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**Network Aspects (NA);
Metropolitan Area Network (MAN)
Physical Layer Convergence Procedure (PLCP) for 2,048 Mbit/s
Protocol Implementation Conformance Statement (PICS)**

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Foreword

This European Telecommunication Standard (ETS) has been prepared by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI).

This ETS details the Protocol Implementation Conformance Statement (PICS) for the Physical Layer Convergence Procedure (PLCP) for a European Metropolitan Area Network (MAN) based on the Distributed Queue Dual Bus (DQDB) access method as defined in ETS 300 212 [2] operating at a transmission rate of 2,048 Mbit/s in accordance with ETS 300 213 [1].

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1 Scope

This European Telecommunication Standard (ETS) defines Protocol Implementation Conformance Statement (PICS) for the Physical Layer Convergence Procedure (PLCP) at 2,048 Mbit/s for use in the context of a subnetwork of a MAN as defined in ETS 300 213 [1].

2 Normative references

This ETS incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed below. For dated references, subsequent amendments to or revisions of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] ETS 300 213: "Network Aspects (NA); Metropolitan Area Network (MAN) Physical layer convergence procedure for 2,048 Mbit/s".
- [2] ETS 300 212: "Network Aspects (NA); Metropolitan Area Network (MAN) Media access control layer and physical layer specification".
- [3] IEEE Standard 802.6 (1990): "Distributed Queue Dual Bus (DQDB) Subnetwork of a Metropolitan Area Network".

3 Definitions

For the purposes of this ETS, the definitions as defined in IEEE Standard 802.6 [3] shall apply.

4 Symbols and abbreviations

For the purposes of this ETS, the symbols and abbreviations as defined in IEEE Standard 802.6 [3] shall apply.

In addition, for this PICS proforma, the following abbreviations are used in defining the support type of a feature, parameter or capability:

m	mandatory
o	optional
c	conditional
d	default value defined
n/a	not applicable

When used in the column labelled "Value" the following abbreviations are defined:

xx - yy	from number xx to number yy
xx/yy	either number xx or number yy applies, depending on the actual conditions

For each of the conditional items, an explanation of the parameter or capability under which the feature, parameter or capability is mandatory is given in the Clause or subclause in which the conditional items appear.

The notation X_ in the column "Support" means that numbers may be entered in this place pointing to notes which indicate deviation from the standard.

For ease of reference, the numbering of the following Clauses is identical to that contained in ETS 300 213 [1].

5 PICS for the "PLCP for E1 based systems"

An implementation is required to conform to the functional models defined in ETS 300 213 [1] with regard to all of the externally observable effects.

5.1 E1 relationship to the PLCP

Table 1

Item	Feature	References	Status	Predicate	Value	Support
5.1	Relation to E1 framing	5.1.1	m			Y[] N[] X_
5.2	Octet alignment	5.1.1	m			Y[] N[] X
5.3	Octet coding	5.1.1	m			Y[] N[] X_

5.2 The PLCP frame format

Table 2

Item	Feature	Reference	Status	Predicate	Value	Support
5.1	Format per figure 1	5.2	m			Y[] N[] X_

5.3 PLCP field definitions

Table 3

Item	Feature	References	Status	Predicate	Value	Support
5.1	Framing octets	5.3.1	m		1111011000101000	Y[] N[] X_
5.2	Path Overhead Identification (POI) octets	5.3.2	m			Y[] N[] X_
5.3	Coding of POI octets	5.3.2 Table 1	m			Y[] N[] X_
5.4	F1 octet	5.3.3.1	m,d		00000000	Y[] N[] X_
5.5	B1 octet (BIP-8)	5.3.3.2	m			Y[] N[] X_
5.6	G1 octet FEBE	5.3.3.3	o			Y[] N[] X_
5.7	Default FEBE code	5.3.3.3	c (NOTE 1)		1111	Y[] N[] X_
5.8	Alarm signal G1	5.3.3.3	o			Y[] N[] X_
5.9	Default code for alarm signal	5.3.3.3	c (NOTE 2)		0	Y[] N[] X_
5.10	LSS in G1 octet	5.3.3.3 Table 2	m			Y[] N[] X_
5.11	Ignore invalid LSS codes	5.3.3.3	m			Y[] N[] X_
5.12	M1 and M2 octets	5.3.3.4	m			Y[] N[] X_
5.13	C1 octet	5.3.3.5	m,d		0000 0000	Y[] N[] X_
5.14	Z1-Z4 octets	5.3.3.6	m,d		0000 0000	Y[] N[] X_
5.15	Trailer octets	5.3.4	n/a			Y[] N[] X_
<p>NOTE 1: The default code 1111 shall be generated if the Far End Block Error Far End Block Error (FEBE) count is not implemented.</p> <p>NOTE 2: The default code 0 shall be generated if the alarm signal is not implemented.</p>						

5.4 PLCP behaviour during faults

This subclause provides an overview of the behaviour of the PLCP layer during transmission system faults, PLCP faults, and DQDB layer faults. Details of the behaviour of the PLCP are given in subclause 5.6.

Table 4

Item	Feature	Reference	Status	Predicate	Value	Support
5.1	Jam signal	5.4	m		Repeating 11001100 octets	Y[] N[] X_
5.2	Jam signal de- tect >= 270 µs	5.4	m			Y[] N[] X_
5.3	Timer P_x reset and started when Jam signal detected	5.4	m		19ms ± 0.2 ms	Y[] N[] X_
5.4	Timer_P_x expires	5.4	m			Y[] N[] X_

5.5 PLCP behaviour during DQDB layer out of service

Table 5

Item	Feature	Reference	Status	Predicate	Value	Support
5.1	PLCP continues normal operation	5.5	m			Y[] N[] X_
5.2	M1, M2 octets relayed unmodi- fied	5.5	m			Y[] N[] X_

5.6 PLCP framing

This subclause defines the state machine for the PLCP framing and the behaviour of the PLCP in each state of the state machine. The state machine requirements are presented first.

Table 6

Item	Feature	Reference	Status	Predicate	Value	Support
5.1	Bus A and Bus B framing state machine provided	5.6 figure 3	m			Y[] N[] X_

5.6.1 Link status signal operations table

The following table describes the behaviour of the PLCP in each state of the framing state machine; this information is in addition to the requirements in IEEE Standard 802.6 [3], section 11.3.1.

Table 7

Item	Feature	Reference	Status	Predicate	Value	Support
5.1	LSS operations	5.6.1 table 3	m			Y[] N[] X_

5.6.2 Physical layer frame timing operations table

This subclause supplements the timing source information of tables 10.10(b), 10.11, and 10.12 of IEEE Standard 802.6 [3] and details the physical layer frame timing operations.

Table 8

Item	Feature	Reference	Status	Predicate	Value	Support
5.1	Frame timing operation	5.6.2 table 4	m			Y[] N[] X_

History

Document history	
March 1994	First Edition
March 1996	Converted into Adobe Acrobat Portable Document Format (PDF)