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Information technology — International Standardized Profile TAnnnn — Connection-mode Transport Service over Connectionless-mode Network Service —

Part 14:

MAC, PHY and PMD sublayer dependent and
Station Management requirements over an
FDDI LAN subnetwork

*Technologies de l'information — Profil normalisé international TAnnnn —
Service de transport en mode connexion sur service de réseau en mode
sans connexion —*

*Partie 14: Prescriptions MAC, PHY et PMD dépendantes de la
sous-couche et de gestion de station sur un sous-réseau FDDI RLE*



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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. In addition to developing International Standards, ISO/IEC JTC 1 has created a Special Group on Functional Standardization for the elaboration of International Standardized Profiles.

An International Standardized Profile is an internationally agreed, harmonized document which identifies a standard or group of standards, together with options and parameters, necessary to accomplish a function or a set of functions.

Draft International Standardized Profiles are circulated to national bodies for voting. Publication as an International Standardized Profile requires approval by at least 75 % of the national bodies casting a vote.

International Standardized Profile ISO/IEC ISP 10608-14 was prepared with the collaboration of

- Asia-Oceania Workshop (AOW);
- European Workshop for Open Systems (EWOS);
- Open Systems Environment Implementors' Workshop (OIW).

ISO/IEC ISP 10608 consists of several parts, under the general title *Information technology - International Standardized Profile TAnnnn - Connection-mode Transport Service over Connectionless-mode Network Service*:

- Part 1: *General overview and subnetwork-independent requirements*
- Part 2: *TA51 profile including subnetwork-dependent requirements for CSMA/CD Local Area Networks (LANs)*
- Part 4: *Definition of profile TA53, operation over a Token Ring LAN subnetwork*

- *Part 5: TA1111/TA1121 profiles including subnetwork-dependent requirements for X.25 packet-switched data networks using virtual calls*
- *Part 6: Definition of profile TA54, operation over an FDDI LAN subnetwork*
- *Part 13: MAC sublayer and physical layer dependent requirements for a Token Ring LAN subnetwork*
- *Part 14: MAC, PHY and PMD sublayer dependent and Station Management requirements over an FDDI LAN subnetwork*

Annexes A and B form integral parts of this part of ISO/IEC ISP 10608.

Introduction

ISO/IEC ISP 10608 is defined in accordance with the principles specified by ISO/IEC TR 10000. The context of Functional Standardization is one area in the overall field of Information Technology (IT) standardization activities, covering base standards, profiles, and registration mechanisms. A profile defines a combination of base standards that collectively perform a specific well-defined IT function. Profiles standardize the use of options and other variations in the base standards, and provide a basis for the development of uniform, internationally recognized system tests.

ISPs are produced not simply to 'legitimize' a particular choice of base standards and options, but to promote real system interoperability. One of the most important roles for an ISP is to serve as the basis for the development (by organizations other than ISO and IEC) of internationally recognized test methods. The development and widespread acceptance of tests based on this and other ISPs is crucial to the successful realization of this goal.

ISO/IEC ISP 10608 consists of several parts, of which this is part 14. ISO/IEC ISP 10608-1 specifies the profile requirements which are independent of the subnetwork and media. There are further parts which specify subnetwork-dependent and media-dependent requirements. In addition, for each individual profile, there is a part of ISO/IEC ISP 10608 which identifies the specific requirements of that profile, making reference to appropriate material from part 1 and from the subnetwork-dependent parts.

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Information technology — International Standardized Profile TAnnnn — Connection-mode Transport Service over Connectionless-mode Network Service —

Part 14:

MAC, PHY and PMD sublayer dependent and Station Management requirements over an FDDI LAN subnetwork

1 Scope

1.1 General

This part of ISO/IEC ISP 10608 is applicable to end systems and relay systems operating over FDDI LAN subnetworks in the Open Systems Interconnection (OSI) environment.

This part of ISO/IEC ISP 10608 specifies the subnetwork-type dependent requirements for the MAC, PHY and PMD sublayers, and the Station Management function when the end system or relay system is attached to an FDDI LAN subnetwork.

1.2 Position within the taxonomy

This part of ISO/IEC ISP 10608 relates to any of the transport (Tx, Ux) or relay (Rx) profiles defined in ISO/IEC TR 10000-2, Taxonomy of OSI Profiles, where such profile uses subnetwork type 54 (FDDI Local Area Network). Specifically, this part of ISO/IEC ISP 10608 provides a common set of FDDI subnetwork requirements whenever subnetwork identifier 54 is associated with a transport group or relay type.

1.3 Scenario

The scope of ISPs derived from this part of ISO/IEC ISP 10608 is limited to the end system or relay system characteristics using the FDDI Medium Interface Connector as the reference point.

The scope of this part of ISO/IEC ISP 10608 and its relation to other documents and ISP parts is illustrated in figure 1.

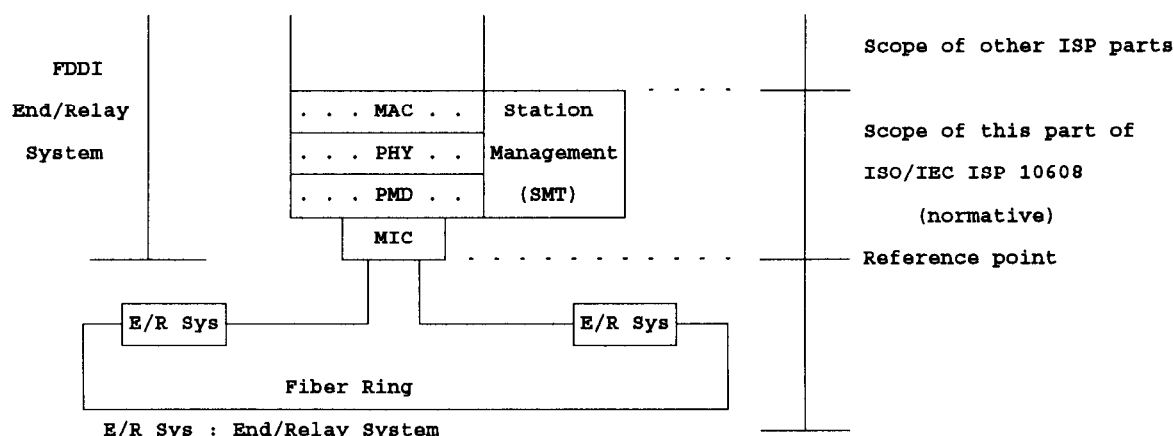


Figure 1 - Scope of this part of ISO/IEC ISP 10608

NOTE - Requirements for Station Management is within the scope of this part of ISO/IEC ISP 10608. However, the base standard for this function is not established yet. Therefore, this edition of ISO/IEC ISP 10608-14 does not include SMT requirements.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 10608. At the time of publication, the editions indicated were valid. All documents are subject to revision, and parties to agreements based on this part of ISO/IEC ISP 10608 are warned against automatically applying any more recent editions of the documents listed below, since the nature of references made by ISPs to such documents is that they may be specific to a particular edition. Members of IEC and ISO maintain registers of currently valid International Standards and ISPs, and ITU-T maintains published editions of its current Recommendations.

ISO 9314-1:1989, *Information processing systems - Fibre Distributed Data Interface (FDDI) - Part 1: Token Ring Physical Layer Protocol (PHY)*.

ISO 9314-2:1989, *Information processing systems - Fibre Distributed Data Interface (FDDI) - Part 2: Token Ring Media Access Control (MAC)*.

ISO/IEC 9314-3:1990, *Information processing systems - Fiber Distributed Data Interface (FDDI) - Part 3: Physical Layer Medium Dependent (PMD)*.

ISO/IEC TR 10000-1:1992, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1: Framework*.

ISO/IEC TR 10000-2:1994, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and Taxonomy for OSI Profiles*.

3 Definitions

All the terms used in this part of ISO/IEC ISP 10608 are defined in the documents that are referenced in clause 2.

4 Abbreviations

All abbreviations, including acronyms, are used in this part of ISO/IEC ISP 10608 as defined in the documents that are referenced in clause 2.

5 Requirements

5.1 MAC sublayer static conformance requirements

An implementation that conforms to this part of ISO/IEC ISP 10608 shall meet the requirements for the MAC sublayer as defined in ISO 9314-2.

The following additional requirements are applicable.

5.1.1 Address

MAC addresses of implementations conforming to this part of ISO/IEC ISP 10608 shall be 6 octets in length (48 bits). MAC address administration is outside the scope of this part of ISO/IEC ISP 10608. In addition, the following capabilities shall be supported for frames with 16-bit addresses:

- a) repeating all frames with 16-bit addresses;
- b) recognizing the 16-bit broadcast address of all ones;
- c) reacting correctly to MAC recovery frames with 16-bit addresses.

NOTE - The base standard contains a footnote indicating that the base standard is likely to be amended such that 48-bit addresses are mandatory.

5.1.2 Information field

The maximum information field length (length of an LLC PDU) that an implementation shall be capable of receiving, shall be at least 4478 octets.