INTERNATIONAL STANDARDIZED PROFILE

ISO/IEC ISP 12067-4

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Information technology — International Standardized Profile RB — Relaying the connection-mode Network Service —

Part 4:

Definition of profile RB51.1111, relaying the connection-mode Network Service between CSMA/CD LAN subnetworks and PSDNs using virtual calls over a PSTN leased line permanent access

Technologies de l'information — Profil normalisé international RB — Relais du service de réseau en mode connexion —

Partie 4: Définition du profil RB51.1111, relais du service de réseau en mode connexion entre sous-réseaux CSMA/CD RLE et PSDNs utilisant des appels virtuels sur un accès permanent en ligne louée PSTN

Reference number
ISO/IEC ISP 12067-4:1996(E)

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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 processing 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 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 12067-4 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 12067 consists of the following parts, under the general title *Information technology — International Standardized Profile RB — Relaying the connection-mode Network Service*:

— *Part 1: Subnetwork-independent requirements*

— *Part 2: LAN Subnetwork-dependent media-independent requirements*

— *Part 3: PSDN Subnetwork-dependent media-dependent requirements for virtual calls over a permanent access*

— *Part 4: Definition of profile RB51.1111, relaying the connection-mode Network Service between CSMA/CD LAN subnetworks and PSDNs using virtual calls over a PSTN leased line permanent acess*

— *Part 5: Definition of profile RB51.1121, relaying the connection-mode Network Service between CSMA/CD LAN subnetworks and PSDNs using virtual calls over a digital data circuit/CSDN leased line permanent acess*

Annex A forms an integral part of this part of ISO/IEC ISP 12067.

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Introduction

This International Standardized Profile (ISP) is defined in accordance with the principles specified by ISO/IEC Technical Report 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 base 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 realisation of this goal.

ISO/IEC ISP 12067 consists of several parts, of which this is Part 4. ISO/IEC ISP 12067-1 specifies the profile requirements that are subnetwork-independent. 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 12067 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 RB — Relaying the connection-mode Network Service —

Part 4:
Definition of profile RB51.1111, relaying the connection-mode Network Service between CSMA/CD LAN subnetworks and PSDNs using virtual calls over a PSTN leased line permanent access

1 Scope

1.1 General

ISO/IEC ISP 12067 is applicable to interworking units concerned with operating in the Open Systems Interconnection (OSI) environment. It specifies a combination of OSI base standards that collectively provide a relay function for the connection-mode Network Service.

This part of ISO/IEC ISP 12067 defines the RB51.1111 profile, which is applicable to an interworking unit operating between CSMA/CD LAN subnetworks and PSDNs using virtual calls over a PSTN leased line permanent access.

1.2 Position within the taxonomy

The taxonomy of profiles is defined in ISO/IEC TR 10000-2. This part of ISO/IEC ISP 12067 defines the profile:

RB51.1111 Relaying the connection-mode Network Service between CSMA/CD LAN subnetworks and PSDNs using virtual calls over a PSTN leased line permanent access.

1.3 Scenario

Figure 1 illustrates the configuration of systems to which the RB51.1111 profile is applicable. The figure shows two reference points, but an implementation of this profile may include more attachments to CSMA/CD LANs and PSDNs, with a reference point at each.

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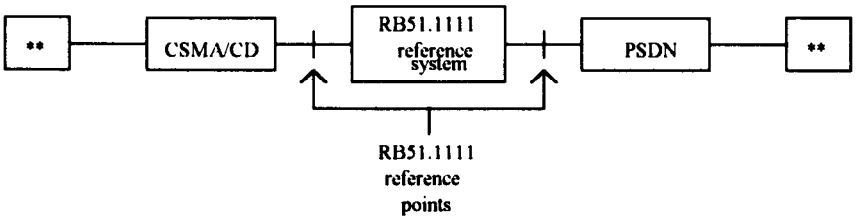

** other compatible network equipment:
- OSI relays;
- OSI end systems;
- other equipment.

Figure 1 - Scenario of applicability of the RB51.1111 profile.

As this profile is a member of the RB group, it is intended that a conforming implementation is capable of interworking with other profiles of the RB group and with end systems implementing profiles from the TB, TC, TD and TE groups or the UB group, provided that suitable relays are in place in the case of those members of these groups which relate to different elements of the subnetwork taxonomy.

This profile specifies the required functions from the supporting protocol stack shown below.

Network Layer	ISO/IEC 10177 ISO/IEC 8208	
	ISO/IEC 8881	
Data Link Layer	ISO/IEC 8802-2 type 2 ISO/IEC 8802-3 (MAC)	ISO/IEC 7776
Physical Layer	ISO/IEC 8802-3 (PHY)	X.25 dedicated access via PSTN

Figure 2 - Profile protocol stack for an RB51.1111 intermediate system.

2 Normative references

The following documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC ISP 12067. 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 12067 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/IEC TR 10000-1 : 1995, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 1: General principles and documentation framework*

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ISO/IEC TR 10000-2 : 1995, *Information technology - Framework and taxonomy of International Standardized Profiles - Part 2: Principles and Taxonomy for OSI profiles*

ISO/IEC ISP 10608-12 : 1996, *Information technology - International Standardized Profile TAnnnn - Connection-mode Transport Service over connectionless-mode Network Service - Part 12: MAC sublayer and physical layer dependent requirements for a CSMA/CD LAN subnetwork*

ISO/IEC ISP 12067-1 : 1996, *Information technology - International Standardized Profile RB - Relaying the connection-mode Network Service - Part 1: Subnetwork-independent requirements*

ISO/IEC ISP 12067-2 : 1996, *Information technology - International Standardized Profile RB - Relaying the connection-mode Network Service - Part 2: LAN Subnetwork-dependent media-independent requirements*

ISO/IEC ISP 12067-3 : 1996, *Information technology - International Standardized Profile RB - Relaying the connection-mode Network Service - Part 3: PSDN Subnetwork-dependent media-dependent requirements for virtual calls over a permanent access*

Additional normative references are found in each of the International Standardized Profile parts listed above. These additional normative references are base standards used for development of the relevant International Standardized Profile parts.

3 Definitions

The terms used in this part of ISO/IEC ISP 12067 are defined in the referenced base standards (see clause 2).

4 Abbreviations

Abbreviations used in this part of ISO/IEC ISP 12067 are defined in the referenced base standards (see clause 2).

5 Requirements

5.1 Static conformance requirements

An implementation conforming to the profile defined in this part of ISO/IEC ISP 12067 shall:

a) support at least one point of attachment to an ISO/IEC 8802-3 CSMA/CD LAN, through which it shall support all the features specified as static conformance requirements of parts 1 and 2 of ISO/IEC ISP 12067, and of part 12 of ISO/IEC ISP 10608;

b) support at least one point of attachment to a PSDN, using Virtual Calls over a PSTN leased line permanent access, through which it shall support all the features specified as static conformance requirements of parts 1 and 3 of ISO/IEC ISP 12067;

c) support all the features identified as requirements in the Profile Requirements List in annex A.

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5.2 Dynamic conformance requirements

An implementation conforming to the profile defined in this part of ISO/IEC ISP 12067 shall:

a) carry out the supported functions according to the applicable dynamic conformance requirements of parts 1, 2 and 3 of ISO/IEC ISP 12067, and of part 12 of ISO/IEC ISP 10608;

b) it shall behave in accordance with the requirements of the Profile Requirements List in annex A.

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Annex A

(normative)

Profile Requirements List

A.1 General options of the profile

There are no general options in this profile.

A.2 Base standards selected and combined in the profile

- ISO/IEC 8208
- ISO/IEC 8881
- ISO/IEC 10177
- ISO/IEC 7776
- ISO/IEC 8802-2
- ISO/IEC 8802-3

A.3 Constraints on base standards

A.3.1 General constraints

A conforming implementation of this profile shall:

a) meet all the subnetwork-independent relaying constraints on the operation of ISO/IEC 10177 and ISO/IEC 8208 which are specified in the profile Requirements List in part 1 of ISO/IEC ISP 12067;

b) for operation of the attachments to CSMA/CD subnetworks meet all the constraints on the operation of ISO/IEC 8208, ISO/IEC 8881, ISO/IEC 8802-2 and ISO/IEC 8802-3 which are specified in the profile Requirements List in part 2 of ISO/IEC ISP 12067 and in part 12 of ISO/IEC ISP 10608;

c) for operation of the attachments to PSDNs using Virtual Calls over PSTN leased line permanent access, meet all the constraints on the operation of ISO/IEC 8208, and ISO/IEC 7776 which are specified in the profile Requirements List in part 3 of ISO/IEC ISP 12067.

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