

**Implementation of
ENV 41114:1992**

**Information
technology —
Functional standard
for profile T/A52 —
Local Area Network —
Token Bus
(COTS + CLNS)**

UDC 681.3.01/02

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National foreword

This Draft for Development is identical with the European Prestandard ENV 41114:1992 *Information technology — Functional standard for profile T/A52 — Local Area Network — Token Bus (COTS + CLNS)*, prepared by CEN/CENELEC whose members have committed themselves to making it available in an appropriate form. In the UK the Draft for Development is the form now chosen for ENVs in the information technology area.

This Draft for Development is published under the direction of the Information Systems Technology Standards Policy Committee whose Technical Committee IST/6 has the responsibility to:

- aid enquirers to understand the text;
- present to the responsible international/European committee any enquiries on interpretation, or proposals for change, and to keep UK interests informed;
- monitor related international and European developments and promulgate them in the UK.

NOTE International and European Standards, as well as overseas standards, are available from BSI Sales Department, BSI, Linford Wood, Milton Keynes. MK14 6LE.

After two years this ENV will be reviewed by CEN/CENELEC members with a view to its:

- conversion into a European Standard (which would be implemented in the UK as a British Standard);
- extension once for a further two years;
- replacement by a revised ENV (which would be published in the UK as a revised Draft for Development);
- withdrawal.

The future of this Draft for Development is therefore bound to that of the ENV and the Draft for Development will not be reviewed or developed separately.

This publication is not to be regarded as a British Standard.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, the ENV title page, pages 2 to 38 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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Descriptors: Data processing, open systems interconnection, local area networks, connection oriented transmission, connectionless mode transmission, services, transport layer, physical layer

English version

Information technology — Functional standard for profile T/A52 — Local Area Network — Token Bus (COTS + CLNS)

Technologie de l'information — Norme
fonctionnelle pour le profil T/A52 — Réseau
local — Bus à jeton (COTS + CLNS)

Informationstechnik — Funktionelle Norm für
Profil T/A52 — Lokales Netz — Token-Bus
(COTS + CLNS)

This European Prestandard (ENV) was approved by CEN/CENELEC on 1991-09-19 as a prospective standard for provisional application. The period of validity of this ENV is limited initially to three years. After two years the members of CEN/CENELEC will be requested to submit their comments, particularly on the question whether the ENV can be converted into a European Standard (EN).

CEN/CENELEC members are required to announce the existence of this ENV in the same way as for an EN and to make the ENV available promptly at national level in an appropriate form. It is permissible to keep conflicting national standards in force (in parallel to the ENV) until the final decision about the possible conversion of the ENV into an EN is reached.

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CEN/CENELEC

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Foreword

This European Prestandard (ENV) was elaborated by the EWOS Expert Group Lower Layer (EWOS/EG LL).

It was submitted for formal vote by the CEN Central Secretariat to the members of CEN/CENELEC on 1991-06-19 with the deadline of 1991-09-19. The result of the formal vote was positive.

According to the CEN/CENELEC Common Rules, the following countries are bound to announce the existence of this European Prestandard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

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0 Introduction

This is one of a set of Functional Standards that specify requirements across a number of layers of the OSI Reference Model (ISO 7498) for systems wishing to implement a particular function. The Standard specifies these requirements by reference to the base standards for the various layers, thereby providing references to standards for procurement purposes.

This Standard makes specific choices concerning the implementation of options in the base standards to achieve inter-working by the minimization of incompatible systems with respect to communication. This makes it possible to tailor the requirements in the base standards to the particular function for which this standard is designed and relieves procurers from the need to select options across the range of base standards.

Functional Standards do not eliminate the need for base standards as the latter, taken together, provide a common infrastructure for a wide variety of potential uses.

This Functional Standard specifies telecommunications function T/622 as defined in the CEN/CENELEC/CEPT Memorandum M-IT-02 Issue 4. The new reference for this profile in M-IT-02 Issue 5 is T/A52; there is no ISP in progress for this reference, at the time of this publication.

1 Scope

This Functional Standard specifies the Transport, Network, Link and Physical layer requirements for a «Reference End System», connected to a Broadband Multilevel Duobinary AM/PSK 10 Mb/s Token Bus LAN, which provides the OSI Connection-mode Transport Service (as defined in ISO 8072) using the OSI Connectionless-mode Network Service (as defined in ISO 8348/Add.1) which supports global network layer addressing (as defined in ISO 8348/Add.2) where the Reference End System is capable of interworking with other End Systems accessible through the OSI Connectionless-mode Network Service in accordance with ISO 8880-1 and ISO 8880-3.

Figure 1 illustrates inter-working scenarios.

A system that supports only the requirements specified in this Functional Standard does not satisfy the conformance requirements for the Transport layer defined in ISO 8073. This Functional Standard alone does not meet the conditions for a fully open system set out in the addendum to the Reference Model covering Connectionless-mode transmission, ISO 7498/DAD1.

NOTE 3 This Functional Standard may be implemented in conjunction with other Functional Standards in an End System so that full conformance to the Transport requirements are met and the conditions for a fully open system are satisfied.

This Functional Standard specifies a set of protocols, termed a profile, to provide the function defined above. It does not specify total system capability. In particular, a system may operate this profile and at the same time engage in other communications over the medium to which it is connected. The requirements placed on a system in this Functional Standard are solely those necessary for operation of the protocol set specified.

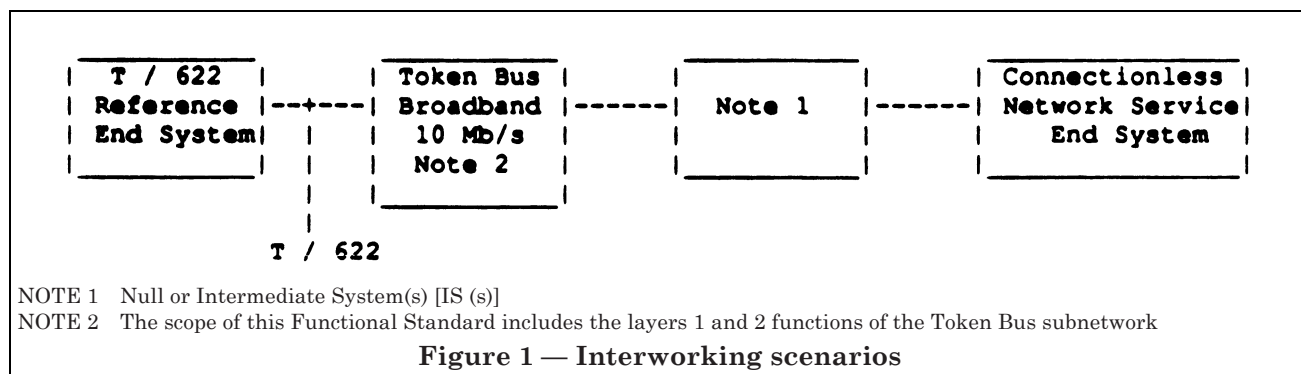
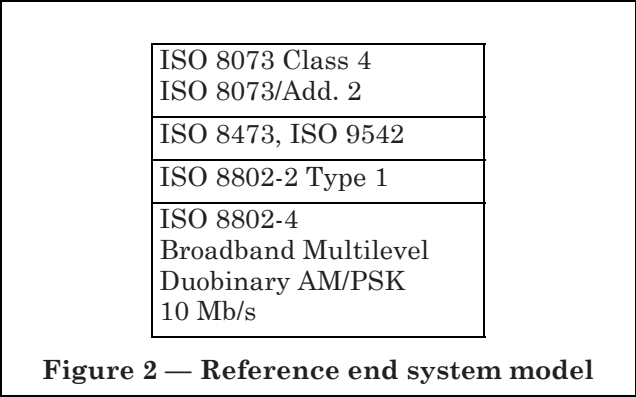


Figure 2 illustrates the profile defined by this Functional Standard.



NOTE 4 A Profile conforming to this Functional Standard is not precluded from operating the Inactive Subset of ISO 8473 when communicating with another Profile on the same LAN.

2 Field of application

This Functional Standard is applicable to the procurement of systems or components of systems covered by the scope of this Functional Standard.

3 References

3.1 The following standards are directly referenced in this Functional Standard and are essential for its operation.

ISO 8073:1988, *Information Processing Systems-Open Systems Interconnection-Connection Oriented Transport Protocol Specification*.

ISO 8073:1988/Add.2:1989, *Information Processing Systems-Open Systems Interconnection-Connection Oriented Transport Protocol Specification, Addendum 2: Class 4 Operation Over Connectionless Network service*.

ISO 8348:1987/Add.2:1988, *Information Processing Systems-Data Communications-Network Service Definition, Addendum 2: Network Layer Addressing*.

ISO 8473:1988, *Information Processing Systems-Data Communications-Protocol for Providing the Connectionless-mode Network Service*.

ISO 8802-2:1988, *Information Processing Systems-Local Area Networks — Part 2: Logical Link Control*.

ISO/IEC 8802-4:1990, *Information Processing Systems-Local Area Networks — Part 4: Token passing bus access method and physical layer specifications*.

ISO 9542:1988, *Information Processing Systems-Telecommunications and Information Exchange between Systems-End System to Intermediate System Routing Exchange Protocol for Use in Conjunction with the Protocol for Providing the Connectionless-mode Network Service*.

3.2 The following standards, although not directly referenced by this Functional Standard are included as a consequence of reference to the above standards or in order to define terms used.

ISO 7498:1984, *Information Processing Systems-Open Systems Interconnection-Basic Reference Model*.

ISO 7498:1984/Add.1:1987, *Information Processing Systems-Open Systems Interconnection-Basic Reference Model-Addendum 1*.

ISO 8072:1986, *Information Processing Systems-Open Systems Interconnection-Transport Service Definition*.

ISO 8348:1987, *Information Processing Systems-Data Communications-Network Service Definition*.

ISO 8348:1987/Add.1:1987, *Information Processing Systems-Data Communications-Network Service Definition, Addendum 1: Connectionless-mode Transmission*.

ISO 8648:1988, *Information Processing Systems-Data Communications-Internal Organization of the Network Layer*.

ISO/IEC 8880-1:1990, *Information Processing Systems-Data Communications-Protocol Combinations to Provide and Support the OSI Network Service — Part 1: General Principles*.

ISO/IEC 8880-3:1990, *Information Processing Systems-Data Communications-Protocol Combinations to Provide and Support the OSI Network Service — Part 3: Provision and Support of the Connectionless Network Service*.

ISO/IEC 9646-1:1991, *Information Processing Systems-Open Systems Interconnection-Conformance Testing Methodology and Framework — Part 1: General Concepts*.

3.3 The following documents are referenced for guidance:

ECMA-117, *Network Layer Address Domain Specific Part*.

ECMA-97, *Local Area Networks Safety Requirements*.

M-IT-02 (Issue 4), *Directory of Functional Standards (For Interworking in an OSI Environment)*.

4 Definitions

The terms used in this Functional Standard are defined in the references.

References to Transport Protocol Class 4 throughout this Functional Standard relate to the operation of the Transport Protocol Class 4 over the Connectionless-mode Network Service (provided by ISO 8473) as defined in ISO 8073/Add.2 and ISO 8073.

5 Abbreviations

The abbreviations used in this Functional Standard are defined in the references.

6 Requirements and recommendations

6.1 Transport Layer

NOTE The following requirements and those in the Transport PICS in Annex A relate to the Transport Protocol Class 4 (ISO 8073 and ISO 8073/Add.2).

6.1.1 Transport Layer Static Conformance Requirements

6.1.1.1 The Profile implementation shall support Class 4 of the OSI Transport Protocol for operation over the Connectionless-mode Network Service as defined in ISO 8073 and ISO 8073/Add.2. The Profile implementation shall support all of the mandatory (m) items detailed in the Transport Protocol PICS in Annex A.

6.1.1.2 A Profile implementation which is capable of initiating CR TPDUs shall be capable of transmitting in the CR TPDUs a called TSAP-ID field, and of receiving:

- in CR TPDUs: a calling TSAP-ID field;
- in CC TPDUs: a called TSAP-ID field,

conveying the Transport Selector associated with the remote TSAP, of variable size up to and including 32 octets. See Clause 6.1.2.5.

6.1.1.3 Table 1 specifies timers and counters in terms of their default values and, where they are configurable, the recommended ranges of values. The Profile implementation shall be capable of supporting the default values within the tolerances specified.

NOTE Parameters are permitted to be configurable in order to allow tunable implementations.

Table 1 — Selected parameter values

Parameter	Default Values	Recommended Range
N counter	5	from 1 to 10
T1 in s	10 +/- 2	from 0.5 to 30
W in s ^a	60 +/- 5	from 1 to 180
I in s ^a	300 +/- 10	from 5 to 900
^a Where default values are not used for W and/or I, it is recommended that I is not less than N × W.		

6.1.2 Transport Layer Implementation Recommendations

6.1.2.1 It is recommended that the Profile implementation should propose Non-use of Checksum and select Non-use of Checksum in the case where Non-use of Checksum was proposed by the initiator.

6.1.2.2 It is recommended that the Profile implementation should not include a Version Number in a transmitted CR TPDU and should ignore the presence or absence of a version Number in a received CR TPDU.

6.1.2.3 It is recommended that the Profile implementation should not include Protection parameters in a transmitted CR TPDU and should ignore the presence or absence of Protection parameters in a received CR TPDU.

6.1.2.4 It is recommended that the Profile implementation does not transmit an ER TPDU on detection of a protocol error.

6.1.2.5 It is recommended that the Profile implementation should use a 2 octet Transport Selector for identification of its TSAPs.

6.2 Network Layer

NOTE 1 The following requirements and those in the ISO 8473 and ISO 9542 PICS in Annex A relate to the protocol for providing the Connectionless-mode Network Service (ISO 8473), the End System to Intermediate System routing exchange protocol for use in conjunction with the protocol for providing the Connectionless-mode Network Service (ISO 9542) and the support of network layer addressing (ISO 8348/Add.2)

NOTE 2 Treatment of PDUs received in which the first octet is not one of the Network Layer protocol identifiers specified in Clause 7.2.2 of ISO 8473 or in Clause 7.2.2 of ISO 9542 is not within the scope of this Functional Standard.

6.2.1 Network Layer Static Conformance Requirements

6.2.1.1 The Profile implementation shall support the protocol for providing the Connectionless-mode Network Service (ISO 8473). The Profile implementation shall support all of the mandatory (m) items detailed in the Network Protocol (ISO 8473) PICS in Annex A.

6.2.1.2 The Profile implementation shall also support the End System to Intermediate System routing exchange protocol for use in conjunction with the protocol for providing the Connectionless-mode Network Service (ISO 9542). The Profile implementation shall support all of the mandatory (m) items detailed in the ISO 9542 PICS in Annex A.

6.2.1.3 The Profile implementation shall be capable of supporting OSI NSAP addresses of any syntax and semantics permitted by ISO 8348/Add.2.

6.2.1.4 The Profile implementation shall provide the means to configure the initial value to be assigned to the Lifetime Parameter such that at a minimum the choice of values of 20 seconds or 255 seconds is possible.

NOTE Due to internal delays within the system the value of the Lifetime field in a transmitted ISO 8473 PDU may be less than the configured value.

6.2.1.5 When the Profile implementation generates an ER PDU, the system shall copy the source NSAP address of the PDU in error into the destination address field of the ER PDU.

NOTE ISO 8473 states that the ER PDU should contain in the destination address field the Network Entity Title of the originator of the discarded PDU. This information is not normally available to the system generating the ER PDU.

6.2.1.6 The Profile implementation shall set the Segmentation Permitted flag when originating Data PDUs. The Profile implementation shall be capable of receiving and correctly processing PDUs which do not have the Segmentation Permitted flag set.

6.2.1.7 When the Profile implementation generates an Error Report PDU, the implementation shall ensure that Header Error Detection is selected in an Error Report PDU if the PDU Header Error Detection function was selected in a Data PDU which gave rise to an Error report (ie if the checksum was non-zero).

6.2.1.8 The Profile implementation shall be capable of configuring use or non-use of ISO 8473 Checksums when originating PDUs.

6.2.1.9 If the Profile implementation supports the Inactive Subset, the implementation shall be capable of being configured for the non-use of the Inactive Subset. When configured for non-use:

- a) the Profile implementation shall not generate a PDU containing the Inactive Subset;
- b) the Profile implementation shall discard Inactive Subset PDUs without generating an ER PDU.

6.2.1.10 The Profile implementation shall support Configuration Information and Route Redirection Information. No subsets are allowed.

6.2.1.11 The Profile implementation shall be capable of performing the ISO 8473 Route PDU function without requiring any routing protocol exchange to obtain information outside of the system. Therefore, the Profile implementation shall be capable of having NSAP addresses configured into the Network Layer Routing Information Base. Such entries shall be protected to prevent their update or removal by routing protocol functions.

6.2.1.12 The Profile implementation's Configuration Timer(s) shall be capable of taking at least one value and that value shall be between 150 seconds and 900. See Clause 6.2.2.4.

6.2.1.13 The Profile implementation's Holding Timer (s) shall be capable of taking a value of twice the Configuration Timer(s) plus 1. See Clause 6.2.2.4.

6.2.1.14 If the Profile implementation supports the Configuration Notification function defined in Clauses 6.7 and B.3 of ISO 9542, its use or non-use shall be configurable.

6.2.1.15 The Profile implementation shall decode the BSNPAs as 48 bit MAC addresses.

6.2.1.16 The Profile implementation's All End System Network Entities multicast address shall be: (in binary):

```
1001 0000 0000 0000 1101 0100 0000 0000 0000 0010 0000
```

where the least significant bit (the first bit transmitted to or received from the underlying subnetwork medium) is on the left.

The Profile implementation's All Intermediate System Network Entities multicast address shall be (in binary):

```
1001 0000 0000 0000 1101 0100 0000 0000 0000 0000 1010 0000
```

where the least significant bit (the first bit transmitted to or received from the underlying network medium) is on the left.

6.2.1.17 If the Profile implementation uses the QOS, Security or Priority parameters as input to routing decisions, their non-use shall be configurable.

6.2.1.18 The Profile implementation shall support the Route PDU function.

NOTE Table 10 in ISO 8473 states that this function is not applicable, however, the body of the standard requires it for sending PDUs.

6.2.1.19 If the Profile implementation is capable of requesting Complete Source Routing or Partial Source Routing or Complete Recording of Route, the implementation shall provide a mechanism for disabling such capabilities.

6.2.2 Network Layer Implementation Recommendations

6.2.2.1 It is recommended that padding be used as necessary to ensure that the header consists of an even number of octets.

6.2.2.2 It is recommended that the Profile implementation supports a configurable Reassembly Timer to reduce the maximum reassembly time.

6.2.2.3 It is recommended that the Profile implementation supports a configurable Configuration Timer and that it should be capable of taking the value 300 seconds. If the Profile implementation is capable of being attached to more than one subnetwork then the Configuration Timers should be configurable on a subnetwork basis.

6.2.2.4 It is recommended that the Profile implementation supports configurable Holding Timer (s).

6.2.2.5 It is recommended that the Profile implementation provides a means to suppress error reporting on PDUs which can be expected to generate spurious error reports or reports of already-known errors, or provide a means to configure off the use of the Error Report flag.

6.3 Data Link Layer

NOTE The following requirements and those in the ISO 8802-2 Type 1 and ISO 8802-4 PICS in Annex A relate to the Logical Link Control Type 1 protocol (ISO 8802-2) and the Media Access Control for a Broadband Multilevel Duobinary AM/PSK 10 Mb/s Token Bus LAN (ISO 8802-4).

6.3.1 Data Link Layer Static Conformance Requirements

6.3.1.1 The Profile implementation shall support the Logical Link Control Type 1 protocol as defined in ISO 8802-2.

6.3.1.2 The Profile implementation shall discard received UI PDUs with the P bit set to one.

6.3.1.3 The Profile implementation shall support 8174 octets as a maximum LLC PDU length, including LLC header.

6.3.1.4 The Profile implementation shall discard UI PDUs without user data.

6.3.1.5 The Profile implementation shall support and use DSAP and SSAP values of (in binary) 0111 1111 which identify the operation of ISO 8473 and ISO 9542.

NOTE 1 Figure 3 shows the structures of the DSAP and SSAP addresses.

NOTE 2 The MAC source and destination addresses are visible at the upper boundary of the LLC sublayer in addition to the SSAP and DSAP.

6.3.1.6 The Profile implementation shall support the Media Access Control protocol defined in ISO 8802-4 for Broadband Multilevel Duobinary AM/PSK 10 Mb/s Token Bus.

6.3.1.7 The Profile implementation shall support 48 bit MAC addresses. The implementation shall not use 16 bit MAC addresses.

6.3.1.8 The Profile implementation shall support the group addresses specified for ES/IS (see 6.2.1.16).

6.3.1.9 The Profile implementation shall have an Init_Slot_Time parameter capable of being configured in the whole range 1 to 8191.

6.3.1.10 The Profile implementation shall have an Init_Max_Inter_Solicit_Count parameter capable of being configured in the whole range 16 to 255.

6.3.1.11 The Profile implementation shall not support the Request_with_response mechanism.

6.3.2 Data Link Implementation Recommendations

6.3.2.1 It is recommended that the Profile implementation supports the Priority mechanism.

6.4 Physical Layer

NOTE The following requirements relate to the Broadband Three-level Duobinary AM/PSK Token Bus Physical Layer 10 Mb/s (ISO 8802-4). The components referred to in Clauses 6.4.1.2 (DTE), 6.4.1.3 (broadband modem) and 6.4.1.5 (components of the medium) may be supplied independently. Safety requirements are not part of this Functional standard, however, ECMA-97 discusses LAN safety.

6.4.1 Physical Layer Static Conformance Requirements

6.4.1.1 The Profile implementation shall support the Physical layer requirements defined in ISO 8802-4, Clause 8: MAC — Physical Layer Interface Service Specification.

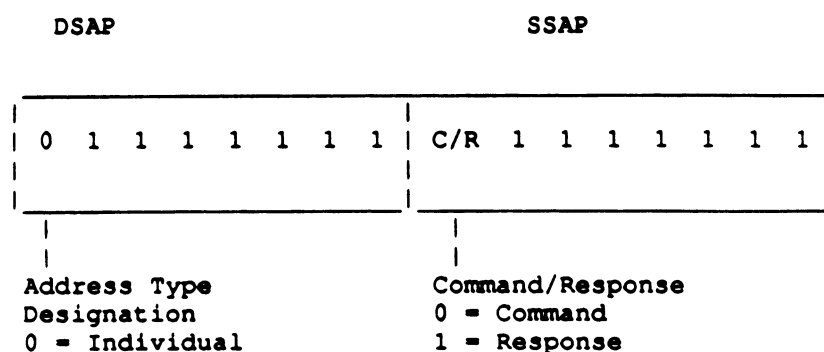


Figure 3 — Address structure

6.4.1.2 If an ISO 8802-4 DTE is supplied without a modem implementation, then it shall feature an interface conformant to Clause **10** of ISO 8802-4: Exposed DTE-DCE Interface.

6.4.1.3 If a broadband modem is supplied then it shall meet the requirements specified for single cable systems in ISO 8802-4, Clause **14**: Broadband Bus Physical Layer.

6.4.1.4 If a broadband modem is supplied without a DTE then it shall meet the requirements specified in ISO 8802-4, Clause **10**: Exposed DTE-DCE Interface.

6.4.1.5 If the components of the media are supplied they shall meet the requirements specified for single cable systems in ISO 8802-4, Clause **15**: Broadband Bus Medium.

7 Dynamic conformance requirements

7.1 Applicability

The dynamic conformance requirements specified in this clause apply to the static conformance capabilities of the Profile implementation as defined in the Functional Standard Conformance Statement for the system (see Clause 8).

7.2 Transport Layer

The Profile implementation shall comply with the dynamic conformance requirements of ISO 8073.

7.3 Network Layer

The Profile implementation shall comply with the dynamic conformance requirements of ISO 8473 and ISO 9542.

7.4 Data Link Layer

The Profile implementation shall comply with the dynamic conformance requirements of ISO 8802-2 for the operation of LLC Type 1 procedures and ISO 8802-4 for the operation of the MAC.

7.5 Physical Layer

The Profile implementation shall comply with the dynamic conformance requirements of ISO 8802-4 for the operation of Broadband Multilevel Duobinary AM/PSK 10 Mb/s Token Bus physical layer.

8 Functional standard conformance statement

The supplier of a Profile implementation or Profile implementation component which conforms to this Functional Standard shall supply a Functional Standard Conformance Statement (FSCS) which shall consist of the proforma(s) given in Annex A completed as appropriate for the Profile implementation or Profile implementation component. Clause **A.1** of Annex A gives the proforma for the Profile and Clauses **A.2** to **A.5** give PICS proformas for the four protocols selected in this Functional Standard.

Annex A (normative)

Functional Standard PICS Proformas

A.0 Introduction

The Functional Standard PICS proforma contained in this Annex together with the requirements in the body of this document are the definitive specification of the requirements for conformance to this Functional Standard. This Annex is an integral part of the Functional Standard.

There are PICS proformas for the Profile implementation and for Profile implementation components, and each PICS proforma or set of PICS proformas has an «Identification» Clause.

The PICS proformas are in tabular form. In general the left hand column in each table identifies protocol features covered by that table. The next column, titled «Base Type or Range», indicates the status of the feature in the base ISO standard: for example mandatory, optional, etc. Next there follows a column, titled «FS Ref», which may carry a reference to text in the body of the Functional Standard relevant to the feature. If no reference appears in this column then the Functional Standard does not qualify the material on the feature in the base standard. The «FS Type or Range» column indicates the status of the feature in the Functional Standard. Finally, a column titled «Implemented» is included.

The following symbols are used in the PICS proformas:

Base Standard:

- M : mandatory field/function
- O : optional field/function
- : not applicable
- O' : optional field/function, at least one of the items so indicated shall be supported
- C : conditional (qualified by a note)
- P : prohibited field/function

Functional Standard:

- m : mandatory field/function
- o : optional field/function
- x : excluded field/function
- i : out of the scope of the profile, left as an implementation choice
- : not applicable
- o' : optional field/function, at least one of the items so marked shall be supported
- c : conditional (qualified by a note)
- p : prohibited field/function

Implemented:

- s : supported
- ns : not supported
- : not applicable, excluded or out of scope

General:

- T : transmission (send)
- R : reception (receive)
- (X) : refers to note X

The requirements of the PICS proformas are stated in terms of the above symbols, however, given the encompassing nature of PICS proformas, it is necessary in some cases to modify or qualify the definition of a symbol. In these cases the appropriate symbol(s) are identified in the relevant Clause and are applicable only within that Clause. In the cases where a symbol is not modified or qualified then the above definitions hold.

A supplier of a Profile implementation conforming to this Functional Standard is required to complete all of the Identification Clauses and all of the PICS proformas in this Annex by indicating in the «Implemented?» column whether features are supported, not supported or not applicable.

A supplier of a Profile implementation component conforming to this Functional Standard is required to complete the Profile Support PICS proforma Identification (see Clause A.1) and the appropriate part(s) of the Profile Support PICS proforma (see Clause A.1), and to complete those other PICS proforma(s) in this Annex relevant to the Profile implementation component. The PICS proformas are completed by indicating in the «Implemented?» column whether features are supported, not supported or not applicable.

A.1 Profile Support PICS Proforma

A.1.1 Identification

PROFILE SUPPORT PICS	
SUPPLIER:	
NAME:	PHONE:
STREET:	TELEX:
CITY:	FAX:
REFERENCE IDENTIFICATION:	
NAME: T/622.	
REFERENCE STANDARD:	
NUMBER/REVISION DATE:	
ADDENDA APPLICABLE:	
AMENDMENTS APPLICABLE (DEFECT REPORTS):	
IUT IDENTIFICATION:	
NAME:	
VERSION:	
DATE:	

A.1.2 PICS Proforma

Feature/Protocol	FS Type or Range	FS Ref	Implemented?
Transport protocol Class 4 (ISO 8073 and ISO 8073/Add.2)	m	6.1 A.2	
Protocol for providing the CLNS (ISO 8473)	m	6.2 A.3	
ES-IS Routing (ISO 9542)	m	6.2 A.3	
Network layer addressing (ISO 8348/Add. 2)	m	6.2	
LLC Type 1 (ISO 8802-2)	m	6.3 A.4	
Token Bus MAC (ISO 8802-4)	m	6.3	
Broadband Token Bus Physical layer (ISO 8802-4, Broad-band Multilevel Duobinary AM/PSK 10 Mb/s)	m	6.4	