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Digitalno omrežje z integriranimi storitvami (ISDN) – Medsebojno delovanje javnih in zasebnih ISDN zaradi zagotavljanja telekomunikacijskih storitev – Splošni vidiki

Integrated Services Digital Network (ISDN); Interworking between public ISDNs and private ISDNs for the provision of telecommunication services; General aspects

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Foreword

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

This ETS details the general aspects of interworking between public Integrated Services Digital Networks (ISDNs) and private ISDNs for the provision of telecommunication services.

Transposition dates	
Date of latest announcement of this ETS (doa):	30 April 1995
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 October 1995
Date of withdrawal of any conflicting National Standard (dow):	31 October 1995

Introduction

Work on this standard began as a result of an agreement between rapporteurs from ETSI Sub Technical Committee (STC) NA 1 and rapporteurs from Technical Committee TC 32-TG6 of the European Computer Manufacturers' Association (ECMA). That agreement recognised the need for a single text which documents items that were common to supplementary services in order to avoid repetition in each of the service descriptions.

Subsequently the text has been refined by NA 1 in consultation with Signalling, Protocols and Switching (SPS) Technical Committee of ETSI.

This standard includes normative information on the interworking between public ISDNs and private ISDNs. It indicates reference points where this has to occur.

The standard has been developed as a reference document for the standardisation of telecommunication services when these services are provided in either or both ISDNs and thus service interworking becomes necessary for calls involving both public ISDNs and private ISDNs.

In developing this standard it has been assumed that as a general rule, the same terminals can be connected to the public ISDN or to the private ISDN.

This standard does not cover virtual private network configurations.

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1 Scope

This standard describes general requirements on standards for services with respect to interworking between public Integrated Services Digital Networks (ISDNs) and private ISDNs. This standard describes the different mechanisms whereby services implemented by public ISDNs can be provided to users attached to private ISDNs.

Service specific information on the interworking between public ISDNs and private ISDNs is given in the various standards for the individual bearer services, teleservices and supplementary services.

In addition, this standard identifies the need for general procedures in the public ISDN required to support the transport of information given to other users as a result of the operation of services in the private ISDN.

Consideration of regulatory requirements placed on public ISDNs and/or private ISDNs is outside the scope of this standard.

For the purpose of this standard, only the accesses used for interworking between public ISDNs and private ISDNs are considered. The use of accesses for any other purpose e.g. for private networking over leased-lines via semi-permanent connections, is outside the scope of this standard.

Charging principles are outside the scope of this standard.

This standard is applicable to the stage one standards describing individual services for public ISDNs and to standards describing general public ISDN procedures for ISDN services. This standard is also applicable to the stage two and stage three standards for the individual services for public ISDNs described in the stage one standards. The terms "stage one", "stage two" and "stage three" are defined in CCITT Recommendation I.130 [1].

Standards, or parts of standards, describing requirements on private ISDNs are outside the scope of this standard.

Furthermore, conformance to this standard is met by equipment conforming to the stage three standards (which in turn conform to this standard and the relevant stage 1 and stage 2 standards) with the field of application appropriate to the equipment being implemented. Conformance to this standard by the stage 1, stage 2 and stage 3 standards can be checked by inspection. Therefore, no method of testing is provided for this standard.

2 Normative references

This standard 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 hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] CCITT Recommendation I.130 (1988): "Method for the characterisation of telecommunication services supported by an ISDN and network capabilities of an ISDN".

[2] CCITT Recommendation I.411 (1988): "ISDN user-network interfaces - Interface structures and access capabilities".

[3] CCITT Recommendation E.164 (1991): "Numbering plan for the ISDN era".

[4] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".

[5] CCITT Recommendation I.210 (1988): "Principles of telecommunications services supported by an ISDN and the means to describe them".

[6] CCITT Recommendation Q.65 (1988): "Stage 2 of the method for the characterization of services supported by an ISDN".

3 Definitions

For the purposes of this standard, the following definitions apply:

public ISDN: An ISDN which provides services to the general public.

private ISDN: An ISDN which provides services to a specific set of users only.

S reference point: The reference point at which terminals are indirectly connected with the public ISDN, i.e. are attached to a private ISDN and communicate with the public ISDN via a private ISDN In figures, this reference point is denoted by **S**. See CCITT Recommendation I.411 [2].

T reference point: The reference point at which a private and a public ISDN are interconnected and have to interwork for the provision of telecommunication services. In figures, this reference point is denoted by **T**.

For the purpose of this standard the term "T reference point" shall always denote the service interworking point between a public ISDN and a private ISDN, i.e. other interworking situations between the public ISDN and other equipment, as conceivable according to CCITT Recommendation I.411 [2], are excluded.

coincident S and T reference points: These reference points coincide when terminals are directly attached to the public ISDN. In figures, this is denoted by **S/T**.

NOTE: The notation S/T should not be interpreted as "either S or T".

service provider function: Within a public ISDN or private ISDN, the functionality which provides a bearer service, or a teleservice, excluding any possible terminal functionality for that service.

terminal equipment: See CCITT Recommendation I.411 [2], § 3.4.3.

service, telecommunication service: See CCITT Recommendation I.112 [4], § 2.2, definition 201.

bearer service: See CCITT Recommendation I.112 [4], § 2.2, definition 202.

teleservice: See CCITT Recommendation I.112 [4], § 2.2, definition 203.

supplementary service: See CCITT Recommendation I.210 [5], § 2.4.

Integrated Services Digital Network (ISDN): See CCITT Recommendation I.112 [4], § 2.3, definition 308.

served user: The user to whom a bearer service, teleservice or supplementary service is provided.

functional entity: See CCITT Recommendation Q.65 [6], § 2.1.1.

ISDN number: A number conforming to the numbering plan and structure specified in CCITT Recommendation E.164 [3].

4 Symbols and abbreviations

For the purposes of this standard, the following abbreviations apply:

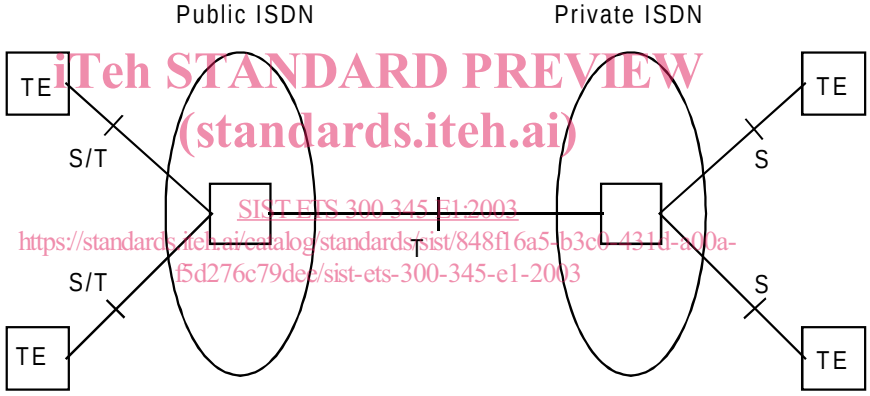
FE	Functional Entity
ISDN	Integrated Services Digital Network
SPF	Service Provider Function
TE	Terminal Equipment

5 Specification boundaries

Standards for specific public ISDN services shall be specified in relation to users whose equipment is connected to the public ISDN by an interface at the coincident S and T reference points. The interworking aspects of these services with private ISDNs shall be specified in relation to T reference points.

Standards for general procedures in public ISDNs specifying interworking aspects with private ISDN services shall be specified in relation to T reference points and, where appropriate, to coincident S and T reference points. The standards for these general procedures shall define how the information is relayed to the user in the other ISDN.

An overview of specification boundaries is given in figure 1.



NOTE: For simplicity reasons, this figure shows only the connection of one private ISDN with one public ISDN. Other configurations can also occur e.g. the configuration where one private ISDN is connected to another private ISDN via a public ISDN.

Figure 1: Specification boundaries