words "compatible with" would prevent us from adding stuff like larger FIFOs for GBTR operation.

### Comment KR-10

Severity DIS Type TECH Status MODIFIED Section 9.8 Line 56 Highlight To Committe Commenter Agrees? Editing Complete Concern: "1000BASE-T PHY" - WRONG! 1000Base-T usage incorrect. Solution: Replace "1000BASE-T PHY" with "[TP-PMD]" Note TP-PMD is defined in KR-05 Response: Solution is incorrect. Change to: "Define a PHY compatible with standardized and implemented versions of 1000BASE-T." Following Karls rebuttal; his words have been used. Rebuttal: Again I will agree if the words are... "Define a PHY based on standardized and implemented versions of 1000BASE-T."

Again I am concerened about the committee's words precluding needed

addiditons for GBTR operation

Comment	KR-11
Section 9.8	Line 56 Severity A/C Type ED Status ACCEPTED
Highlight T	o Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🖌
Concern:	"standardised" is the British spelling
Solution:	Replace "standardised" with "standardized"
Response:	Grump, grump, done, see KR-09.
Rebuttal:	
Comment	KR-12
Section 9.8	Line 73 Severity A/C Type ED Status MODIFIED
Highlight T	o Committe 🗌 Commenter Agrees? 🗹 Editing Complete 🖌
Concern:	Wrong symbol used in "RXD[07]"
Solution:	Change to "RXD<07>" (same as all other occurences)
Response:	Committee decided to uses notation RXD07 rather than the 802.3 notation RXD<7:0> because
	1) The 802.5 MSB is bit0; the 802.3 MSB is bit7. The different notation will
	avoid confusion. 2) 802.5 documents use 07 notation elsewhere, such as in 802.5t.
	There are many places in 802.5v where the notation needs to change. Careful review will be required.
	An errata item will be raised to cover the inconsistent use of this notation in 802.5t.
Rebuttal:	OK. Just make sure that ALL references are corrected (and there are a lot!)
Comment	KR-13
Section 9.8	Line 99 Severity DIS Type TECH Status MODIFIED
Highlight T	o Committe 🗌 Commenter Agrees? 🗹 Editing Complete 🖌
Concern:	Wrong interface label "RXD07"
Solution:	Change to "TXD<07>"
Response:	OK. See KR-12 for notation.
Rebuttal:	OK. Just make sure that it is TXD07
Comment	KR-14
Section 9.8	Line 111 Severity A/C Type ED Status MODIFIED
Highlight T	o Committe 🗌 Commenter Agrees? 🗹 Editing Complete 🖌
Concern:	wrong format for "TXD<7:0>"
Solution:	change to "TXD<07>"
Response:	OK. See KR-12 for notation.
Rebuttal:	

Comment KR-15
Section 9.8 Line 114 Severity A/C Type ED Status WITHDRAWN
Highlight To Committe 🗌 Commenter Agrees? 🗹 Editing Complete 🖌
Concern: wrong format for "TXD07"
Solution: change to "TXD<07>"
Response: OK. See KR-12 for notation.
Rebuttal:
Comment KR-16
Section 9.8 Line 116 Severity A/C Type ED Status WITHDRAWN
Highlight To Committe 🗌 Commenter Agrees?
<b>Concern:</b> wrong format for "TXD07"
Solution: change to "TXD<07>"
<b>Response:</b> OK. See KR-12 for notation.
Rebuttal:
Comment KR-17
Section 9.8 Line 164 Severity A/C Type ED Status MODIFIED
Highlight To Committe 🗌 Commenter Agrees? 🗸 Editing Complete 🗸
Concern: wrong format for "RXD70"
Solution: change to "RXD<07>"
Response: OK. See KR-12 for notation.
Rebuttal:
Comment KR-18
Section 9.8 Line 166 Severity A/C Type ED Status MODIFIED
Highlight To Committe 🗌 Commenter Agrees? 🗸 Editing Complete 🗸
<b>Concern:</b> wrong format for "TXD70"
Solution: change to "TXD<07>"
Response: OK. See KR-12 for notation.
Rebuttal:
Comment KR-19
Section 9.8 Line 232 Severity A/C Type ED Status ACCEPTED
Highlight To Committe 🗌 Commenter Agrees?
Concern: "Token Ring" redundant
Solution: Remove "Token Ring"
Response: OK
Rebuttal:

Comment KI	R-20
Section 9.8	Line 239 Severity A/C Type ED Status ACCEPTED
Highlight To Co	mmitte Commenter Agrees? Editing Complete
Concern: "To	ken Ring" redundant
Solution: Rem	ove "Token Ring"
Response: OK	
То н	maintain the grammar here the text has been changed to:
"Au	tonegotiation shall be disabled within PSC-X."
Rebuttal:	
Comment K	R-21
Section 9.8	Line 241 Severity DIS Type TECH Status ACCEPTED
Highlight To Co	mmitte Commenter Agrees? Editing Complete
Concern: The	term "1000 Mbit/s Token Ring" is wrong
Solution: Rep	lace with "PSC-X"
Response: Don	e.
Rebuttal:	
Comment KI	R-22
Section 9.8	Line 242 Severity DIS Type TECH Status ACCEPTED
Highlight To Co	mmitte Commenter Agrees? Editing Complete 🗸
Concern: Let	's keep the terminology consistant.
Solution: Rep	lace "1000 Mbit/s" with "PSC-X"
Response: To 1	misquote a well known TV presenters' faux pas:
	th terminology of this consistency, you too can make doughnuts just like
Fan: Rebuttal:	nys'."
Comment K	
	Line 267 Severity DIS Type TECH Status MODIFIED
	mmitte Commenter Agrees? $\checkmark$ Editing Complete $\checkmark$
	ause of KR-22 you need to add mention of the fact that PSC-T does not port a repeater.
"Th	the following paragraph after 267 ere is no support for a PSC-T repeater."
" Th	Additionally, need to add: e delay constraints of [802.3] ~40 are not mandatory." completeness.
The	two bits of text put in here now reads:
"Th	e delay constraints of [802.3] 40.11 are not mandatory PSC-T.
The	re is no support for a PSC-T repeater."
Not	e that this text is guaranteed free of G.M. 'approximately' characters.
Rebuttal: OK	but make sure there is no tilde in front of 40.

26-May-99

802.5/99/05-05

Section 9.8 Line 297 Severity DIS Type TECH Status MODIFIED Highlight To Committe Commenter Agrees? Editing Complete Concern: "PSC-T" is the wrong term to use here. It refers to a PSC not a PMD. Solution: Replace "PSC-T" with "[TP-PMD]" or equivalent. Response: Accept concern but TP-PMD is the wrong notation (see KR-05). "1000 Mbit/s PMD for twisted pair media" instead of TP-PMD. A definition for PMC-T has been introduced. See response to KR-02. There is also an erroneous reference to 'Replacement of 11.2,'. The text has therefore been changed to read: "9.8.2.4.3.2 "Crossover Function" No crossover function is required for PMC-T. All signal pairs are bidirectional and an automatic crossover facility is a compulsory part of [802.3] 40. Consequently there should be no difference in the MIC pins. Both station and C-port MICs should be configured to have pinouts as specified by [802.3]. The Management Interface registers of C-ports should be initialized to have a preference to be a "Multiport device" and the Management Interface of Stations should be initialized to have a preference to be a "Single port device". This will simplify the crossover negotiation phase between link partners." Note also that to maintain the context and to correct the erroneous reference to 'Replacement of 11.2,', the text for paragraph 9.8.2.4.1.1 has also been changed to read: "9.8.2.4.1.1 "Crossover Function" In order to simplify C-port hardware for implementations using the PMC-XT,

In order to simplify C-port hardware for implementations using the PMC-XT, the cabling crossover function will be always be carried out in the cable plant and not by the C-port hardware. In this respect the implementation of PMC-XT is similar to that of PMC-XF."

Rebuttal: Or whatever term the committee eventually comes up with.

### **Comment** KR-25

Section 9.8 Line 300 Severity A/C Type ED Status ACCEPTED
Highlight To Committe □ Commenter Agrees? □ Editing Complete ✔
Concern: "initialised" is the British spelling
Solution: replace "initialised" with "initialized"
Response: Mutter, mutter, done.
Bah, humbug! And in line 301.

Comment	NAJ-01
Section 11.0	D Line 0 Severity A/C Type ED Status WITHDRAWN
Highlight T	o Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🖌
	Review clause 11 to possibly include auto negotiation information. Media rate is OK.
Solution:	
	Review has been carried out. No autonegotiation support is required in clause 11.
Rebuttal:	
Comment	EDTR-72
Section 11.3	3 Line 0 Severity DIS Type TECH Status ACCEPTED
Highlight T	o Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🖌
	dtrCportMaxFrameSize object needs to include the 1000Mbit/s value 18211. Also for dtrStationMaxFrameSize. Remember the Compliance section.
Solution:	
Response:	
Rebuttal:	
Comment	SJH-10
Section 14.0	D Line 300 Severity A/C Type ED Status ACCEPTED
Highlight T	o Committe 🗌 Commenter Agrees? 🗌 Editing Complete 🖌
	and line 352. For clarity, a note should be added to the Policy variable tables to indicate the purpose of the maximum transmit values. Specifically, the 100Mbit/s and 1000Mbit/s values are chosen to allow the media-independent portion of the frame to be as large as the maximum permitted at 16Mbit/s. If this is noted then it is more obvious to an implementer trying to work out what the actual maximum frame value is.
Solution:	Insert a note at the definition of SPV(MAX_TX) / PPV(MAX_TX) which states that "these values are chosen such that at 16Mbit/s, 100Mbit/s and 1000Mbit/s the maximum length of the media-encoding-independent portion of the frame remains the same".
Response:	
Rebuttal:	
Comment	KR-26
Section 14.3	3 Line 153 Severity Q Type TECH Status ANSWERED
Highlight T	o Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🗸
	Do we need to add a value in table 14-2 defining "Station is 1000 Mbit/s capable"? Note that if a value is added it should be logically "and"able to X'0004' to support the possibility of stations supporting both 100 and 1000 Mbit/s operation. May I suggest X'0008'? Thus a station that supports both would send a value of X'000C'.
Solution:	
Response:	Tradeup to 1000 Mbit/s has been removed. Note this table used to have an entry X'0008' for 1000Mbit/s but it was removed in draft 0.3
Rebuttal:	

26-May-99

802.5/99/05-05

### Section 14.3 Line 161 Severity Q Type TECH Status ANSWERED

### Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete 🗸

Concern: Do we need to add a value in table 14-3 defining "The C-Port will support the Station 1000 Mbit/s capability"? Note that if a value is added it should be logically "and"able to X'0004' to support the possibility of C-ports supporting both 100 and 1000 Mbit/s operation. May I suggest X'0008'? Thus a C-port that supports both would send a value of X'000C'.

Solution:

Response: See KR-26

### **Rebuttal:**

### **Comment** KTW-23

#### Section 14.4 Line 271 Severity DIS Type TECH Status MODIFIED

Highlight To Committe 🗸 Commenter Agrees?

**Concern:** See item KTW-02 repeated below.

FSANO is defined, but not used in any table. It is defined in 14 (page 14-12), but it is not correct there either.

This is a general problem in 802.5v and needs to be resolved. Because of the way the tables are started, it was decided to have the Connect.SMAC and Connect.PMAC require the PS\_STATUS.indication(Link\_status=Asserted. This signal occurs AFTER the FSANO (this subclause) and FPANO (subclause 9.3) flags need to be examined.

I have also opened the following items against this issue:  $\rm KTW-02,\ \rm KTW-13$  and  $\rm KTW-25,$  all being DIS/TECH.

Solution: Committee needs to decide, but my suggestion is as follows.

I suggest that 9.1 be changed to explain the meaning of FSANO and FPANO, and how and why it is to be used. Since I am not sure just how or why autonegotiation is used or not used at 1000 Mbit/s, I leave the solution to Andy, Neil and Simon.

**Response:** Improved wording: "FSANO is used to initialise the Phy's autonegotiation support prior to issuing a Connect.SMAC."

See also KTW-02.

Section 14.5 Line 3	300 Severity	y A/C Type	TECH	Status	WITHDRAWN
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Highlight To Committe 🖌 Commenter Agrees? 🗌 Editing Complete 🖌

- Concern: Note that a SPV(MAX\_TX) of 18207 for 1000 Mbit/s is theoretically possible. The limiting factor for this is the size of the FIFOs inside the PHY device. The larger the FIFO the larger the frame. So far the largest FIFOs I have seen in a gigabit PHY are about 9K. So if we are set on 18,207 octet frames we need to get the PHY vendors on board. But be warned. Unlike 100 Mbit/s where the limiting factors were timers that could have their values easly modified in the silicon with little impact, FIFOs take up real space on a die. Thus there may be little we can do for the immediate future. If product is sold with a maximum frame size less than 18207 this also opens Bob's concern about being beaten up as non-compliant although this is not the case
- Solution: I see one of two solutions:
   Lower SPV(MAX\_TX) to a level that works with current silicon.
   Keep it where its at, possibly clarifying the fact that smaller value
   are allowed and do not make an implementation non-compliant
- Response: 1) is unacceptible.
   2) is how things are at the moment. Choose this. No action required. Done.
   [Note that implementations are allowed to use a lower value for SPV(MAX\_TX)
   if they wish and still be fully complient. The table listing SPV(MAX\_TX)
   values is showing MAXIMUM allowable max\_tx values]
- **Rebuttal:** I will withdraw it then. Just be aware that Bob Love might pull one of his "but we may get roasted by the competition over the fact that we don't support 18211 octet frames" arguments. Is it the opinion of the committee that "< 18211" is OK is clear enough in the current standard?

### **Comment KTW-24**

Section 14.5 Line 300 Severity DIS Type TECH Status MODIFIED

### Highlight To Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🖌

**Concern:** Frame size for 1000 Mbit/s needs to be resolved. The following is from KTW-06.

Transition 3210 on page 9.2-29 needs to be changed to agree with clause 14 which states that maximum frame size is 18207. If clause 14 is correct, then CSBTX needs to be set to 14. If clause 14 is incorrect, then CSBTX needs to be set to the appropriate number and clause 14 needs to be corrected.

Also, note that changes are made, but no underscores and change bars are included.

This error is also addressed in items KTW-06, KTW-07, KTW-15, KTW-16 and KTW-26.

Solution: Committee needs to decide on maximum frame size.

### Response: See KTW-07.

Line 322

Section 14.5

Highlight To Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🗸			
Concern:	The following is from KTW-13.		
	FPANO is defined, but not used in any table. It is defined in 14 (page 14-12), but it is not correct there either.		
	This is a general problem in 802.5v and needs to be resolved. Because of the way the tables are started, it was decided to have the Connect.SMAC and Connect.PMAC require the PS_STATUS.indication(Link_status=Asserted. This signal occurs AFTER the FPANO (this subclause) and FSANO (subclause 9.2) flags need to be examined.		
	I have also opened the following items against this issue: KTW-06, KTW-13 and KTW-23, all being DIS/TECH.		
Solution:	Note: This is the same problem as defined in KTW-02. Committee needs to decide, but my suggestion is as follows.		
	I suggest that 9.1 be changed to explain the meaning of FSANO and FPANO, and how and why it is to be used. Since I am not sure just how or why auto- negotiation is used or not used at 1000 Mbit/s, I leave the solution to Andy, Neil and Simon.		
Response	: See KTW-02/-13 etc		
Rebuttal:			

Type TECH Status MODIFIED

### **Comment** KTW-26

Section 14.5 Line 352 Severity DIS Type TECH Status MODIFIED

Highlight To Committe 🖌 Commenter Agrees? 🖌 Editing Complete 🗸

Severity DIS

Concern: Frame size for 1000 Mbit/s needs to be resolved. The following is from KTW-06.

Transition 3210 on page 9.2-29 needs to be changed to agree with clause 14 which states that maximum frame size is 18207. If clause 14 is correct, then CSBTX needs to be set to 14. If clause 14 is incorrect, then CSBTX needs to be set to the appropriate number and clause 14 needs to be corrected.

Also, note that changes are made, but no underscores and change bars are included.

This error is also addressed in items KTW-06, KTW-07, KTW-15, KTW-16 and KTW-26.

Solution: Committee needs to decide on maximum frame size.

Response: See KTW-07

### Section 14.5 Line 352 Severity A/C Type TECH Status REJECTED

### Highlight To Committe 🗸 Commenter Agrees? 🗸 Editing Complete 🗸

Concern: Note that a PPV(MAX\_TX) of 18207 for 1000 Mbit/s is theoretically possible. The limiting factor for this is the size of the FIFOs inside the PHY device. The larger the FIFO the larger the frame. So far the largest FIFOs I have seen in a gigabit PHY are about 9K. So if we are set on 18,207 octet frames we need to get the PHY vendors on board. But be warned. Unlike 100 Mbit/s where the limiting factors were timers that could have their values easly modified in the silicon with little impact, FIFOs take up real space on a die. Thus there may be little we can do for the immediate future. If product is sold with a maximum frame size less than 18207 this also opens Bob's concern about being beaten up as non-compliant although this is not the case.

See also KR-28

- Solution: I see one of two solutions:
   Lower PPV(MAX\_TX) to a level that works with current silicon.
   Keep it where its at, possibly clarifying the fact that smaller value
   are allowed and do not make an implementation non-compliant
- Response: See KR-28.

Rebuttal: See KR-28.

### **Comment** KR-29

Section 14.5	<b>Line</b> 352	Severity Q	Туре	TECH	Status	MODIFIED
Highlight To C	committe 🔽	Commenter Agre	es? 🗸	Ed	iting Co	mplete 🗸

Concern: Do we need to add a PPV(AP\_MASK) value in table 14-13 defining "The C-Port is 1000 Mbit/s capable"? Note that if a value is added it should be logically "and"able to X'0004' to support the possibility of C-ports supporting both 100 and 1000 Mbit/s operation. May I suggest X'0008'? Thus a C-port that supports both would send a value of X'000C'.

### Solution:

**Response:** We do not need a PPV(AP\_MASK) value for 1000Mbit/s. Tradeup is not supported for 1000Mbit/s and these values are used purely for tradeup.

Editorial note - remove bullet point.

### **Rebuttal:**

### **Comment KTW-27**

Section 14.5 Line 363 Severity A/C Type ED Status REJECTED Highlight To Committe □ Commenter Agrees? ✓ Editing Complete ✓ Concern: Lines 363 and 364 are new lines, but have no underscores or change bars. Solution: Fix it.

Response: These change bars were in draft 0.3

### Comment NAJ-02

 Section A.0
 Line
 0
 Severity DIS
 Type
 TECH
 Status
 ACCEPTED

 Highlight To Committe
 □
 Commenter Agrees?
 □
 Editing Complete
 ✓

 Concern:
 The PICS needs to be updated for 1000 Mbit/s
 Mbit/s

- New media rate - New PHYs
- Auto negotiation

Solution:

Response: Loadsa work.



# 1000 Mbit/s Dedicated Token Ring 802.5v/d1.0: Comment Summary

	ED	TECH
A/C	32	2
DIS	0	36
Q	0	3

Total A/C Comments:	34
Total DIS Comments:	36
Total Q Comments:	3
Total Comments:	73

	Total	To Be Closed
OPEN	0	0
ACCEPTED	30	0
MODIFIED	27	0
REJECTED	10	0
ANSWERED	2	0
WITHDRAWN	4	0

### Comment IDs by Type. Bold IDs require closure.

A/C Comment IDs:	SJH-01 KTW-01 SJH-04 KTW-08 KTW-09 KTW-11 KTW-12 KTW-10 KTW-17 KTW-20 KTW-
	19 SJH-09 KTW-18 KTW-21 KTW-22 KR-01 EDTR-71 KR-06 KR-09 KR-11 KR-12 KR-14
	KR-15 KR-16 KR-17 KR-18 KR-19 KR-20 KR-25 NAJ-01 SJH-10 KR-28 KR-30 KTW-27

- DIS Comment IDs KTW-28 SJH-02 SJH-03 KTW-02 KTW-03 SJH-05 SJH-06 KTW-05 KTW-04 KTW-06 KTW-07 SJH-08 IMJ-01 KTW-13 KTW-15 SJH-07 KTW-16 KTW-14 IMJ-02 KR-02 KR-03 KR-05 KR-07 KR-08 KR-10 KR-13 KR-21 KR-22 KR-23 KR-24 EDTR-72 KTW-23 KTW-24 KTW-25 KTW-26 NAJ-02
- Q Comment IDs: KR-26 KR-27 KR-29