

IEEE802.3 Open Revision Requests

Order by Request Number

Req#	Status	Standard	Clause	Date	Subject
1105	V	802.3ae-2002	45.2.3.15.1	14-Nov-02	Register cross reference error
1106	V	802.3ae-2002	30.3.2.1.5	20-Feb-03	Incorrect cross references
1107	R	802.3ae-2002	52.9.1.2 & 49.2.8	06-Mar-03	Square wave test pattern definition
1108	E	802.3ae-2002	Annex 48B	30-May-03	Jitter test methods
1110	V	802.3ae-2002	53.15.4.3	17-Aug-03	Management Functions, item MR6
1111	V	802.3ae-2002	53.15.4.3	17-Aug-03	Management Functions, item MR7
1112	E	802.3ae-2002	Various, see details	17-Aug-03	PICS copyright release statement
1114	V	802.3ae-2002	45.2.5.8	17-Aug-03	10G DTE XGXS lane status register
1115	V	802.3-2002	23.7.1, 40.8.1	02-Oct-03	MDI Connectors
1116	E	802.3af-2003	Annex 33A	22-Oct-03	PSE Detection of PDs - Figure 33A.2
1117	V	802.3af-2003	33.2.3.7	31-Oct-03	PSE State Diagrams
1118	V	802.3ae-2002	48.2.4.2	31-Oct-03	Idle I
1119	V	802.3af-2003	33.2.7.2	15-Nov-03	PSE classification

1120	V	802.3-2002	1.4	25-Nov-03	Definition of Type
1121	F	802.3-2002	28C.6	17-Dec-03	Message Code #5-- Organizationally Unique Identifier (OUI) tag code
1122	V	802.3-2002	28C.7	17-Dec-03	Message Code #6--PHY identifier tag code
1123	V	802.3-2002	24.2.4.2	05-Jan-04	Transmit
1124	E	802.3-2002	Front matter	05-Jan-04	Introduction to IEEE Std 802.3-2002
1125	V	802.3-2002	24.8.3.2	10-Feb-04	PICS - PCS functions
1126	V	802.3-2002	26.4.1	10-Feb-04	Medium Dependent Interface (MDI)
1127	V	802.3-2002	3.2.3	10-Feb-04	Address Fields
1128	E	802.3-2002	36.2.5.1.4 & 36.2.5.1.3	1-Mar-04	Functions & Variables
1131	E	802.3ae-2002	4.2.7.1	10-Mar-04	Common constants, types, and variables
1132	V	802.3ae-2002	4.2.3.1	10-Mar-04	Transmit data encapsulation
1133	E	802.3ae-2002	4.2.8	16-Mar-04	Frame transmission
1134	R	802.3ae-2002	48.7.4.1	08-Apr-04	Compatibility considerations PICS
1135	V	802.3ae-2002	45.5.5.3	29-Apr-04	PMA/PMD management functions PICS
1136	V	802.3ae-2002	45.5.5.16	29-Apr-04	Electrical characteristics PICS

1137	V	802.3ae-2002	45.5.5.3	29-Apr-04	PMA/PMD management functions PICS
1138	V	802.3ae-2002	45.5	29-Apr-04	PICS for Clause 45, MDIO interface
1139	V	802.3-2002	1.4	21-May-04	Definition of CS0, CS1
1140	V	802.3-2002	5.2.4.2	21-May-04	Error in variable name
1141	V	802.3-2002	7.2.1.1.1	21-May-04	Formatting error
1142	V	802.3-2002	7.2.1.1.5	21-May-04	Mis-spelled word
1143	V	802.3-2002	Figure 7-6	21-May-04	Transition condition inversion missing
1144	V	802.3-2002	14.2.1.5	21-May-04	Typo in minimum value of range
1145	V	802.3-2002	14.2.3.2	21-May-04	Incorrect state name referenced
1147	V	802.3-2002	Table 14-2	21-May-04	Text formatting error
1148	V	802.3-2002	Figure 27-1	21-May-04	Spurious text in figure
1149	E	802.3-2002	40C.1, 40C.2.1, and Fig 40C-2	25-May-04	Missing variable definition
1150	V	802.3-2002	Figure 40C-2	25-May-04	State machine error
1151	V	802.3ak-2004	54.6.3.2	1-Jun-04	Test Fixture Impedance
1152	V	802.3ah-2004	64.3.3.2	8-Jul-04	Variable error
1153	V	802.3ah-2004	64.3.3.5	8-Jul-04	Message error

1154	V	802.3ah-2004	64.2.2.1	8-Jul-04	Constants error
1155	V	802.3ah-2004	65.2.2.2	8-Jul-04	Functions error
1156	V	802.3ah-2004	Figure 64-22	8-Jul-04	State machine error
1157	V	802.3ah-2004	Figure 64-21	8-Jul-04	State machine error
1158	V	802.3ah-2004	65.2.3.2.3	8-Jul-04	FEC Special frame markers lack of Hamming distance

[Return to 802.3 Maintenance Requests Page](#)

Last Update: 31 Oct 04

[\(search](#) [\(email](#) [\(home](#) [\(ieee
corporate](#)

+-----+
| 8802-3/802.3 REVISION REQUEST 1105 |
+-----+

DATE: 14th Nov, 2002
NAME: Naresh Raman
COMPANY/AFFILIATION: LSI Logic
E-MAIL: naresh@lsil.com

REQUESTED REVISION:
STANDARD: IEEE 802.3ae-2002
CLAUSE NUMBER: 45
CLAUSE TITLE: 45.2.3.15.1

PROPOSED REVISION TEXT:

See below.

RATIONALE FOR REVISION:

The second and third occurrences of 3.32.2 in this paragraph need to be changed to 3.42.5 since it refers to this bit itself. The first occurrence of 3.32.2 is correct since it refers to the ability of the device in supporting PRBS31 pattern testing.

IMPACT ON EXISTING NETWORKS:

None. Cross reference errors.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1105 |
| DATE RECEIVED: 14th Nov, 2002 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1105 |
+-----+

Change to ANSI/IEEE Std 802.3ae-2002, Clause 45

EDITORIAL NOTES - This revision request is based on the current edition of IEEE Std 802.3ae-2002. The editing instructions define how to merge the material contained here into this base document.

Editing instructions are shown in ***bold italic***. Three editing instructions are used: change, delete, and insert. ***Change*** is used to make small corrections in existing text or tables. The editing instruction specifies the location of the change and describes what is being changed either by using ~~strikethrough~~ (to remove old material) or underscore (to add new material). ***Delete*** removes existing material. ***Insert*** adds new material without disturbing the existing material. Insertions may require renumbering. If so, renumbering instructions are given in the editing instruction. Editorial notes will not be carried over into future editions.

Editors' Notes: *To be removed prior to final publication.*

Revision History:

Draft 1.0, November 14, 2002

Initial draft.

45.2.3.15.1 PRBS31 receive test pattern enable (3.42.5)

Change subclause 45.2.3.15.1 as follows:

If the PCS supports the optional PRBS31 pattern testing advertised in bit 3.32.2 and the mandatory receive test pattern enable bit (3.42.2) is not one, setting bit ~~3.42.53.32.2~~ to a one shall set the receive path of the PCS into the PRBS31 test pattern mode. The number of errors received during a PRBS31 pattern test are recorded in register 3.43. Setting bit ~~3.42.53.32.2~~ to a zero shall disable the PRBS31 test pattern mode on the receive path of the PCS. The behavior of the PCS when in PRBS31 test pattern mode is specified in Clause 49.

+-----+
| 8802-3/802.3 REVISION REQUEST 1106 |
+-----+

DATE: 20th February, 2003
NAME: Ben Brown
COMPANY/AFFILIATION: AMCC
E-MAIL: benjamin.brown@ieee.org

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: 30.3.2.1.5
CLAUSE TITLE: aSymbolErrorDuringCarrier

PROPOSED REVISION TEXT:

The new text for 10 Gb/s references Table 46-3. This should reference Table 46-4.

RATIONALE FOR REVISION:

The description referred to "Receive Error" is in the RXD/RXC table, not the TXD/TXC table.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1106 |
| DATE RECEIVED: 20th February, 2003 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 12-Mar-03 Ver: D1.0 Status: B |
+-----+

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1106 |
+-----+

The definition of the square-wave pattern as of now causes problems due to the fact that different frequency square waves give different OMA results (variability from now on).

Definition: Let the number of consecutive ones (followed by an equal run of zeros) be called *NrOfConsBits* .

Consider results of an OMA measurements of a high quality signal (externally modulated laser), at 9.953Gb/s fundamental, with two different sampling oscilloscope modules [unit1 is an 80C02 - a high quality, OC-192-targeted optical module for a sampling oscilloscope; unit2 is an 80C05 - a discontinued module targeted at OC-768, rather than at OC192. Both modules have their OC-192 ORR enabled, both ORRs pass the ORR response specified by the IEEE802.3ae (but not with the same margin).]

Table 1: OMA vs. frequency of the square-wave pattern

Pattern- <i>NrOfConsBits</i>	unit1		unit2	
	OMA [uW]	Err re. four consec.	OMA [uW]	Err re. four consec.
4	528.4	0.0%	538.8	0.0%
5	527.6	0.2%	548	-1.7%
6	537.7	-1.8%	555.3	-3.1%
7	528.2	0.0%	555.3	-3.1%
8	533.2	-0.9%	560.1	-4.0%
9	538.4	-1.9%	567.6	-5.3%
10	534.6	-1.2%	562.3	-4.4%
11	542.5	-2.7%	562.1	-4.3%
PkPk err over f of square-wave:		2.8%		5.3%

The magnitude of the problem

It is safe to assume that many transmitters on the market exhibit significantly more pronounced long-term aberrations than a instrument-grade, externally modulated laser source used for the experiments in the table above. While such signal sources are not available to me, it is safe to suggest that the variability of the OMA result over the transmitters in the field will be correspondingly larger.

The impact of the problem

While the variability in itself doesn't shut down the production of IEEE802.3ae modules, it significantly contributes to uncertainty of the result, and to the growth of needed manufacturing margins - which is directly in contrast with the goal of low-cost manufacturing.

Any supplier-customer relationship in the market is compromised by the fact that OMA can be measured differently at each location.

This situation is made worse by the easy interchangeability of the optics in the shape of the XFP modules, which facilitate moving an optical module between different PCS' interfaces. Here a differences in OMA-based measurement results are likely enlarged due to the fact that different manufacturers can use different (frequency) square wave pattern.

Standard consideration

There is no clear reason for the NrOfConsBits range given in the standard, and there's little in the archives that I can find to clarify the issue.

From the little I found, it appears that possibly the arbitrariness of the NrOfConsBits being 'four to eleven' is really a misunderstanding and was not meant to be in the standard to begin with - see Appendix A.

In effect this change provides text that is the intent at D3.2 and others before 4.x (again see Appendix A below.). This also better matches the rest of the industry (e.g. FibreChannel). Value other than 'four' would alleviate most of the issue just as well as the hereby proposed 'four'; however a pattern built on 'four consecutive ...' has these advantages over others:

- Easy to trigger on, no PLL problems, can use existing OCR with not even a cabling change on the T&M equipment

- The result is close in value to that of an PRBS eye amplitude

IMPACT ON EXISTING NETWORKS:

According to my information (unfortunately not publishable publicly), two of the most used (PCS) chips on the market have NrOfConsBits programmability built-in such that the number of consecutive pulses is settable (to 4 and some other numbers).

Conclusion

The compatibility of systems is jeopardized by the variability of the OMA measurements due to the problem described (the frequency of the square-wave pattern is not tightly defined.) It is important to correct this before 10GbE gains reputation for lack of compatibility.

See also Appendix A below.

```
+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
|           E-Mail: Bob.Grow@intel.com
|
|           +----- For official 802.3 use -----+
|           | REV REQ NUMBER: 1107
|           | DATE RECEIVED: 6th March, 2003
|           | EDITORIAL/TECHNICAL
|           | ACCEPTED/DENIED
|           | BALLOT REQ'D YES/NO
|           | COMMENTS: 12-Mar-03 Ver: D1.0 Status: R
|
+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1107
+-----+
```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

Appendix A.

This is an attempt to backtrack the committee's thinking while deciding on the measurement method for OMA, in particular on the pattern to be used.

Quotes from the standard or the Comments are marked by a vertical side-bar.

1.1. Draft 2.0 Comments - Introduction of the OMA method

From the P802.3ae Draft 2.0 Comments:

887 Cl 52 SC 52.7 P L

Comment Type T

There are no specifications on how OMA should be measured.

SuggestedRemedy

Insert a subclause after 52.7.3 describing OMA measurements.

52.7.xx Optical modulation amplitude (OMA) test procedure

OMA is the difference in optical power for the nominal "1" and "0" levels of the optical signal. OMA shall be measured for a node transmitting a repeating "00001111" pattern corresponding to a 1.25 GHz (10GBASE-EW) or 1.29 GHz (10GBASE-ER) square wave.

.....

Proposed Response

ACCEPT IN PRINCIPLE. OMA measurement technique is required and should be specified here. Methodology for OMA measurement should be coordinated with commenter #454 (Mike Dudek).

Comment Status A

Response Status C

OMA

Ohlen, Peter Optillion

And one more:

And :

454 Cl 52 SC 52.7.3 P 372 L 6

Comment Type T

OMA measurement method is required instead of Extinction ratio

Comment Status A

OMA

Mike Dudek, Mike T Dudek Cielo Communications

..... While supplying the optical transmitter with 1000MHz square wave, use the following procedure to measure optical modulation amplitude. ...

From there on there's little re. OMA square wave in the Comments database all the way up to D3.1, but in Comments on D3.1 the '4 to 11' is noted:

1.2. Draft 3.1 Comments: a Comment on '4 to 11'

This Comment re. D3.1 mentions the frequency of the square-wave:

154 Cl 49 SC 49.2.8 P 418 L 41

Comment Type T

"When square wave pattern is selected, the PCS will send a repeating pattern of n 1's followed by n 0's where n may be any number between 4 and 11"Is n programmable? or implementation dependent? We should not leave this open.

Suggested Remedy

Specify the value of n.

Response

ACCEPT IN PRINCIPLE. n is implementation dependent because the PHY people only needed a square wave and the exact frequency was not critical.

Should we add "The value of n is an implementation choice."?

Comment Status A

Response Status C

Gaither, Justin Xilinx, Rocketchips Div

Note that at this point in time, the OMA was still measured on a "'00001111" pattern" in section 52.9.4 (see 1.3).

1.3. Draft 3.2 still has both definitions - '4 to 11' and '4', but its comments reconciles the two

to quote:

"52.9.5 Optical modulation amplitude (OMA) test procedure"

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

OMA is the difference in optical power for the nominal "1" and "0" levels of the optical signal, ... in Figure 52–15. OMA should be measured for a node transmitting a repeating "00001111" pattern corresponding to a 1.25 GHz (10GBASE-W) or 1.29 GHz (10GBASE-R) square wave.

And:

52.9.1 Test patterns

.... For a few optical measurements, a pattern which is not data like, such as a square wave, is specified. A pattern consisting of four to eleven consecutive 1s followed by an equal run of 0s may be used as a square wave. These patterns have fundamental frequencies between approximately 452 MHz (10GBASE-W) and 1289 MHz (10GBASE-R).

But these two were reconciled into one as follows:

1.4. P802.3ae Draft 3.2 Comments

625 Cl 52 SC 52.9.4 P 451 L 7

Comment Type T

Calls out 00001111 pattern, yet pattern table allows variation up to 11 0's and 1's.

SuggestedRemedy

I believe we only want to refer to the square wave pattern described in clause 52.9.1. Delete all info regarding pattern definition within this section.

Response

ACCEPT.

Comment Status A

Response Status C

Lindsay, Tom StratosLightwave

1.4. Appendix' conclusion

Clearly the original proposal at D2.0 had a fixed square-wave pattern in mind for measuring OMA. Based on the data presented here I don't understand why, and when after D2.0 comments, the '4 to 11' arose. From comments it's obvious that before D3.2 both '4' and '4 to 11' were present, perhaps diluting the attention to the fact that '4 to 11' invites variability of result. This Comment to D3.1:

"n is implementation dependent because the PHY people only needed a square wave and the exact frequency was not critical"

suggests that this range was proposed, and found reasonable by the "PHY people". If this is so, then it would be my conjecture that the point "exact frequency was not critical" should have been understood in a narrower sense than the "use sometimes this and sometimes that" sense of the phrase "4 to 11"

-----+
| 8802-3/802.3 REVISION REQUEST 1108 |
-----+

DATE: 30th May, 2003
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: Annex 48B
CLAUSE TITLE: Jitter test methods

PROPOSED REVISION TEXT:

Subclause 48B.1.1, title:

"48B.1.1 Description of dual dirac mathematical model"
should read:
"48B.1.1 Description of dual Dirac mathematical model"

Subclause 48B2.1, paragraph 1:

"In this approach, curve fitting of the dual dirac model onto bathtub
curves..."
should be
"In this approach, curve fitting of the dual Dirac model onto bathtub
curves..."

RATIONALE FOR REVISION:

Professor Dirac's name should be capitalized.

IMPACT ON EXISTING NETWORKS:

None

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1108 |
| DATE RECEIVED: 30th May, 2003 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D ~~YES~~/NO |
| COMMENTS: 23-Jul-03 Ver: D1.1 Status: E |
-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1108 |
-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1110 |
+-----+

DATE: 17th September, 2003
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: 53.15.4.3
CLAUSE TITLE: Management Functions, item MR6

PROPOSED REVISION TEXT:

Replace:

Sets PMD_transmit_fault_n to a logical 1 if a local fault is detected on the transmit path x

By:

Sets PMD_transmit_fault to a logical 1 if a local fault is detected on any transmit path.

RATIONALE FOR REVISION:

The ending '_n' seems to imply a lane-by-lane function, and the 'x' to imply a similar meaning. But the functions described in 802.3ae 53.4.10 and 45.2.1.7.4 are all one bit functions.

IMPACT ON EXISTING NETWORKS:

None. Purely an editorial correction/clarification.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
+-----+

+-----+
| For official 802.3 use -----+
| REV REQ NUMBER: 1110
| DATE RECEIVED: 17th September, 2003
| ~~EDITORIAL~~/TECHNICAL
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 29-Sep-04 Ver: D2.0 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1110
+-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1111 |
+-----+

DATE: 17th September, 2003
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: 53.15.4.3
CLAUSE TITLE: Management Functions, item MR7

PROPOSED REVISION TEXT:

Replace:

Sets PMD_receive_fault_x to a logical 1 if a local fault is detected on the receive path x

By:

Sets PMD_receive_fault to a logical 1 if a local fault is detected on any receive path.

RATIONALE FOR REVISION:

The ending '_x' seems to imply a lane-by-lane function, and the 'x' to imply a similar meaning. But the functions described in 802.3ae 53.4.11 and 45.2.1.7.5 are all one bit functions.

IMPACT ON EXISTING NETWORKS:

None. Purely an editorial correction/clarification.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
+-----+

+----- For official 802.3 use -----+
| REV REQ NUMBER: 1111 |
| DATE RECEIVED: 17th September, 2003 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 29-Sep-04 Ver: D2.0 Status: B |
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1111 |
+-----+

-----+
| 8802-3/802.3 REVISION REQUEST 1112 |
-----+

DATE: 17th September, 2003
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002, IEEE Std. 802.3ae-2002
CLAUSE NUMBER: Various
CLAUSE TITLE: PICS

PROPOSED REVISION TEXT:

In the following instances

IEEE Std 802.3-2002:

CLAUSE NUMBER: 43.7.2.1
CLAUSE NUMBER: * 16.6.3.1
CLAUSE NUMBER: * 18.5.2.2

IEEE Std 802.3ae-2002:

CLAUSE NUMBER: 46.5.2.2
CLAUSE NUMBER: 47.6.2.2
CLAUSE NUMBER: 48.7.2.2
CLAUSE NUMBER: 49.3.2.2
CLAUSE NUMBER: 50.6.2.2
CLAUSE NUMBER: 51.10.2.2
CLAUSE NUMBER: 52.15.2.2
CLAUSE NUMBER: 53.15.2.2

Repace:

'... in this annex ...' (* or '... in this clause ...') with '... in this subclause ...'.

RATIONALE FOR REVISION:

The Copyright release for PICS proforma uses 'in this annex'; in the above subclauses/pages; it should be 'in this subclause' (as for 8.8.3.1, 14.10.1.4, 15.8.3.1, 17.5, 22.7.2.3, 45.5.4.2,... & many more)

In 802.3-2002, 'Annex' only appears in the PICS proforma Copyright release for Annex 31B & Annex 43B (correctly) and (incorrectly) in 43.7.2.1, whence it appears to have been copied into much of 802.3ae-2002. Its appearance in P802.3akD5P0 clause 54.12.2.1 has been separately reported to that WG.

IMPACT ON EXISTING NETWORKS:

None. Purely an editorial correction/clarification.

```
+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
|           E-Mail: Bob.Grow@intel.com
|
|           +----- For official 802.3 use -----+
|           | REV REQ NUMBER: 1112
|           | DATE RECEIVED: 17th September, 2003
|           | EDITORIAL/TECHNICAL
|           | ACCEPTED/DENIED
|           | BALLOT REQ'D YES/NO
|           | COMMENTS: 13-Nov-03 Ver: D1.1 Status: E
|
+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1112
+-----+
```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1114 |
+-----+

DATE: 17th September, 2003
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: 45.2.5.8
CLAUSE TITLE: 10G DTE XGXS lane status register (Register 5.24)

PROPOSED REVISION TEXT:

In 45.2.5.8:

REPLACE: in Table 45-58, replace 5.24.10:4 by 5.24.9:4, and add a new row for 5.24.10 defining it as ignored.

For details see attached draft.

RATIONALE FOR REVISION:

Loopback is optional for a PHY XS device (45.2.4.1.2) (advertised in bit 4.24.10), and mandatory for a DTE XS device (45.2.5.1.2), where the 5.24.10 bit must be 0*. These awkward inconsistencies (a PHY XGXS and a DTE XGXS are otherwise identical, except for Device Address) are enhanced by the addition of the CX4 PMA/PMD, since the functional differences between a CX4 PMA/PMD/PCS device and a DTE XGXS device are mainly some changes to the output and input levels and the SIGNAL_DETECT function, the required register Device Address value changes, and the loopback function and advertising bit scrambling. Thus an implementor must take special steps to return 5.24.10 as a 0, while returning 4.24.10 as a 1. In addition, many LX4 and (future) CX4 devices are likely to use a structure essentially identical to an XGXS device within their signal flow, and may include this kind of loopback.

Allowing the 5.24.10 bit to optionally be a 1, so that a device that can implement both PHY XGXS and DTE XGXS need not change this status bit when changing device addresses. This makes the design easier and more flexible*.

*Comments on the comment: a small side bet says that any plausible compliant XGXS devices will actually have this loopback capability and bit, and will have had to hide it somewhere in a vendor-specific register or in some other way.

IMPACT ON EXISTING NETWORKS:

Present conforming devices would be allowed to keep this bit a 0, but it would be recommended that it be a 1. Hosts knowing that they have a DTE

XS device are unlikely to even bother to check the bit before turning on loopback, since it is mandatory.

```
+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
|           E-Mail: Bob.Grow@intel.com
|
|           +----- For official 802.3 use -----+
|           | REV REQ NUMBER: 1114
|           | DATE RECEIVED: 17th September, 2003
|           | EDITORIAL/TECHNICAL
|           | ACCEPTED/DENIED
|           | BALLOT REQ'D YES/NO
|           | COMMENTS: 05-Jul-04 Ver: D1.2 Status: B
|
+-----+
```

```
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1114
+-----+
```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

45.2.5.8 10G DTE XGXS lane status register (Register 5.24)

Change the Table 45-59 of subclause 45.2.5.8 as follows:.

Table 45-59—10G DTE XGXS lane status register bit definitions

Bit(s)	Name	Description	R/W ^a
5.24.15:13	Reserved	Ignore when read	RO
5.24.12	DTE XGXS lane alignment status	1 = DTE XGXS receive lanes aligned 0 = DTE XGXS receive lanes not aligned	RO
5.24.11	Pattern testing ability	1 = DTE XGXS is able to generate test patterns 0 = DTE XGXS is not able to generate test patterns	RO
<u>5.24.10</u>	<u>Ignored</u>	<u>Value 0 or 1, writes ignored</u>	<u>RO</u>
5.24.9:4	Reserved	Ignore when read	RO
5.24.3	Lane 3 sync	1 = Lane 3 is synchronized 0 = Lane 3 is not synchronized	RO
5.24.2	Lane 2 sync	1 = Lane 2 is synchronized 0 = Lane 2 is not synchronized	RO
5.24.1	Lane 1 sync	1 = Lane 1 is synchronized 0 = Lane 1 is not synchronized	RO
5.24.0	Lane 0 sync	1 = Lane 0 is synchronized 0 = Lane 0 is not synchronized	RO

^aRO = Read Only

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1115 |
+-----+

DATE: 2nd October, 2003
NAME: Terry R Cobb
COMPANY/AFFILIATION: Avaya Inc.
E-MAIL: MDI Connectors

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: 23.7.1, 40.8.1
CLAUSE TITLE: MDI Connectors

PROPOSED REVISION TEXT:

See attached draft.

RATIONALE FOR REVISION:

The polarity for contacts 4/5 is inconsistent with the industry standard. Since the inception of RJ connectors the center conductors have always been labeled 'Ring/Tip' or '-/+' in that order, see FCC regulations Part 68, Subpart F, Section 68.502. When the outside split pair was added to the single pair connection it reversed the order so that the connector would alternate in polarity. When the two additional outside pairs were added, for an 8 pin connector, the convention was followed. The original reason for this is that it provides isolation, (+ - + - + - + -); and it also alternates the color code, making it easy to see that the plug is wired correctly. Most of the cabling that is used today follows this convention.

In general, the cabling industry will build a cross over cable according to TIA-568-B.1. We can correct the discrepancy by reversing the polarity or at the least add a note that acknowledges this and will alert the implementer or user to the problem.

IMPACT ON EXISTING NETWORKS:

This will only show up when a cross over cable is used that is wired according to TIA-568. It is possible that this does occur quite often. Clause 23.7.1 is T4. For Clause 40.8.1 I believe all the 1000BASE-T PHY's have the capability of reversing polarity and this should not have an impact.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
|
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1115 |
| DATE RECEIVED: 2nd October, 2003 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 13-Jul-04 Ver: D2.0 Status: B |
+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1115 |
+-----+

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

40.4.4 Automatic MDI/MDI-X Configuration

Automatic MDI/MDI-X Configuration is intended to eliminate the need for crossover cables between similar devices. ~~Implementation of an automatic MDI/MDI-X configuration is optional for 1000BASE-T devices shall implement an automatic MDI/MDI-X configuration and, if an automatic configuration method is used, it shall~~ comply with the following specifications. The assignment of pin-outs for a 1000BASE-T crossover function cable is shown in Table 40-12 in 40.8.

40.8.2 MDI connectors

Add sentence to the end of the paragraph:

The PHY shall be capable of reversing the polarity of the contacts for any PMA signal to correct for a mis-wired channel between any two PHY entities within the link segment.

40.8.2 Crossover function

~~Although the automatic MDI/MDI-X configuration (see 40.4.4) is not required for successful operation of 1000BASE-T, it~~ It is a functional requirement that a crossover function be implemented in every segment to support the operation of Auto-Negotiation. The crossover function connects the transmitters of one PHY to the receivers of the PHY at the other end of the link segment. Crossover functions may be implemented internally to a PHY or else-where in the link segment. ~~For a PHY that does not implement the crossover function, the MDI labels in the middle column of Table 40-12 refer to its own internal circuits. For PHYs that do implement the internal crossover, the MDI labels in the last column of Table 40-12 refer to the internal circuits of the remote PHY of the link segment. Additionally, the~~ The MDI connector for a 1000BASE-T PHY that implements the crossover function shall be marked with the graphical symbol X. The crossover function specified here is not compatible with the crossover function specified in 14.5.2 for pairs TD and RD.

When a link segment connects a single-port device to a multiport device, it is recommended that the cross-over be implemented in the PHY local to the multiport device. ~~It neither or both PHYs of a link segment contain internal corsrossover functions, an additional external crossover is necessary.~~ It is recommended that the crossover be visible to an installer from one of the PHYs. ~~When both PHYs contain internal corssovers,~~ It is further recommended that, in networks in which the topology identifies either a central backbone segment or a central device, the PHY furthest from the central element be assigned the external crossover to maintain consistency.

Implicit implementation of the crossover function within a twisted-pair cable or at a wiring panel, while not expressly forbidden, is beyond the scope of this standard.

40.12.5 Physical Medium Attachment (PMA)

Page 237

PMF14	MDI/MDI-X automatic configuration	40.4.4	M	Yes <input type="checkbox"/>	Comply with the specification of 40.4.4
-------	---	--------	---	------------------------------	---

Page 247

40.12.9 MDI requirements

Change MDI4 and add MDI5

MDI4	Connector used on PHY	40.8.1	M	Yes <input type="checkbox"/>	The PHY shall be capable capable of reversing the polarity of the contacts.
MDI5	Connector used on PHY	40.8.2	M	Yes <input type="checkbox"/>	The PHY shall be marked with the graphical symbol X.

-----+
| 8802-3/802.3 REVISION REQUEST 1116 |
+-----+

DATE: 22nd Oct, 2003
NAME: Geoff Thompson
COMPANY/AFFILIATION: Nortel Networks
E-MAIL: thompson@ieee.org

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3af-2003
CLAUSE NUMBER: Annex 33A
CLAUSE TITLE: PSE Detection of PDs

PROPOSED REVISION TEXT:

Figure 33A.2 (Page 86).
Fix line through diode that is in slightly the wrong place.

RATIONALE FOR REVISION:

Fix printing error. Figure should be printed as intended.

IMPACT ON EXISTING NETWORKS:

NONE, This is all editorial.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1116 |
| DATE RECEIVED: 22nd Oct, 2003 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/~~DENIED~~ |
| BALLOT REQ'D ~~YES~~/NO |
| COMMENTS: 13-Nov-03 Ver: D1.1 Status: E |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1116 |
+-----+

-----+
| 8802-3/802.3 REVISION REQUEST 1117 |
+-----+

DATE: 31st Oct, 2003
NAME: Dave Dwelley
COMPANY/AFFILIATION: Linear Technology
E-MAIL: ddwelley@linear.com

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3af-2003
CLAUSE NUMBER: 33.2.3.7
CLAUSE TITLE: State Diagrams

PROPOSED REVISION TEXT:

Add new variable OPTION_DETECT_TED to 33.2.3.4

Change state machine per attached markup.

Change note 21 in table 33-5: change "detection" to "powering"

For details see attached draft.

RATIONALE FOR REVISION:

The current state machine prevents detection during a TED_TIMER interval, which is a valid mode of operation (per my comment 28 against 802.3af-D4.1). This change allows this alternate mode of operation without breaking current hardware.

IMPACT ON EXISTING NETWORKS:

None if the new variable is optional.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
REV REQ NUMBER: 1117	
DATE RECEIVED: 31st Oct, 2003	
EDITORIAL/TECHNICAL	
ACCEPTED/DENIED	
BALLOT REQ'D YES/NO	
COMMENTS: 05-Jul-04 Ver: D1.1 Status: B	
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1117 |
+-----+

33.2.3.7 State diagrams (replace figure 33-6 with the following - changes highlighted)

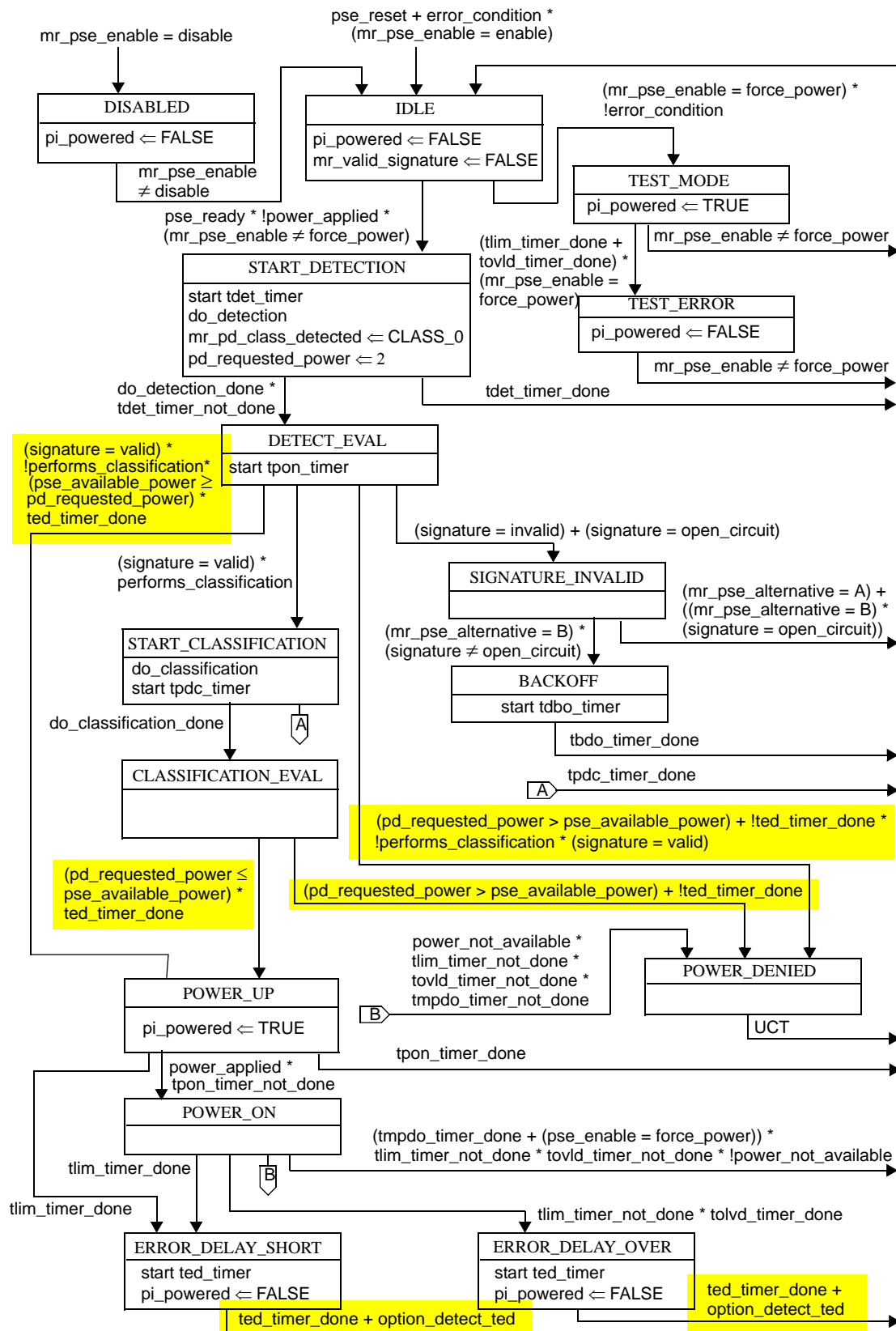


Figure 33-6—PSE state diagram

33.2.3.8 Variables

Insert the following new variable alphabetically into subclause 33.2.3.8:

option_detect_ted

This variable indicates if detection can be performed by the PSE during the ted_timer interval.

Values: FALSE: Do not perform detection during ted_timer interval.

TRUE: Perform detection during ted_timer interval.

33.2.4 Power supply output

Change entry 21 of Table 33-5 as follows:

21	Error delay timing	T_{ed}	ms	750		Delay before PSE may attempt subsequent powering detection after power removal because of error condition.
----	--------------------	----------	----	-----	--	---

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1118 |
+-----+

DATE: 31st Oct, 2003
NAME: Eric Lynskey
COMPANY/AFFILIATION: UNH-IOL
E-MAIL: elynskey@iol.unh.edu

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3ae-2002
CLAUSE NUMBER: 48.2.4.2
CLAUSE TITLE: Idle ||I||

PROPOSED REVISION TEXT:

Within bullet item (d) remove the word uniform, allowing the sentence to read "...r is a randomly distributed number between 16 and 31..."

For details see attached draft.

RATIONALE FOR REVISION:

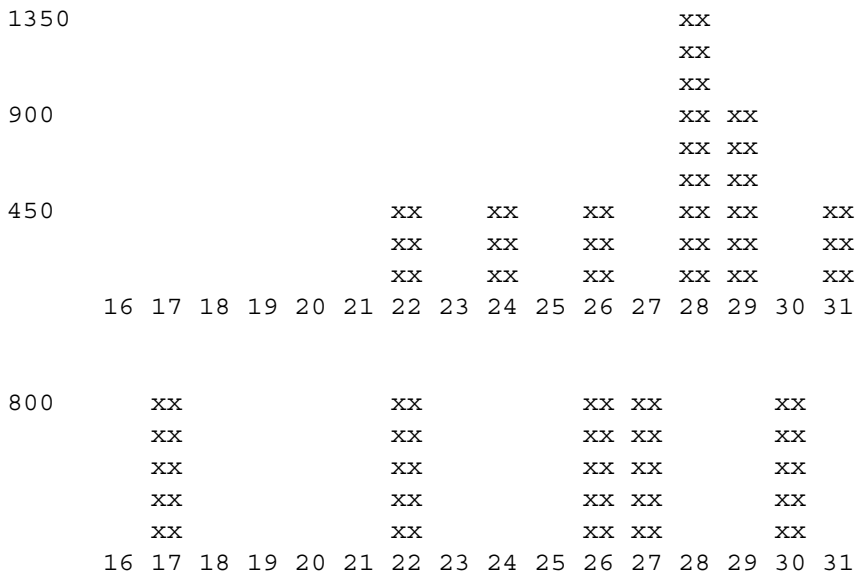
A bit that chooses between ||K|| and ||R|| is produced during every clock cycle. The counter that determines when it is time to send an ||A|| is only evaluated and reset every 16-31 clock cycles. When the A_CNT variable reaches zero, an ||A|| is sent and a new value is loaded into the counter. The four bits loaded into the counter can take on any value from zero through fifteen, and these are combined with an MSB that is always high, thus initializing the counter to 16-31. This counter will then start to count down, decrementing once for every clock cycle. While this counter is decrementing, the pseudo-random generator is continuing to shift through its 127-bit cycle, and ||R|| and ||K|| codes are being transmitted. Thus, the bits being fed to the A counter are not being fed continuously, but only after the expiration of the current A counter.

If a separate pseudo-random generator existed that only provided a new value upon the expiration of A_CNT, then the next sequence would get shifted into the counter and no possible combinations would be missed. If the pseudo-random generator generated its first four output states as W1, W2, W3, and W4 (where each Wn is 4-bits in length and takes on a decimal value between 0 and 15, inclusive) then the A counter would be initialized with W1+16. After A_CNT expired, which would be W1+16 clock cycles, the new value of the counter would be set to W2+16. This same process would then continue through all 127 different combinations: W4...W127.

However, this is not what happens within a device with a single random number generator. If there is a single pseudo-random generator, the A_CNT will only get initialized after the previous A_CNT has expired. Since the pseudo-random generator is continuously running to pick between ||R|| and ||K||, the A_CNT will not be initialized with state WX+1 if the

current state is WX, as was shown in the previous paragraph. If A_CNT is originally initialized with WX, then the next state would be W(WX+16). By not sampling the pseudo-random generator after every clock cycle, not every possible value output by the pseudo-random generator will be observed.

The plots on show simulations of what the ||A|| spacing would actually look like when the pseudo-random generator is sampled in this manner. The first plot shows the distribution of ||A|| spacing for the X^7+X^6+1 polynomial, and the second plot uses the X^7+X^3+1 polynomial. The x-axis shows the number of columns between consecutive ||A|| columns. The y-axis shows the number of times that ||A|| spacing existed. For each simulation, 4096 trials were done. It is clear that after several thousand trials, there are many spacing values that have not been used, thus making it impossible to have a uniformly distributed spacing.



IMPACT ON EXISTING NETWORKS:

The standard currently defines that the A spacing be uniform randomly distributed between 16 and 31. A brief survey of 6 implementations of this PCS showed that 4 had a distribution similar to one of the two plots that are shown above. One had a uniform distribution, and one had a distribution that was neither uniform nor fitting the above plots. Removing the word "uniform" should allow for both uniform and non-uniform implementations to exist provided that they are based on one of the two defined polynomials.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
|
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1118 |
| DATE RECEIVED: 31st Oct, 2003 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.2 Status: B |
+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1118 |
+-----+

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

48.2.4.2 Idle (||I||)

Change the item d) of subclause 48.2.4.2 as follows:

- d) Each ||A|| is sent after r non-||A|| columns where r is a ~~uniform~~ randomly distributed number between 16 and 31, inclusive. The corresponding minimum spacing of 16 non-||A|| columns between two ||A|| columns provides a theoretical 85-bit deskew capability.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1119 |
+-----+

DATE: 15th Nov, 2003
NAME: Yair Darshan
COMPANY/AFFILIATION: PowerDsine
E-MAIL: yaird@powerdsine.com

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3af-2003
CLAUSE NUMBER: 33.2.7.2
CLAUSE TITLE: PSE classification

PROPOSED REVISION TEXT:

Change paragraph 33.2.7.2 line 24 draft 4.3 from:

"The PSE shall provide V_{Class} between 15.5 and 20.5 volts, limited to 100mA or less to the PI."

to:

"The PSE shall provide V_{Class} between 15.5 and 20.5 volts, limited to 100mA or less to the PI.

"Measurement of the 100mA current limitation is to be taken after 1ms to ignore initial transients."

For details see attached draft.

RATIONALE FOR REVISION:

During short circuit tests and inrush current test in the IEEE Std 802.3af-2003 specification we defined that the measurement of the current will be taken after 1ms in order to ignore transient effects (see table 33-5 items 5 and 10). In the classification short circuit current limit we didn't specify when we should take the measurements. If the peak current is above 100mA and the steady state is below 100ma then according to the current text, the test is "fail" but we know that it is not true since we allow for overshoot at the start of the short as we did in other short circuit conditions in the standard.

IMPACT ON EXISTING NETWORKS:

No Impact.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
|
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1119 |
| DATE RECEIVED: 15th Nov, 2003 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.2 Status: B |
+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1119 |
+-----+

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

33.2.7.2 PSE classification

Change the 1st paragraph of subclause 33.2.7.2 as follows:

The PSE shall provide V_{Class} between 15.5 and 20.5 volts, limited to 100 mA or less to the PI. Measurement of the 100mA current limitation is to be taken after 1ms to ignore initial transients. Polarity shall be the same as defined for V_{Port} in 33.2.2 and timing specifications shall be as defined by T_{pdc} in Table 33–5. The PSE shall measure I_{Class} and classify the PD based on the observed current according to Table 33–4. If the measured I_{Class} is equal to or greater than 51mA, the PSE shall classify the PD as Class 0.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1120 |
-----+

DATE: 25th Nov, 2003
NAME: Geoff Thompson
COMPANY/AFFILIATION: Nortel Networks
E-MAIL: thompson@ieee.org

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: 1.4
CLAUSE TITLE: Definitions

PROPOSED REVISION TEXT:

Add the following text or functional equivalent:

1.4.xxx EtherType: See Type 1.4.xxx.

1.4.xxx Type: A 2 octet value that indicates the nature of the MAC client protocol. Type values are assigned by the IEEE Registration Authority. (See: IEEE 802.3 Clause 3.2.6)

RATIONALE FOR REVISION:

Existing, well used term does not appear in the definitions as it should. This has caused some difficulty in tutorials produced by the RAC.

IMPACT ON EXISTING NETWORKS:

NONE, This is all editorial.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
REV REQ NUMBER: 1120	
DATE RECEIVED: 25th Nov, 2003	
EDITORIAL/~~TECHNICAL~~	
ACCEPTED/DENIED	
BALLOT REQ'D YES/~~NO~~	
COMMENTS: 13-Jan-04 Ver: D1.1 Status: B	
-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1120 |
-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1121 |
+-----+

DATE: 17th Dec, 2003
NAME: David James
COMPANY/AFFILIATION: JGG
E-MAIL: dvj@alum.mit.edu

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: 28C.6
CLAUSE TITLE: Message Code #5--Organizationally Unique Identifier (OUI) tag code

PROPOSED REVISION TEXT:

See attached draft.

RATIONALE FOR REVISION:

The current wording is insufficient to unambiguously implement this feature. Specific problems include:

- 1) Bit-specification wording is very hard to follow; a figure is needed.
- 2) The bits within-byte ordering is unclear, given the conflicting meanings applied to "MSB" by the IEEE/RAC and following 28C.8.
- 3) The meaning of the remaining (not specified) bits is unclear.

IMPACT ON EXISTING NETWORKS:

Unknown. If networks have been implemented based on different assumptions of this text, incompatibilities could possible exist. However, given minimal use of this feature, problems are expected to be rare if this is fixed now.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1121 |
| DATE RECEIVED: 17th Dec, 2003 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 29-Sep-04 Ver: D2.0 Status: B |
+-----+

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1121 |
+-----+

Editors' Notes: To be removed prior to final publication.

Problems:

- 1) Bit-specification wording is very hard to follow; a figure is needed.
- 2) The bit ordering within-byte ordering is unclear, given the conflicting meanings applied to "MSB" by the IEEE/RAC and following 28C.8.

Proposed solution (follows).
 Notes: If another bit ordering was intended, then change the figure accordingly.

28C.6 Message code #5—Organizationally Unique Identifier (OUI) tag code

Change subclause 28C.6 as follows:

The OUI Tagged Message shall consist of a single message code of 0000 0000 0101 followed by four user codes defined as follows. The first user code shall contain the most significant 11 bits of the OUI (bits 23:13) with the most significant bit in bit 10 of the user code. The second user code shall contain the next most significant 11 bits of the OUI (bits 12:2) with the most significant bit in bit 10 of the user code. The third user code shall contain the remaining least significant 2 bits of the OUI (bits 1:0) with the most significant bit in bit 10 of the user code. Bits 8:0 of the ~~third~~^{fourth} user contain a user-defined user code value that is specific to the OUI transmitted. The fourth and final user code shall contain a user-defined user code value that is specific to the OUI transmitted.

Insert the following text at the end of subclause 28C.6:

For example, assume that a manufacturer's IEEE-assigned OUI value is AC-DE-48 and the manufacturer-selected user-defined user code associated with the OUI is 1100 1110 0001 1111 1100₂. The message code values generated from these two numbers is encoded into four message codes, as specified in Figure 28C-1. For clarity, the position of the global broadcast g is illustrated.

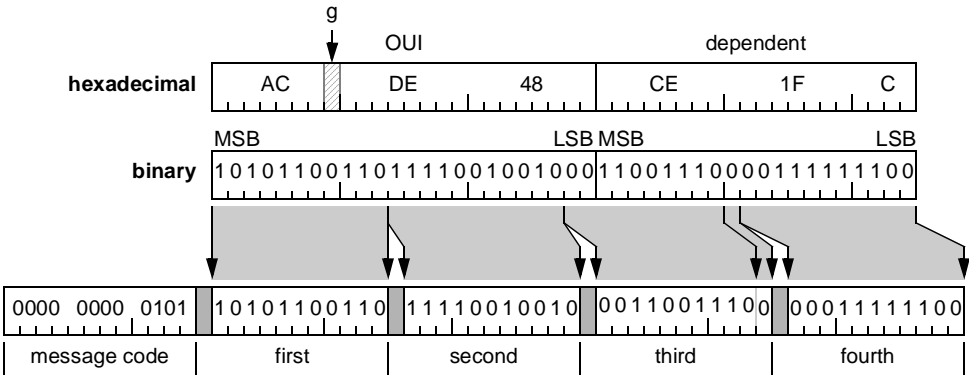


Figure 28C-1—Message code #5 sequence

-----+
| 8802-3/802.3 REVISION REQUEST 1122 |
-----+

DATE: 17th Dec, 2003
NAME: David James
COMPANY/AFFILIATION: JGG
E-MAIL: dvj@alum.mit.edu

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: 28C.7
CLAUSE TITLE: Message Code #6--PHY identifier tag code

PROPOSED REVISION TEXT:

See attached draft.

RATIONALE FOR REVISION:

The current wording is insufficient to unambiguously implement this feature. Specific problems include:

- 1) Bit-specification wording is very hard to follow; a figure is needed.
- 2) The bit ordering within-byte ordering is different from the IEEE/RAC usage, and should therefore be very clearly illustrated.

IMPACT ON EXISTING NETWORKS:

Unknown. If networks have been implemented based on different assumptions of this text, incompatibilities could possible exist. However, given minimal use of this feature, problems are expected to be rare if this is fixed now.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
REV REQ NUMBER: 1122	
DATE RECEIVED: 17th Dec, 2003	
EDITORIAL/~~TECHNICAL~~	
ACCEPTED/DENIED	
BALLOT REQ'D YES/~~NO~~	
COMMENTS: 05-Jul-04 Ver: D1.2 Status: B	
-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1122 |
-----+

Clarification of OUI usage

This contribution provides replacement text for 28C.7 of IEEE Std 802.3-2002. The intent is not to change the specification, but to clearly document how bits within the current definition are utilized. The author is not advocating a particular technical alternative, but is advocating that the assumed alternative be well documented.

The intent is to clarify the intent and thereby to assist the on-going use of these subclauses by appropriate organizations.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

28C.7 Message code #6—PHY identifier tag code

Editors' Notes: To be removed prior to final publication.

Previous text (as background):

The PHY ID tag code message shall consist of a single message code of 0000 0000 0110 followed by four user codes defined as follows. The first user code shall contain the most significant 11 bits of the PHY ID (2.15:5) with the most significant bit in bit 10 of the user code. The second user code shall contain bits 2.4:0 to 3.15:10 of the PHY ID with the most significant bit in bit 10 of the user code. The third user code shall contain bits 3.9:0 of the PHY ID with the most significant bit in bit 10 of the user code. Bit 0 in the third user code shall contain a user-defined user code value that is specific to the PHY ID transmitted. The fourth and final user code shall contain a user-defined user code value that is specific to the PHY ID transmitted.

Problems:

- 1) Bit-specification wording is very hard to follow; a figure is needed.
- 2) The bit ordering within-byte ordering is different from the IEEE/RAC usage, and should therefore be very clearly illustrated.

Proposed solution (follows).

The PHY ID tag code message shall consist of a single shall consist of a single message code of 0000 0000 0110₂ followed by four user codes. For example, assume that a manufacturer's IEEE-assigned OUI value is AC-DE-48, the manufacturer's model number is 101100₂, manufacturer's revision number is 0111₂, and the PHY-dependent information is 000011111100₂. The message codes generated from these values are encoded into four message codes, as specified in Figure 28.1. For clarity, the position of the global broadcast *g* is illustrated.

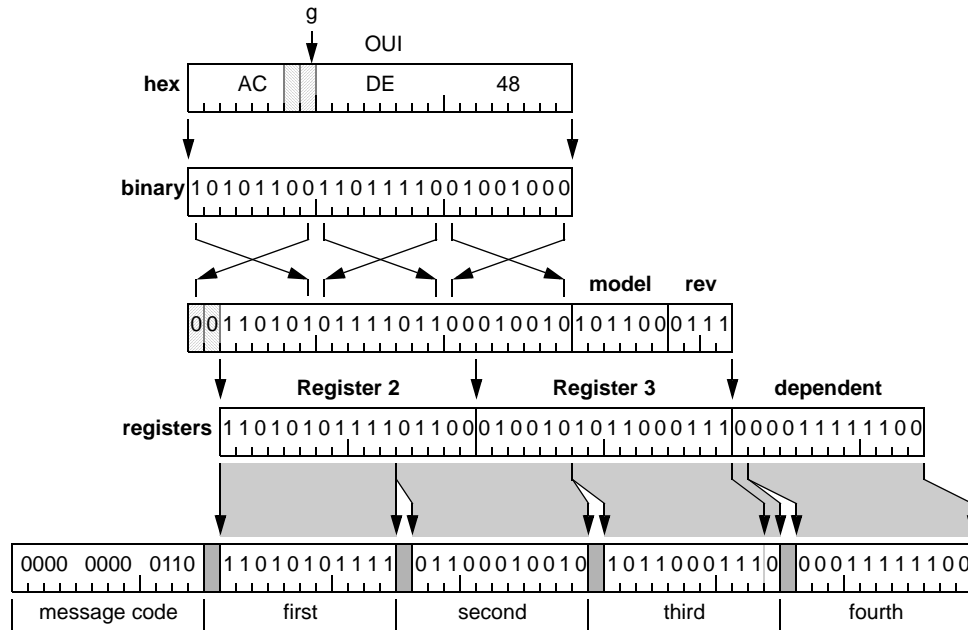


Figure 28.1—Message code #6 sequence

+-----+
| 8802-3/802.3 REVISION REQUEST 1123 |
+-----+

DATE: 5th Jan, 2004
NAME: Geoff Thompson
COMPANY/AFFILIATION: Nortel
E-MAIL: thompson@ieee.org

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: 24.2.4.2
CLAUSE TITLE: Transmit

PROPOSED REVISION TEXT:

THE TEXT:

24.2.4.2 Transmit (Paragraph 2)

Collision detection is implemented by noting the occurrence of carrier receptions during transmissions, following the model of 10BASE-T. The indication of link_status [not =] OK by the PMA at any time causes an immediate transition to the IDLE state and supersedes any other Transmit process operations.

SHOULD BE SPLIT INTO TWO PARAGRAPHS, I.E.:

Collision detection is implemented by noting the occurrence of carrier receptions during transmissions, following the model of 10BASE-T.

The indication of link_status [not =] OK by the PMA at any time causes an immediate transition to the IDLE state and supersedes any other Transmit process operations.

RATIONALE FOR REVISION:

I believe that the current organization is confusing to many who are not intimately familiar with 10BASE-T and 100BASE-T. Having the text in a single paragraph confuses that the functions of collision detection and transmit disable are a single function rather than 2 entirely separate functions. (This editorial change should also be made in 66.1.2.2, though I have no idea how to do that in the current context of things.)

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
|
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1123 |
| DATE RECEIVED: 5th Jan, 2004 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 13-Jan-04 Ver: D1.1 Status: B |
+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1123 |
+-----+

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1124 |
-----+

DATE: 5th Jan, 2004
NAME: Geoff Thompson
COMPANY/AFFILIATION: Nortel
E-MAIL: thompson@ieee.org

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: Front matter
CLAUSE TITLE: Introduction to IEEE Std 802.3-2002

PROPOSED REVISION TEXT:

At the start of Introduction to IEEE Std 802.3-2002 add the text:

[This introduction is not part of IEEE Std 802.3-2002, Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications]

RATIONALE FOR REVISION:

The "Introduction" does not lead off with the normal standard introduction.

IMPACT ON EXISTING NETWORKS:

None.

-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1124
| DATE RECEIVED: 5th Jan, 2004
| EDITORIAL/~~TECHNICAL~~
| ACCEPTED/~~DENIED~~
| BALLOT REQ'D ~~YES~~/NO
| COMMENTS: 13-Jan-04 Ver: D1.1 Status: E
|
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1124
|
-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1125 |
+-----+

DATE: 10th Feb, 2004
NAME: David Law
COMPANY/AFFILIATION: 3Com
E-MAIL: David_Law@3Com.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 24.8.3.2
CLAUSE TITLE: PCS functions

PROPOSED REVISION TEXT:

Change the 'Subclause' column for the 'PS1' row from 24.2.3 to 24.2.4.1.

RATIONALE FOR REVISION:

The current cross-reference to subclause 24.2.3 is incorrect, it should be to subclause 24.2.4.1.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1125 |
| DATE RECEIVED: 10th Feb, 2004 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1125 |
+-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1126 |
+-----+

DATE: 10th Feb, 2004
NAME: David Law
COMPANY/AFFILIATION: 3Com
E-MAIL: David_Law@3com.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 26.4.1
CLAUSE TITLE: Medium Dependent Interface (MDI)

PROPOSED REVISION TEXT:

Supply the name of the trademark owner of 'ST' in a footnote.

RATIONALE FOR REVISION:

The text 'commonly called ST connector' needs to include a footnote that 'ST' is a trademark AT&T and/or its successors (probably Lucent at this point).

IMPACT ON EXISTING NETWORKS:

None

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1126
| DATE RECEIVED: 10th Feb, 2004
| EDITORIAL/TECHNICAL
| ACCEPTED/DENIED
| BALLOT REQ'D YES/NO
| COMMENTS: 17-Mar-04 Ver: D1.0 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1126
+-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1127 |
+-----+

DATE: 10th Feb, 2004
NAME: David Law
COMPANY/AFFILIATION: 3Com
E-MAIL: David_Law@3Com.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 3.2.3
CLAUSE TITLE: Address Fields

PROPOSED REVISION TEXT:

Delete the text 'While IEEE 802 specifies the use of either 16- or 48-bit addresses, no conformant implementation of IEEE 802.3 uses 16-bit addresses. The use of 16-bit addresses is specifically excluded by this standard.' from this subclause.

For details see attached draft.

RATIONALE FOR REVISION:

In the latest revision of 802 16-bit address has been removed.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1127 |
| DATE RECEIVED: 10th Feb, 2004 |
| EDITORIAL/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/NO |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1127 |
+-----+

3.2.3 Address fields

Change the item a) of subclause 3.2.2 as follows:

- a) Each address field shall be 48 bits in length. ~~While IEEE 802 specifies the use of either 16 or 48 bit addresses, no conformant implementation of IEEE 802.3 uses 16 bit addresses. The use of 16 bit addresses is specifically excluded by this standard.~~

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1128 |
+-----+

DATE: 1st Mar, 2004
NAME: Piers Dawe
COMPANY/AFFILIATION: Agilent
E-MAIL: piers_dawe@agilent.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 36.2.5.1.4 / 36.2.5.1.3
CLAUSE TITLE: Functions / Variables

PROPOSED REVISION TEXT:

[1] For the function VOID(x):
Change the text 'x ~~€~~ /D/ ...' to read 'x € /D/ ...'

[2] For the variable cgbad:
Change the text '... rx_code-group~~€~~/INVALID/ ...' to read '... rx_code-group € /INVALID/ ...'.

[3] For the variable cggood:
Change the text '... rx_code-group~~€~~/INVALID/ ...' to read '... rx_code-group € /INVALID/ ...'.

RATIONALE FOR REVISION:

The character '€' seems to have become a '€' due to it being in the incorrect font.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1128 |
| DATE RECEIVED: 1st Mar, 2004 |
| ~~EDITORIAL/TECHNICAL~~ |
| ACCEPTED/~~DENIED~~ |
| BALLOT REQ'D ~~YES~~/NO |
| COMMENTS: 17-Mar-04 Ver: D1.1 Status: E |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1128 |

8802-3/802.3 REVISION REQUEST 1131

DATE: 10th Mar, 2004
NAME: Benjamin Brown
COMPANY/AFFILIATION:
E-MAIL: benjamin.brown@ieee.org

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ae-2002
CLAUSE NUMBER: 4
CLAUSE TITLE: Media Access Control

PROPOSED REVISION TEXT:
In 4.2.7.1, in the Header = record section, after headerFields but before headerBits, there is an extra line.
headerContents: array [1..headerSize] of Bit)
This should be shown in ~~strikeout~~.

RATIONALE FOR REVISION:
Published text does not match approved draft IEEE P802.3ae D5.0 text.

Std ~~headerBits: (~~
headerContents : array [1..headerSize] of Bit)
~~headerBits: (headerContents: array [1..headerSize] of Bit)~~
~~end; {dDefines header for MAC frame}~~

D5.0 ~~headerBits: (~~
~~headerContents : array [1..headerSize] of Bit)~~
~~headerBits: (headerContents: array [1..headerSize] of Bit)~~
~~end; {dDefines header for MAC frame}~~

IMPACT ON EXISTING NETWORKS:
None

| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1131
| DATE RECEIVED: 10th Mar, 2004
| ~~EDITORIAL/TECHNICAL~~
| ACCEPTED/~~DENIED~~
| BALLOT REQ'D ~~YES~~/NO
| COMMENTS: 17-Mar-04 Ver: D2.0 Status: E
|
|-----

| For information about this Revision Request see -
http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1131

```

+-----+
|           8802-3/802.3 REVISION REQUEST 1132           |
+-----+
DATE:                10th Mar, 2004
NAME:                Benjamin Brown
COMPANY/AFFILIATION:
E-MAIL:              benjamin.brown@ieee.org

REQUESTED REVISION:
  STANDARD:          IEEE Std 802.3ae-2002
  CLAUSE NUMBER:    4.2.10
  CLAUSE TITLE:     Common procedures

PROPOSED REVISION TEXT:

Changes to 4.2.3.1 in 802.3ae removed the reference to FCS description in
Clause 3 (for some reason this reference was 3.8 and should have been
3.2.8 - I don't know how old this mistake is). In subclause 4.2.10 change
the text (for details see attached draft):

CRC32 := {The 32-bit CRC for the entire frame, excluding the FCS field
(if present)}

to read

CRC32 := {The 32-bit CRC for the entire frame as defined in 3.2.8,
excluding the FCS field (if present)}

RATIONALE FOR REVISION:

Add a reference to Clause 3 in CRC description.

IMPACT ON EXISTING NETWORKS:

None

+-----+
| Please attach supporting material, if any                |
| Submit to:- Bob Grow, Chair IEEE 802.3                  |
|               E-Mail: Bob.Grow@intel.com                |
|               +----- For official 802.3 use -----+ |
|               | REV REQ NUMBER: 1132                    |
|               | DATE RECEIVED: 10th Mar, 2004           |
|               | EDITORIAL/TECHNICAL                |
|               | ACCEPTED/DENIED                          |
|               | BALLOT REQ'D YES/NO                |
|               | COMMENTS: 05-Jul-04 Ver: D2.1 Status: B |
+-----+
| For information about this Revision Request see -        |
| http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1132 |
+-----+

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

Change the CRC32 function found in subclause 4.2.10 as follows:

4.2.10 Common procedures

The function CRC32 is used by both the transmit and receive algorithms to generate a 32-bit CRC value:

```
function CRC32(f: Frame): CRCValue;  
begin  
    CRC32 := {The 32-bit CRC for the entire frame as defined in 3.2.8, excluding the FCS field (if  
        present)}  
end; {CRC32}
```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

8802-3/802.3 REVISION REQUEST 1133

DATE: 16h Mar, 2004
NAME: Benjamin Brown
COMPANY/AFFILIATION:
E-MAIL: benjamin.brown@ieee.org

REQUESTED REVISION:
STANDARD: 802.3
CLAUSE NUMBER: 4.2.8
CLAUSE TITLE: Media Access Control

PROPOSED REVISION TEXT:
In 4.2.8, in the ComputePad function, the first three lines of Pascal are a duplication of the body of the true function. These first three lines of Pascal should be shown in strikethrough.

RATIONALE FOR REVISION:
Published text does not match approved draft IEEE P802.3ae D5.0 text.

```
Std  function ComputePad(  
      var dataParam: DataValue): DataValue;  
begin  
    ComputePad := {Append an array of size padSize of arbitrary bits to the MAC client dataField}  
end; {ComputePadParam}
```

```
D5.0 function ComputePad(  
      var dataParam: DataValue): DataValue;  
begin  
    ComputePad := {Append an array of size padSize of arbitrary bits to the MAC client dataField}  
end; {ComputePadParam}
```

IMPACT ON EXISTING NETWORKS:
None

| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1133
| DATE RECEIVED: 16h Mar, 2004
| ~~EDITORIAL/TECHNICAL~~
| ACCEPTED/~~DENIED~~
| BALLOT REQ'D ~~YES~~/NO
| COMMENTS: 17-Mar-04 Ver: D2.0 Status: E
|
|-----

For information about this Revision Request see -
http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1133

+-----+
| 8802-3/802.3 REVISION REQUEST 1134 |
+-----+

DATE: 8th Apr, 2004
NAME: Arthur Marris
COMPANY/AFFILIATION: Cadence Design Systems
E-MAIL: arthurm@cadence.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ae-2002
CLAUSE NUMBER: 48.7.4.1
CLAUSE TITLE: Compatibility considerations

PROPOSED REVISION TEXT:

Change status of item CC1 from mandatory to optional.

RATIONALE FOR REVISION:

I believe the PICS entry is incorrect as provision of test functions is implied to be optional in clause 48.3.4.

There is no 'shall' in 48.3.4.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1134
| DATE RECEIVED: 8th Apr, 2004
| EDITORIAL/TECHNICAL
| ACCEPTED/DENIED
| BALLOT REQ'D YES/NO
| COMMENTS: 08-Apr-04 Ver: D1.0 Status: R
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1134
+-----+

-----+
| 8802-3/802.3 REVISION REQUEST 1135 |
-----+

DATE: 29th Apr, 2004
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ae-2002
CLAUSE NUMBER: 45.5.5.3
CLAUSE TITLE: PMA/PMD management functions

PROPOSED REVISION TEXT:

In the PICS Item MM31, replace:-

Single wavelength device uses lane 0 for transmit disable
by
Single wavelength device uses bit 1.9.0 for transmit disable

For details see attached draft.

RATIONALE FOR REVISION:

The PICS item does NOT correspond to subclause 45.2.1.8 paragraph 2. Bit 1.9.0 is the global disable. For multiple wavelength or lane devices, lane 0 is controlled by bit 1, for single wavelength devices, there is no lane 0.

IMPACT ON EXISTING NETWORKS:

It is unlikely that anyone designed a PMA/PMD based on the editorial error in the PICS item, since the controlling subclause is clear.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
REV REQ NUMBER: 1135	
DATE RECEIVED: 29th Apr, 2004	
~~EDITORIAL~~/TECHNICAL	
ACCEPTED/DENIED	
BALLOT REQ'D YES/~~NO~~	
COMMENTS: 29-Sep-04 Ver: D2.0 Status: B	
-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1135 |
-----+

Change PICS entry MM31 found in subclause 45.5.5.3 as follows:

MM31	Single wavelength device uses bit lane zero for transmit disable	45.2.1.8		PMA*PTD:M	Yes [<input type="checkbox"/> N/A [<input type="checkbox"/>
------	---	----------	--	-----------	--

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1136 |
+-----+

DATE: 29th Apr, 2004
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ae-2002
CLAUSE NUMBER: 45.5.5.16
CLAUSE TITLE: Electrical characteristics

PROPOSED REVISION TEXT:

Make item EC7 optional, as in [N/A]. For details see attached draft.

RATIONALE FOR REVISION:

Item EC7 specifies an IOH of $\leq -4\text{mA}$ at $V_i = 1.0\text{V}$, and makes it Mandatory. The item refers to Section 45.4.1, where there is appended:-

NOTE - It is possible to implement the MDIO electrical interface using open drain buffers and a weak resistive pull up to a VDD of 1.2V.

The specification refers to Table 45-65, where there is a note 'a' to the corresponding item:-

'a' IOH parameter is not applicable to open drain drivers.

Although a resistive pullup of 50 ohms would meet the IOH spec, this hardly qualifies as a "weak" pullup, and indeed the IOL spec would need to be better than 50 mA to even come close to working.

IMPACT ON EXISTING NETWORKS:

I think any 'open drain' MDIO drivers will have followed the Table 45-65 requirements, rather than EC7. There should then be no impact.

-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1136
| DATE RECEIVED: 29th Apr, 2004
| EDITORIAL/~~TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 29-Sep-04 Ver: D2.0 Status: B
|

-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1136
|

Add the following entry to the end of the table found in subclause 45.5.4.3 'Major capabilities/options':

*ODB	Open drain buffer	45.4.1		O	Yes [] No []
------	-------------------	--------	--	---	-------------------

Change PICS entry EC7 found in subclause 45.5.5.16 as follows:

EC7	I _{OH}	45.4.1	≤ -4mA at V _I = 1.0V	<u>!ODB</u> :M	Yes [] <u>N/A</u> []
-----	-----------------	--------	---------------------------------	----------------	---------------------------

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1137 |
+-----+

DATE: 29th Apr, 2004
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ae-2002
CLAUSE NUMBER: 45.5.5.3
CLAUSE TITLE: PMA/PMD management functions

PROPOSED REVISION TEXT:

In PICS Item MM42, replace 'Value/Comment' entry:-

'Only is all lane transmit disables are zero'

by

'Only if all lane transmit disables are zero'

For details see attached draft.

RATIONALE FOR REVISION:

Correction of spelling error, and grammatical absurdity.

IMPACT ON EXISTING NETWORKS:

It is unlikely that anyone designed a PMA/PMD based on the editorial error in the PICS item, since the controlling subclause is clear.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1137 |
| DATE RECEIVED: 29th Apr, 2004 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1137 |
+-----+

Change the PICS entry MM42 of subclause 4.5.5.3 as follows:

MM42	Setting bit 0 to a zero enables transmission	45.2.1.8.5	Only if is all lane transmit disables are zero	PMA*PTD:M	Yes [] No [] N/A []
------	--	------------	---	-----------	------------------------------

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1138 |
+-----+

DATE: 29th Apr, 2004
NAME: Peter Bradshaw
COMPANY/AFFILIATION: BitBlitz Communications
E-MAIL: pbradshaw@bitblitz.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ae-2002
CLAUSE NUMBER: 45.5
CLAUSE TITLE: PICS for Clause 45, MDIO interface

PROPOSED REVISION TEXT:

Replace the word "any" in the text:

Users of this standard may freely reproduce the PICS proforma in this subclause so that it can be used for its intended purpose any may further publish the completed PICS.

with "and" so that the text reads:

Users of this standard may freely reproduce the PICS proforma in this subclause so that it can be used for its intended purpose and may further publish the completed PICS.

RATIONALE FOR REVISION:

Grammatical correction, and conform with 8 occurrences of the latter in the same document, and 25 occurrences in 802.3-2002

IMPACT ON EXISTING NETWORKS:

None

-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1138
| DATE RECEIVED: 29th Apr, 2004
| EDITORIAL/~~TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 25-May-04 Ver: D1.1 Status: B
|
+-----+

| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1138
+-----+

-----+
| 8802-3/802.3 REVISION REQUEST 1139 |
+-----+

DATE: 05-Jul-04
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 1.4
CLAUSE TITLE: Definitions

PROPOSED REVISION TEXT:

In definitions 1.4.92, 93, change reference for CS0 and CS1 from Clause 12 to Clause 7.

For details see attached draft.

RATIONALE FOR REVISION:

The text for definition of
1.4.92 Control Signal One (CS1):
1.4.93 Control Signal Zero (CS0):
refers to Clause 12.

However, there is no usage or definition of CS0 or CS1 in Clause 12.
Definition is in [Clause 7, 7.3.1.2 Control encoding, p121] with usage in
various other clauses.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1139 |
| DATE RECEIVED: 21st May, 2004 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1139 |
+-----+

Change the definitions for CS1 and CS0 as follows (during publication number the definitions as required and insert in alphabetic order):

1.4.xxx Control Signal One (CS1): An encoded control signal used on the Control In and Control Out circuits. A CS1 is encoded as a signal at half the bit rate (BR)/2). (See IEEE 802.3 Clause ~~427~~.)

1.4.xxx Control Signal Zero (CS0): An encoded control signal used on the Control In and Control Out circuits. A CS0 is encoded as a signal at the bit rate (BR). (See IEEE 802.3 Clause ~~427~~.)

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1140 |
+-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 5.2.4.2
CLAUSE TITLE: Transmit variables and procedures

PROPOSED REVISION TEXT:

In process DeferTest, replace text "deferCount := 0;" with
"deferBitTimer := 0;"

RATIONALE FOR REVISION:

2002, p 96:

In "process DeferTest;", the text says that variable deferCount is
initialized to zero using line
"deferCount := 0;"

However, the variable "deferCount" is not used anywhere in the document,
and the variable "deferBitTimer" seems to be never initialized.

For details see attached draft.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1140 |
| DATE RECEIVED: 21st May, 2004 |
| EDITORIAL/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/NO |
| COMMENTS: 14-Jul-04 Ver: D1.2 Status: B |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1140 |
+-----+

Change the DeferTest process of subclause 5.2.4.2 as follows:

The DeferTest process sets the excessDefer flag if a transmission attempt has been deferred for a period of time longer than maxDeferTime.

```
process DeferTest;  
  var deferBitTimer: 0..maxDeferTime;  
begin  
  cycle  
  begin  
    deferCount deferBitTimer := 0;  
    while frameWaiting and not excessDefer do  
      begin  
        Wait(oneBitTime); {see 4.3.3}  
        if deferBitTimer = maxDeferTime then  
          excessDefer := true  
        else  
          deferBitTimer := deferBitTimer + 1  
        end; {while}  
      while transmitting do nothing  
    end {cycle}  
  end; {DeferTest}
```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1141 |
+-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 7.2.1.1.1
CLAUSE TITLE: output message

PROPOSED REVISION TEXT:

Change text from "output" to "output" by adding italic attribute to text "output".

For details see attached draft.

RATIONALE FOR REVISION:

Text should be in italics.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1141
| DATE RECEIVED: 21st May, 2004
| EDITORIAL/~~TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1141
+-----+

Change the 1st paragraph of subclause 7.2.1.1.1 as follows:

7.2.1.1.1 output message

The PLS sublayer sends an ~~output~~output message to the PMA sublayer when the PLS sublayer receives an OUTPUT_UNIT from the MAC sublayer.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1142 |
+-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 7.2.1.1.5
CLAUSE TITLE: mau_request message (optional)

PROPOSED REVISION TEXT:

For line
"The PLS sublayer senses the mau_request message to the PMA sublayer",
change text from "senses" to "sends".

RATIONALE FOR REVISION:

Mis-spelled word.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1142
| DATE RECEIVED: 21st May, 2004
| EDITORIAL/~~TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1142
+-----+

Change the 1st paragraph of subclause 7.2.1.1.5 as follows:

7.2.1.1.5 *mau_request* message (optional)

The PLS sublayer ~~senses~~ sends the *mau_request* message to the PMA sublayer if the PMA sublayer is sending the *mau_not_available* message and the MAC sublayer has sent the first OUTPUT_UNIT of a new transmission. The PLS sublayer continues to send the *mau_request* message to the MAU until the MAC sublayer sends the DATA_COMPLETE request to the PLS sublayer across the MAC to PLS interface. See Figures 7-3, 7-5, and 7-9 for details.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1143 |
+-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: Figure 7-6
CLAUSE TITLE: PLS Input and Data_Valid function

PROPOSED REVISION TEXT:

Change text from "SQE * input_idle" to "not SQE * input_idle". The not applies only to SQE.

For details see attached draft.

RATIONALE FOR REVISION:

Error when figure was converted from 1996 version.

For exit from state "BIT BUCKET" to state "INPUT IDLE", an inversion on signal SQE was dropped in edits.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1143 |
| DATE RECEIVED: 21st May, 2004 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1143 |
+-----+

Replace Figure 7-6 with the following:

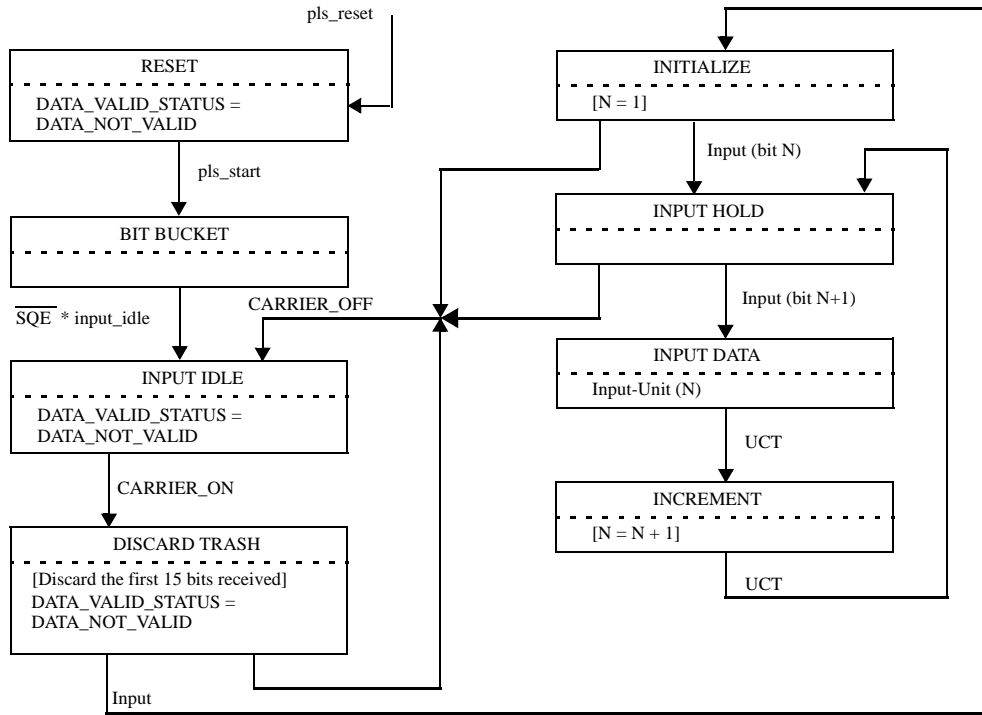


Figure 7-6—PLS Input and Data_Valid function

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1144 |
+-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 14.2.1.5
CLAUSE TITLE: signal_quality_error Message (SQE) Test function

PROPOSED REVISION TEXT:

Change text from
"shall be between 0. μ s and 1.6 μ s."
to "shall be between 0.6 μ s and 1.6 μ s."
by adding text "6" for 0.6 μ s.

For details see attached draft.

RATIONALE FOR REVISION:

Text is missing a number.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |

+----- For official 802.3 use -----+
| REV REQ NUMBER: 1144 |
| DATE RECEIVED: 21st May, 2004 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1144 |
+-----+

14.2.1.5 *signal_quality_error* Message (SQE) Test function requirements

Change the 1st paragraph of subclause 14.2.1.5 as follows:

The SQE Test function shall be performed by MAUs that are connected to DTEs in half duplex mode, and shall not be performed by MAUs that are connected to repeaters. When the SQE test is performed, the MAU shall send CS0 on the CI circuit for a time “SQE_test” beginning a time “SQE_test_wait” after the last positive transition of a packet on the DO circuit. The value of “SQE_test” shall be $10 \text{ BT} \pm 5 \text{ BT}$ and the value of “SQE_test_wait” shall be between $0.6 \mu\text{s}$ and $1.6 \mu\text{s}$. This function should use as much of the normal collision detection and signaling circuitry as possible without introducing extraneous signals on the TD circuit or the DI circuit.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1145 |
+-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: 14.2.3.2
CLAUSE TITLE: State diagram timers

PROPOSED REVISION TEXT:

Change text from "Link Fail" to "Link Test Fail" by adding text "Test"

RATIONALE FOR REVISION:

Text for
"link_test_max_timer. Timer for maximum time input activity can be
missing before Link Fail state is exited (14.2.1.7)." does not match name
of state in state diagram.

State name is "Link Test Fail".

For details see attached draft.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1145 |
| DATE RECEIVED: 21st May, 2004 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1145 |

Change timer 'link_test_max_timer' of subclause 14.2.3.2 as follows:

link_test_max_timer. Timer for maximum time input activity can be missing before Link Test Fail state is exited (14.2.1.7).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1147 |
-----+

DATE: 21st May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: Table 14-2
CLAUSE TITLE: Maximum timing parameters

PROPOSED REVISION TEXT:

Change text from "RD_input" to "*RD_input*" by adding italic attribute to text "RD_input".

Change text from "output" to "*output*" by adding italic attribute to text "output".

Change text from "signal_quality_error" to "*signal_quality_error*" by adding italic attribute to text "signal_quality_error".

For details see attached draft.

RATIONALE FOR REVISION:

Text should be in italics.

IMPACT ON EXISTING NETWORKS:

Editorial change only.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1147 |
| DATE RECEIVED: 21st May, 2004 |
| EDITORIAL/~~TECHNICAL~~ |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: B |
-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1147 |
-----+

Replace Table 14-2 with the following (Summary of changes - in M3 change 'RD_input' to read 'RD_input', 'output' to read 'output' and 'signal_quality_error' to read 'signal_quality_error', in M8 change 'signal_quality_error' to read 'signal_quality_error'):

Table 14–2—Maximum timing parameters

Symbol	Function	Bit Loss ^a	Invalid Bits ^b	Steady-State Propagation Delay ^b	Start-up Delay ^b		Specified in
					Maximum	Variability	
M1	<i>RD_input</i> to <i>input</i> on DI	5.0	1.0	2.0	8.0	2.0	14.2.1.2
M2	<i>output</i> on DO to <i>TD_output</i>	2.0	1.0	2.0	5.0	2.0	14.2.1.1
M3	<i>RD_input</i> * <i>output</i> to <i>signal_quality_error</i>	—	—	—	9.0	—	14.2.1.4
M4	<i>RD_idle</i> + <i>output_idle</i> (end of collision) to <i>mau_available</i>	—	—	—	9.0	—	14.2.1.4
M5	<i>RD_input</i> * <i>output</i> to <i>input</i> on DI from circuit RD	—	—	—	9.0	—	14.2.1.4
M6	<i>RD_idle</i> * <i>output</i> to <i>input</i> on DI from circuit DO	—	—	—	9.0	—	14.2.1.4
M7	<i>output_idle</i> on DO to <i>signal_quality_error</i>	—	—	—	6 < x < 16	—	14.2.1.5
M8	<i>signal_quality_error</i> duration for SQE test	—	—	—	5 < x < 15	—	14.2.1.5
M9	<i>output</i> on DO to <i>input</i> on DI	5.0	1.0	1.0	7.0	—	14.2.1.3
T1	twisted-pair propagation	0	0	10.00	10.00	—	14.4.2.4
A1	AUI cable propagation (50 m)	0	0	2.57	2.57	—	7.4.3.7

^aAll time in BT.

^bFor an explanation of the meaning of variability, see 14.2.1.1 and 14.2.1.2.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1148 |
+-----+

DATE: 21th May, 2004
NAME: Thomas Mathey
COMPANY/AFFILIATION: Independent
E-MAIL: tmathey@concentric.net

REQUESTED REVISION:
STANDARD: IEEE Std 802.3-2002
CLAUSE NUMBER: Figure 27-1
CLAUSE TITLE: 100BASE-T repeater set

PROPOSED REVISION TEXT:

Remove text

LAN
CSMA/CD
LAYERS

See attached draft.

RATIONALE FOR REVISION:

Figure has text hanging out in midspace with no attachment to a layer.
Figure in Clause 41 has more detail and text has a reference point.

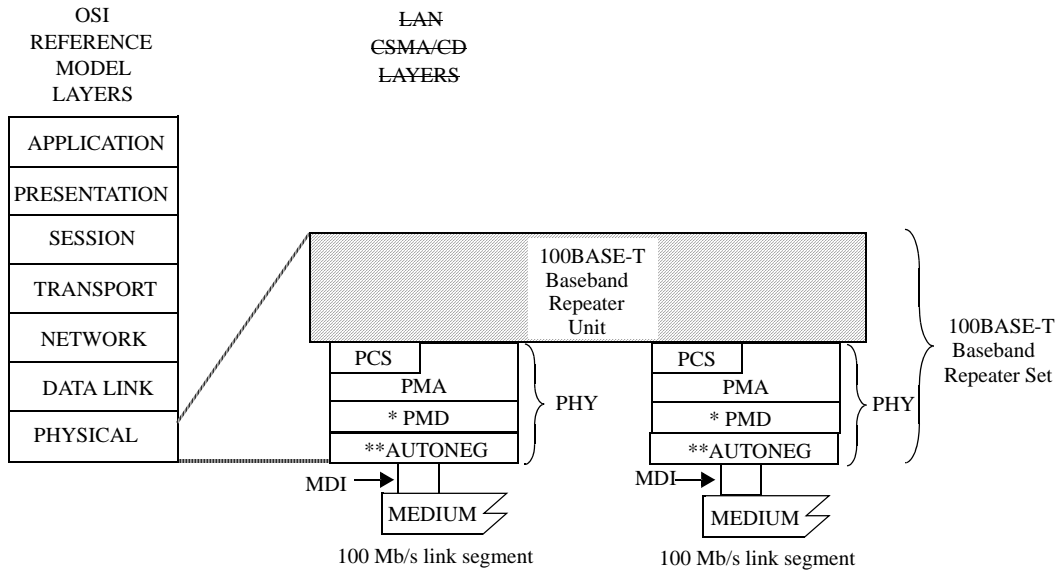
IMPACT ON EXISTING NETWORKS:

Editorial change only.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1148
| DATE RECEIVED: 21th May, 2004
| EDITORIAL/~~TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 05-Jul-04 Ver: D1.1 Status: R
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1148
+-----+

Change Figure 27-1 as follows:



MDI = MEDIUM DEPENDENT INTERFACE
MII = MEDIA INDEPENDENT INTERFACE

PCS = PHYSICAL CODING SUBLAYER
PMA = PHYSICAL MEDIUM ATTACHMENT
PHY = PHYSICAL LAYER DEVICE
PMD = PHYSICAL MEDIUM DEPENDENT

* PMD is specified for 100BASE-TX and -FX only; 100BASE-T4 does not use this layer.
Use of MII between PCS and baseband repeater unit is optional.
** AUTONEG is optional.

Figure 27-1—100BASE-T repeater set relationship to the ISO/IEC OSI reference model

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1149 |
+-----+

DATE: 25th May, 2004
NAME: Jeremy Kent
COMPANY/AFFILIATION: UNH InterOperability Lab
E-MAIL: jtkent@iol.unh.edu

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: 40C.1, 40C.2.1, and Figure 40C-2
CLAUSE TITLE: Auto-Negotiation Transmit state machine add-on
for 1000BASE-T

PROPOSED REVISION TEXT:

See attached draft.

RATIONALE FOR REVISION:

This change was included in the approved draft of IEEE Std 802.3ag-2002 and should have been published as part of IEEE Std 802.3-2002 but was not.

IMPACT ON EXISTING NETWORKS:

None. This change is to an informative Annex and therefore will have no effect on equipment compliance. Equipment manufactured using this change will interoperate with existing equipment.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1149 |
| DATE RECEIVED: 25th May, 2004 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/~~DENIED~~ |
| BALLOT REQ'D ~~YES~~/NO |
| COMMENTS: 25-May-04 Ver: D1.0 Status: E |
+-----+

+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1149 |
+-----+

40C.1 State variables

Delete the following variable from 40C.1:

1000T_capable

This variable is used merely to show the local device is 1000Base-T capable. It is shown to illustrate the path that a non-1000Base-T device would take within the auto negotiation mechanism.

Insert the following variable in 40C.1 (this should be inserted in alphabetical order):

desire_1000T_adv

The local device desires a 1000BASE-T link.

Values: true; bits 9.8 or 9.9 do not contain a logic zero.
false; bits 9.8 and 9.9 both contain a logic zero.

Figure 40C-2—Auto-Negotiation Transmit state diagram add-on for 1000BASE-T

Change note 3 of Figure 40C-2:

3—(Flp_Link_Good_Check) This is shown for illustration only. This state is from the Auto-Negotiation arbitration state diagram and indicates the conclusion of pages being sent. (The transition desire_1000T_adv~~1000T_capable~~ = false is to show sequence for non 1000BASE-T implementations.)

+-----+
| 8802-3/802.3 REVISION REQUEST 1150 |
+-----+

DATE: 25th May, 2004
NAME: Jeremy Kent
COMPANY/AFFILIATION: UNH InterOperability Lab
E-MAIL: jtkent@iol.unh.edu

REQUESTED REVISION:
STANDARD: IEEE Std. 802.3-2002
CLAUSE NUMBER: 40C.2.1 and Figure 40C-2
CLAUSE TITLE: Auto-Negotiation Transmit state machine add-on
for 1000BASE-T

PROPOSED REVISION TEXT:

See attached draft.

In Figure 40C-2, in the transition conditions between WAIT3 and
Flp_Link_Good_Check, change the transition condition from
rx_link_code_word[NP]=1 to rx_link_code_word[NP]=0.

Furthermore, rx_link_code_word[NP]=1 should be added to the transition
conditions between WAIT3 and 1000T_NULL_TX.

RATIONALE FOR REVISION:

These additions were originally in request 1045 however the diagram
balloted did not implement these correctly.

IMPACT ON EXISTING NETWORKS:

None. This change is to an informative Annex and therefore will have no
effect on equipment compliance. Equipment manufactured using this change
will interoperate with existing equipment.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1150
| DATE RECEIVED: 25th May, 2004
| ~~EDITORIAL/TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 25-May-04 Ver: D1.0 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1150
+-----+

Replace Figure 40C-2 with the following (Changed highlighted):

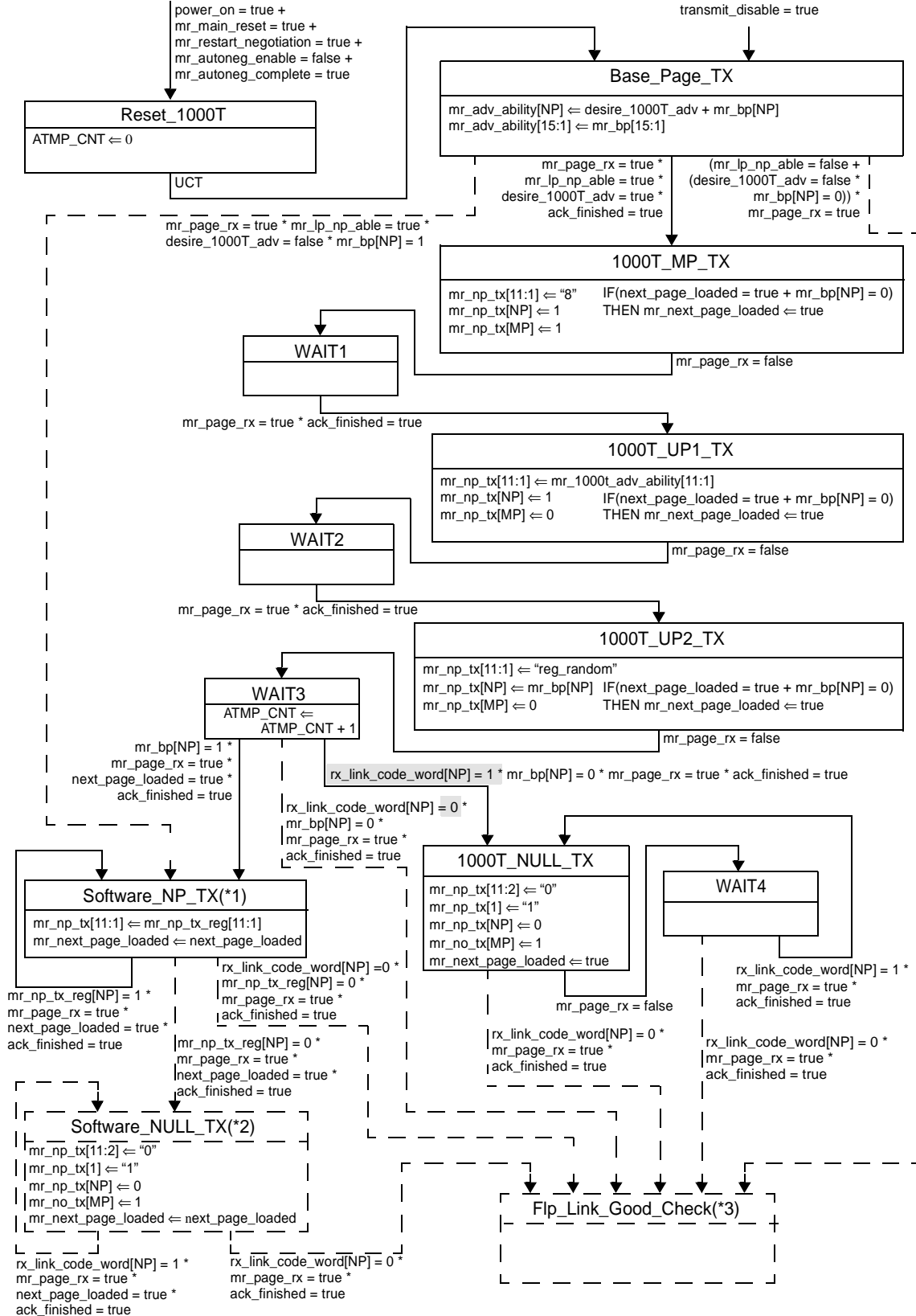


Figure 40C-2—Auto-Negotiation Transmit state diagram add-on for 100BASE-T

+-----+
| 8802-3/802.3 REVISION REQUEST 1151 |
+-----+

DATE: 1st Jun, 2004
NAME: Dan Dove
COMPANY/AFFILIATION: hp ProCurve
E-MAIL: dan.dove@hp.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ak-2004
CLAUSE NUMBER: 54.6.3.2
CLAUSE TITLE: Test Fixture Impedance

PROPOSED REVISION TEXT:

Change Paragraph:

From:

"The nominal differential impedance of the transmit test fixture depicted in Figure 54-3 shall be 100 Ohms with a return loss greater than 20 dB from 100 MHz to 2000 MHz."

To:

"The differential load impedance applied to the transmitter output by the test fixture depicted in Figure 54-3 shall have a return loss greater than 20 dB from 100 MHz to 2000 MHz. The reference impedance for differential return loss measurements shall be 100 Ohms."

RATIONALE FOR REVISION:

The impedance specification in this clause is ambiguous. The test fixture is shown in Figure 54-3 to have two ports, one that connects to the transmitter output and one that connects to the "Post Processing" block. The clause does not specify whether the impedance specification applies to the port that connects to the transmitter output, the "Post Processing" block or both.

In addition, the return loss specification applies to the actual impedance applied to the transmitter output by the test fixture, not to the nominal value of the impedance.

IMPACT ON EXISTING NETWORKS:

None. It only clarifies the original functional requirement.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
|
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1151 |
| DATE RECEIVED: 1st Jun, 2004 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 14-Jul-04 Ver: D1.1 Status: B |
+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1151 |
+-----+

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1152 |
+-----+

DATE: 8th Jul, 2004
NAME: Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL: glen.kramer@teknovus.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ah-2004
CLAUSE NUMBER: 64.3.3.2
CLAUSE TITLE: Variables

PROPOSED REVISION TEXT:

The value of syncTime includes gain adjustment interval (Treceiver_settling), clock synchronization interval (Tcdr), and codegroup alignment interval (Tcode_group_align), as specified in 60.7.13.2.

For details see attached draft.

RATIONALE FOR REVISION:

The state machines in Figures 64-28 and 64-29 account for laser_on time (Ton) in addition to syncTime. If Ton is also included in syncTime, it will be accounted for twice, thus potentially breaking the scheduling.

IMPACT ON EXISTING NETWORKS:

None. All existing implementations do not include laser_on time in syncTime.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1152
| DATE RECEIVED: 8th Jul, 2004
| ~~EDITORIAL/TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 14-Jul-04 Ver: D1.1 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1152
+-----+

64.3.3.2 Variables

Change the variable syncTime as follows:

syncTime

This variable holds the time required to stabilize the receiver at the OLT. It counts time_quanta units from the point where transmission output is stable to the point where synchronization has been achieved. The value of syncTime includes ~~laser on time (T_{on})~~, gain adjustment interval ($T_{receiver_settling}$), clock synchronization interval (T_{cdr}), and codegroup alignment interval ($T_{code_group_align}$), as specified in 60.7.13.2. The OLT conveys the value of syncTime to ONUs in Discovery GATE and REGISTER messages. During the synchronization time only IDLE patterns can be transmitted by an ONU.

TYPE: 16 bit unsigned

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

```

+-----+
|           8802-3/802.3 REVISION REQUEST 1153           |
+-----+
DATE:                8th Jul, 2004
NAME:                Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL:              glen.kramer@teknovus.com

REQUESTED REVISION:
  STANDARD:          IEEE Std 802.3ah-2004
  CLAUSE NUMBER:    64.3.3.5
  CLAUSE TITLE:     Messages

PROPOSED REVISION TEXT:

The description of DA parameter of MA_CONTROL.request service primitive
for REGISTER MPCPDU should be changed to:

DA: unicast MAC address or multicast ...

For details see attached draft.

RATIONALE FOR REVISION:

According to MPCP discovery protocol, the REGISTER MPCPDU should be send
to an individual ONU, but the logical point-to-point channel to this ONU
is not established yet. Therefore, the MPCPDU is sent on broadcast
channel with unicast MAC address.

IMPACT ON EXISTING NETWORKS:

None. All existing implementations transmit REGISTER MPCPDU with unicast
MAC address.

+-----+
| Please attach supporting material, if any                |
| Submit to:- Bob Grow, Chair IEEE 802.3                  |
|               E-Mail: Bob.Grow@intel.com                 |
|               +----- For official 802.3 use -----+  |
|               | REV REQ NUMBER: 1153                    |
|               | DATE RECEIVED: 8th Jul, 2004           |
|               | EDITORIAL/TECHNICAL              |
|               | ACCEPTED/DENIED                        |
|               | BALLOT REQ'D YES/NO                |
|               | COMMENTS: 14-Jul-04 Ver: D1.2 Status: B |
+-----+
| For information about this Revision Request see -        |
| http://www.ieee802.org/3/maint/requests/revision\_history.html#REQ1153 |
+-----+

```

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

64.3.3.5 Messages

Change the MA_CONTROL.request service primitive as follows:

MA_CONTROL.request(DA, REGISTER, LLID, status, pending_grants)

The service primitive used by the MAC Control client at the OLT to initiate acceptance of an ONU. This primitive takes the following parameters:

DA:	<u>Unicast MAC address or</u> multicast MAC Control address as defined in Annex 31B.
REGISTER:	opcode for REGISTER MPCPDU as defined in Table 31A-1.
LLID:	This parameter holds the logical link identification number assigned by the MAC Control client.
status:	This parameter takes on the indication supplied by the flags field in the REGISTER MPCPDU as defined in Table 64-4.
pending_grants:	This parameters echoes back the pending_grants field that was previously received in the REGISTER_REQ message.

+-----+
| 8802-3/802.3 REVISION REQUEST 1154 |
+-----+

DATE: 8th Jul, 2004
NAME: Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL: glen.kramer@teknovus.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ah-2004
CLAUSE NUMBER: 64.2.2.1
CLAUSE TITLE: Constants

PROPOSED REVISION TEXT:

value of guardThresholdOLT should be 12 TQ
value of guardThresholdONU should be 8 TQ

For details see attached draft.

RATIONALE FOR REVISION:

The values of guardThresholdOLT and guardThresholdONU are mixed.
This seems like a mistake made while preparing D3.2.

Refer to comment 64001 in http://www.ieee802.org/3/efm/public/comments/d3_1/D3_1_final_report.pdf

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1154 |
| DATE RECEIVED: 8th Jul, 2004 |
| ~~EDITORIAL~~/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/~~NO~~ |
| COMMENTS: 14-Jul-04 Ver: D1.1 Status: B |
+-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1154 |
+-----+

64.2.2.1 Constants

Change the guardThresholdOLT and guardThresholdONU constants as follows:

guardThresholdOLT

This constant holds the maximal amount of drift allowed for a timestamp received at the OLT. This value is measured in units of time_quantum (16 bit times).

TYPE: integer

VALUE: 812

guardThresholdONU

This constant holds the maximal amount of drift allowed for a timestamp received at the ONU. This value is measured in units of time_quantum (16 bit times)

TYPE: integer

VALUE: 428

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

-----+
| 8802-3/802.3 REVISION REQUEST 1155 |
-----+

DATE: 8th Jul, 2004
NAME: Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL: glen.kramer@teknovus.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ah-2004
CLAUSE NUMBER: 65.2.2.2
CLAUSE TITLE: Functions

PROPOSED REVISION TEXT:

IsIdle()
This function is used to determine whether tx_code-group is /K28.5/ or any codegroup that follows a /K28.5/.

For details see attached draft.

RATIONALE FOR REVISION:

IsIdle(..) function returns true for /T/ and /R/ code-groups. Thus, even though these code-groups may still remain in the buffer, the data detector may start shutting down the laser. This would result in an ONU cutting short its transmission, truncating the EPD of the last packet in a burst.

Also configuration code-groups should not be used in EPON. If /K28.5/C21.5/ or /K28.5/D2.2/ are found in the buffer, they should be treated as idles and the ONU's laser should not turn on.

IMPACT ON EXISTING NETWORKS:

None.

-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
| |
| +----- For official 802.3 use -----+ |
REV REQ NUMBER: 1155	
DATE RECEIVED: 8th Jul, 2004	
~~EDITORIAL/TECHNICAL~~	
ACCEPTED/DENIED	
BALLOT REQ'D YES/~~NO~~	
COMMENTS: 14-Jul-04 Ver: D1.1 Status: B	
-----+

| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1155 |
-----+

65.2.2.2.2 Functions

Change the `IsIdle()` function as follows:

`IsIdle(tx_code-group)`

This function is used to determine whether `tx_code-group` is ~~/T/, /R/, /K28.5/~~ or any codegroup ~~other than /D21.5/ or /D2.2/~~ that follows a `/K28.5/`.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

+-----+
| 8802-3/802.3 REVISION REQUEST 1156 |
+-----+

DATE: 8th Jul, 2004
NAME: Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL: glen.kramer@teknovus.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ah-2004
CLAUSE NUMBER: 64.3.3.6
CLAUSE TITLE: State Diagram

PROPOSED REVISION TEXT:

In state WAIT in figure 64-22, the following code should be used:

```
registered <= false  
transmitAllowed <= false
```

RATIONALE FOR REVISION:

An ONU that becomes deregistered, while it is in a transmission state will not cease the transmission until the current grant completes. This represents a significant flaw in the specification.

It is recommended that implementations of Gate Activation state diagrams are modified such that the transmitAllowed variable is reset to false immediately upon ONU's deregistration.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1156
| DATE RECEIVED: 8th Jul, 2004
| ~~EDITORIAL/TECHNICAL~~
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 14-Jul-04 Ver: D1.1 Status: B
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1156
+-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1157 |
+-----+

DATE: 8th Jul, 2004
NAME: Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL: glen.kramer@teknovus.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ah-2004
CLAUSE NUMBER: 64.3.3.6
CLAUSE TITLE: State Diagram

PROPOSED REVISION TEXT:

remove [stop ONU_timer] from the COMPLETE DISCOVERY state in Figure 64-21.

RATIONALE FOR REVISION:

The command [stop ONU_timer] inside the COMPLETE DISCOVERY state in an artifact from an earlier version of the draft. This timer is neither defined, nor is used anywhere in state diagrams.

IMPACT ON EXISTING NETWORKS:

None.

+-----+
| Please attach supporting material, if any
| Submit to:- Bob Grow, Chair IEEE 802.3
| E-Mail: Bob.Grow@intel.com
|
| +----- For official 802.3 use -----+
| REV REQ NUMBER: 1157
| DATE RECEIVED: 8th Jul, 2004
| ~~EDITORIAL~~/TECHNICAL
| ACCEPTED/DENIED
| BALLOT REQ'D YES/~~NO~~
| COMMENTS: 14-Jul-04 Ver: D1.1 Status: B
|
+-----+

+-----+
| For information about this Revision Request see -
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1157
+-----+

+-----+
| 8802-3/802.3 REVISION REQUEST 1158 |
+-----+

DATE: 8th Jul, 2004
NAME: Glen Kramer
COMPANY/AFFILIATION: Teknovus, Inc.
E-MAIL: glen.kramer@teknovus.com

REQUESTED REVISION:
STANDARD: IEEE Std 802.3ah-2004
CLAUSE NUMBER: 65.2.3.2.3
CLAUSE TITLE: Special frame markers

PROPOSED REVISION TEXT:

- /T_FEC_E/ - end of FEC coded packet with even alignment.
If the starting running disparity is positive,
the T_FEC_E has the following pattern: /T/R/K28.5/D10.1/T/R/

If the starting running disparity is negative,
the T_FEC_E has the following pattern: /T/R/K28.5/D29.5/T/R/

RATIONALE FOR REVISION:

The FEC state machine looks ahead at the incoming bit stream and attempts to match 6 or 7 bytes to T_FEC_E or T_FEC_O. The match is declared is if received bit stream has Hamming distance of less than 6 from the bit sequence specified for T_FEC_O or T_FEC_E delimiters.

The problem is that T_FEC_E and T_FEC_O are only Hamming-distance 2 apart, and can be easily confused. The attached diagram shows an example where both T_FEC_O and T_FEC_E could be matched with only 2 bit errors each.

The FEC receive state machine can easily mistake Dx.x+T_FEC_E for T_FEC_O. When this happens, the FEC receive state machine discards the last byte of CRC32.

Page 2 in the attached diagram shows the increased Hamming distance when a modified T_FEC_E is used.

IMPACT ON EXISTING NETWORKS:

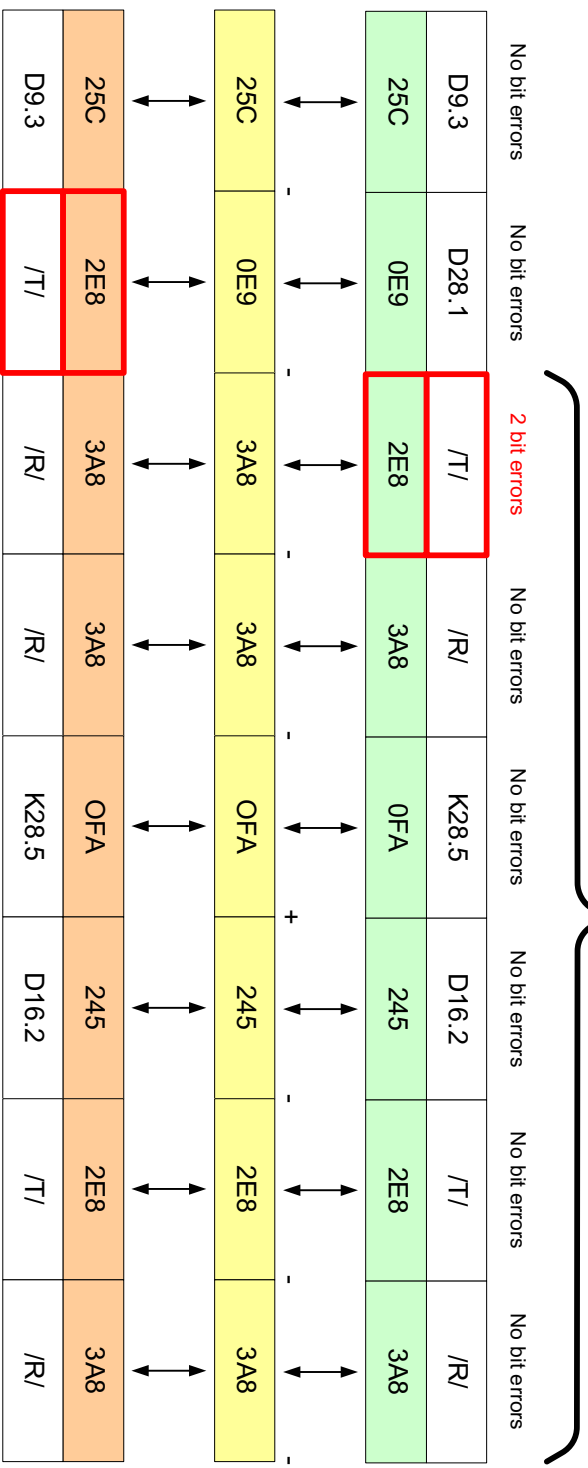
This modification may make FEC function not backward compatible.

+-----+
| Please attach supporting material, if any |
| Submit to:- Bob Grow, Chair IEEE 802.3 |
| E-Mail: Bob.Grow@intel.com |
|
| +----- For official 802.3 use -----+ |
| REV REQ NUMBER: 1158 |
| DATE RECEIVED: 8th Jul, 2004 |
| EDITORIAL/TECHNICAL |
| ACCEPTED/DENIED |
| BALLOT REQ'D YES/NO |
| COMMENTS: 14-Jul-04 Ver: D1.1 Status: B |
+-----+
| For information about this Revision Request see - |
| http://www.ieee802.org/3/maint/requests/revision_history.html#REQ1158 |
+-----+

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

Correct match = T_FEC_E (2 bit errors)



Incorrect match = T_FEC_O (2 bit errors)

802.3ah allows up to 5 bit errors

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54

TFEC_E REPLACED		DATA	DATA	2E8 /T/	3A8 /R/	OFA /K28.5/	11A /D29.5/	2E8 /T/	3A8 /R/	PRTY	PRTY
--------------------	--	------	------	------------	------------	----------------	----------------	------------	------------	------	------

TFEC_O		DATA	2E8 /T/	3A8 /R/	3A8 /R/	OFA /K28.5/	245 /D16.2/	2E8 /T/	3A8 /R/	PRTY	PRTY
--------	--	------	------------	------------	------------	----------------	----------------	------------	------------	------	------

10 Bit Error over 60 bits correlation

Hamming distance between modified TFEC_E and original TFEC_O when starting running disparity is negative

TFEC_E REPLACED		DATA	DATA	117 /T/	057 /R/	305 /K28.5/	159 /D10.1/	2E8 /T/	3A8 /R/	PRTY	PRTY
--------------------	--	------	------	------------	------------	----------------	----------------	------------	------------	------	------

TFEC_O		DATA	117 /T/	057 /R/	057 /R/	305 /K28.5/	296 /D5.6/	2E8 /T/	3A8 /R/	PRTY	PRTY
--------	--	------	------------	------------	------------	----------------	---------------	------------	------------	------	------

10 Bit Error over 60 bits correlation

Hamming distance between modified TFEC_E and original TFEC_O when starting running disparity is positive