



**SLOVENSKI STANDARD**  
**SIST ETS 300 334 E1:2003**  
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Integrated Services Digital Network (ISDN); Signalling System No.7; Routeing in support of ISDN User Part (ISUP) version 2 services

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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), and is now submitted for the Voting phase of the ETSI standards approval procedure.

This ETS is based upon the following source documents:

- CCITT Recommendation E.172 [1]; and
- ETS 300 100 [2].

Transposition dates	
Date of adoption of this ETS:	17 November 1995
Date of latest announcement of this ETS (doa):	29 February 1996
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 August 1996
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## 1 Scope

This European Telecommunication Standard (ETS) gives guidance on international call routing during the implementation of the Integrated Services Digital Network (ISDN) User Part version 2 of signalling system No. 7 (ISDN User Part (ISUP) version 2) in the European ISDN (see ETS 300 356-1 [3]).

This ETS is applicable to the functions required at ISDN international gateways and international transit exchanges for routing and network planning in order to achieve practical international interconnection of networks.

The relevant CCITT routing Recommendation is identified and clarifications and additions to this are provided, where necessary. In addition, CCITT Recommendations E.170 and E.171 need to be considered.

This ETS covers services offered during the implementation of ISDN, using ISUP version 2 in the international network. The list of services can be found in table 2 of this ETS.

## 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 hereafter. For dated references, subsequent amendments to or revisions of any 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] CCITT Recommendation E.172 (1992): "ISDN Routing Plan".
- [2] ETS 300 100: "Integrated Services Digital Network (ISDN); Routing in support of ISUP version 1 services".
- [3] ETS 300 356-1: "Integrated Services Digital Network (ISDN); Signalling System No.7; ISDN User Part (ISUP) version 2 for the international interface; Part 1: Basic services [ITU-T Recommendations Q.761 to Q.764 (1993), modified]".

## 3 Abbreviations

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

CUG	Closed User Group
DCME	Digital Circuit Multiplication Equipment
DTX	Discontinuous Transmission
GMSC	Gateway Mobile Switching Centre
ISC	International Switching Centre
IDN	Integrated Digital Network
IPI	ISUP Preference Indicator
ISDN	Integrated Services Digital Network
ISUP	ISDN User Part
MOC	Mobile Originated Call
PD	Propagation Delay
PDC	Propagation Delay Counter
PLMN	Public Land Mobile Network
PSTN	Public Switched Telephone Network
PSPDN	Public Switched Packet Data Network
TMR	Transmission Medium Requirement
TUP	Telephone User Part
TUP+	Enhanced Telephone User Part

## 4 Additions and/or Clarifications to CCITT Recommendation E.172

### 4.1 CCITT Recommendation E.172, subclause 10: Signalling capability

Subclause 5.3 of this ETS contains the application of the criteria for setting the ISUP Preference Indicator (IPI) parameter for the implementation of ISDN in Europe for ISUP version 2.

### 4.2 CCITT Recommendation E.172, subclause 7 k): Connection history

Subclause 5.4 of this ETS contains the application of the Propagation Delay Counter (PDC) for routing purposes and subclause 5.5 describes the influence of Digital Circuit Multiplication Equipment (DCME) links on routing in ISUP version 2.

### 4.3 CCITT Recommendation E.172, subclause 8: Relationship between requested services and transmission medium requirement values

The information in CCITT Recommendation E.172 [1], subclause 8 is extended in subclauses 5.1 and 5.2 of this ETS, to cover the implementation of ISDN in Europe for ISUP version 2. The service interworking situation from the Public Switched Telephone Network (PSTN) to the ISDN is further detailed in clause 6 of this ETS.

### 4.4 CCITT Recommendation E.172, annex 1

The application of the criteria defined in CCITT Recommendation E.172 [1], annex 1, to the implementation of ISDN in Europe for ISUP version 2 is specified in subclause 5.3 of this ETS.

### 4.5 CCITT Recommendation E.172, annex 3

The application of parts of the criteria defined in CCITT Recommendation E.172 [1], annex 3, this annex to the implementation of ISDN in Europe for ISUP version 2 is specified and extended in clause 6 of this ETS.

## 5 Additional information on parameters used for routing

### 5.1 Use of the transmission medium requirement parameter

The use of the ISUP Transmission Medium Requirement (TMR) parameter for routing is described in CCITT Recommendation E.172 [1], subclause 7 g). In addition to the statements made in CCITT Recommendation E.172 [1], the following shall apply:

- for a specific service request, one TMR value shall be used in the international network and across internetwork boundaries. The changing of TMR values shall only be allowed when fall-back occurs. For its value, see subclause 5.2.

It is recommended that national networks use the same TMR values as the international network. Conversion from the requested service to the TMR value can then be performed in the originating local exchange. If not done there, then the TMR shall be available at the outgoing international gateway and onwards. It shall then be forwarded to following exchanges, if possible, even up to the destination exchange.

At international transit exchanges, as well as at incoming international gateway exchanges, the TMR shall be examined for routing purpose, irrespective of the service requested. This does not preclude that incoming gateway exchanges may need to examine additional information available to determine national routing.

### 5.1.1 Use of the TMR value "64 kbit/s unrestricted preferred"

In addition to the TMR values mentioned in CCITT Recommendation E.172 [1], subclause 8, a new TMR value has been created for the purpose of indicating when fall-back from 64 kbit/s unrestricted to speech or 3,1 kHz audio is allowed. The value of this TMR is "64 kbit/s unrestricted preferred".

The settings and the procedure at an interworking point for this TMR value are described in subclause 7.3.35 of ETS 300 356-1 [3].

If, at an interworking point, there is no route available supporting TMR "64 kbit/s unrestricted preferred", then the fallback procedure should be carried out at this point.

### 5.1.2 Multirate connection types

Multirate connections are multiple circuit switched connections ( $n \times 64$  kbit/s) with a bandwidth between 128 kbit/s and 1 920 kbit/s.

$n \times 64$  kbit/s connections are restricted to operate within a 2 Mbit/s system. The following TMR values are given in ETS 300 356-1 [3]:

- 2 x 64 kbit/s unrestricted (not used);
- 384 kbit/s unrestricted;
- 1 536 kbit/s unrestricted;
- 1 920 kbit/s unrestricted.

### 5.2 Relationship between requested service and TMR values

Table 1 gives TMR values for ISDN services to be used across international and internetwork boundaries.

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