



# SLOVENSKI STANDARD SIST ETS 300 603 E1:2003

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European digital cellular telecommunications system (Phase 2); Interworking between a Public Land Mobile Network (PLMN) and a Packet Switched Public Data Network/Integrated Services Digital Network (PSPDN/ISDN) for the support of packet switched data transmission services (GSM 09.06)

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33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)
33.080	Digitalno omrežje z integriranimi storitvami (ISDN)	Integrated Services Digital Network (ISDN)

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**European digital cellular telecommunications system (Phase 2);  
Interworking between a Public Land Mobile Network (PLMN) and  
a Packet Switched Public Data Network/Integrated Services  
Digital Network (PSPDN/ISDN) for the support of packet  
switched data transmission services  
(GSM 09.06)**

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the Special Mobile Group (SMG) Technical Committee (TC) of the European Telecommunications Standards Institute (ETSI).

This ETS identifies the Interworking Functions (IWFs) and requirements for the interworking between a GSM Public Land Mobile Network (PLMN) and a Packet Switched Public Data Network/Integrated Services Digital Network (PSPDN/ISDN) for the support of packet services in GSM PLMNs. This ETS corresponds to GSM technical specification GSM 09.06 version 4.4.1.

The specification from which this ETS has been derived was originally based on CEPT documentation, hence the presentation of this ETS may not be entirely in accordance with the ETSI/PNE rules.

Reference is made within this ETS to GSM-TSs (NOTE).

NOTE: TC-SMG has produced documents which give the technical specifications for the implementation of the European digital cellular telecommunications system. Historically, these documents have been identified as GSM Technical Specifications (GSM-TSs). These TSs may have subsequently become I-ETTs (Phase 1), or ETs (Phase 2), whilst others may become ETSI Technical Reports (ETRs). GSM-TSs are, for editorial reasons, still referred to in current GSM ETs.

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## 1 SCOPE

The purpose of this specification is to identify the Interworking Functions (IWF's) and requirements for the interworking between a GSM PLMN and a PSPDN/ISDN for the support of packet services in GSM PLMNs.

In the GSM PLMN context the packet services are associated with bearer services and are described in GSM 02.02. The generally defined GSM PLMN user-network access as defined in the respective GSM TSs (see references) forms the basis for defining the particularities for the provision of packet services to the GSM PLMN subscribers. Network internal interfaces for the support of packet services in the pan-European ISDN are defined in ETSI standards, which are also taken as a basis.

User-network access and network internal interfaces are defined to provide the packet services.

## 2 Normative references

This ETS incorporates by dated and 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] GSM 01.04 (ETR 100): "European digital cellular telecommunication system (Phase 2); Definitions, abbreviations and acronyms".
- [2] CCITT Recommendation X.25: "Interface between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) for terminals operating in the packet mode and connected to Public Data Networks by dedicated circuit".
- [3] CCITT Recommendation X.31: "Support of packet mode terminal equipment by an ISDN". [SIST ETS 300 603 E1:2003](https://standards.iteh.ai/catalog/standards/sist/cda44064-850e-4ace-8a71-018562160000/sist-300-363-e1-2003)
- [4] CCITT Recommendation X.32: "Interface between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) for terminals operating in the packet mode and accessing a Packet Switched Telephone Network or an Integrated Services Digital Network or a Circuit Switched Public Data Network".  
<https://standards.iteh.ai/catalog/standards/sist/cda44064-850e-4ace-8a71-018562160000/sist-300-363-e1-2003>
- [5] ETS 300 007: "Integrated Services Digital Network (ISDN); Support of packet-mode terminal equipment by an ISDN".
- [6] ETS 300 099: "Integrated Services Digital Network (ISDN); Specification of the Packet Handler access point Interface (PHI)".
- [7] ETS 300 102: "Integrated Services Digital Network (ISDN); User-network interface layer 3 Specifications for basic call control".
- [8] ETR 010: "ISDN Standards Management (ISM); The ETSI basic guide on the European integrated services digital network".
- [9] GSM 02.02 (ETS 300 501): "European digital cellular telecommunication system (Phase 2); Bearer Services (BS) supported by a GSM Public Land Mobile Network (PLMN)".
- [10] GSM 02.03 (ETS 300 502): "European digital cellular telecommunication system (Phase 2); Teleservices supported by a GSM Public Land Mobile Network (PLMN)".
- [11] GSM 02.04 (ETS 300 503): "European digital cellular telecommunication system (Phase 2); General on supplementary services".

- [12] GSM 02.86 (ETS 300 519): "European digital cellular telecommunication system (Phase 2); Advice of charge (AoC) supplementary services - Stage 1".
- [13] GSM 02.88 (ETS 300 520): "European digital cellular telecommunication system (Phase 2); Call Barring (CB) supplementary services - Stage 1".
- [14] GSM 03.03 (ETS 300 523): "European digital cellular telecommunication system (Phase 2); Numbering, addressing and identification".
- [15] GSM 03.10 (ETS 300 528): "European digital cellular telecommunication system (Phase 2); GSM Public Land Mobile Network (PLMN) connection types".
- [16] GSM 03.70 (ETS 300 541): "European digital cellular telecommunication system (Phase 2); Routing of calls to/from Public Data Networks (PDN)".
- [17] GSM 04.02 (ETS 300 551): "European digital cellular telecommunication system (Phase 2); GSM Public Land Mobile Network (PLMN) access reference configuration".
- [18] GSM 04.08 (ETS 300 557): "European digital cellular telecommunication system (Phase 2); Mobile radio interface layer 3 specification".
- [19] GSM 04.21 (ETS 300 562): "European digital cellular telecommunication system (Phase 2); Rate adaptation on the Mobile Station - Base Station System (MS - BSS) interface".
- [20] GSM 04.22 (ETS 300 563): "European digital cellular telecommunication system (Phase 2); Radio Link Protocol (RLP) for data and telematic services on the Mobile Station - Base Station System (MS - BSS) interface and the Base Station System - Mobile-services Switching Centre (BSS - MSC) interface".
- [21] GSM 07.01 (ETS 300 582): "European digital cellular telecommunication system (Phase 2); General on Terminal Adaptation Functions (TAF) for Mobile Stations (MS)".
- [22] GSM 07.03 (ETS 300 584): "European digital cellular telecommunication system (Phase 2); Terminal Adaptation Functions (TAF) for services using synchronous bearer capabilities".
- [23] GSM 08.20 (ETS 300 591): "European digital cellular telecommunication system (Phase 2); Rate adaptation on the Base Station System - Mobile-services Switching Centre (BSS - MSC) interface".
- [24] GSM 09.03 (ETS 300 600): "European digital cellular telecommunication system (Phase 2); Signalling requirements on interworking between the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN) and the Public Land Mobile Network (PLMN)".
- [25] GSM 09.07 (ETS 300 604): "European digital cellular telecommunication system (Phase 2); General requirements on interworking between the Public Land Mobile Network (PLMN) and the Integrated Services Digital Network (ISDN) or Public Switched Telephone Network (PSTN)".

### 3 Definitions and abbreviations

Use is made of the following terms within this specification. These terms refer to information requirements necessary to support interworking functions, some of these terms will be identifiable with their use in other specifications.

- Bearer capability information:

Specific information defining the lower layer characteristics required within the network.

- Lower layer capability information:  
Information defining the lower layer characteristics of the terminal.
- Higher layer capability information:  
Information defining the higher layer characteristics of a teleservice active on the terminal.
- Protocol identifier:  
Information defining the specific protocols utilised for the support of data transfer by a terminal.
- Service profile:  
Set of values of the network default and user selectable attributes selected for a particular DTE identity.
- Loop detection:  
Detection of the situation, where a call, which has left the originating network, re-appears at the originating network.
- GSM packet mode services "Use of X.31 case A":  
A circuit connection shall be used for accessing the packet service (according to ETS 300 099), with the significant characteristics of the connection identified by the following setting of the respective parameters of the Bearer Capability Information Element:
  - \* information transfer capability = unrestricted digital information
  - \* transfer mode = circuit mode.
 The issue of "loop detection" is of no concern in the case of X.31 Case A (ETS 300 099) because the PH inserts - irrespective of being accessed by a home or a foreign roaming subscriber - into the "calling address" of an outgoing X.25 "call request" packet the address of the B-channel port.
- Packet mode services via PSTN (X.32):  
A circuit connection shall be used for accessing the packet service with the significant characteristics of the connection identified by the following setting of the respective parameters of the Bearer Capability Information Element in access from a PLMN:
  - \* information transfer capability = 3.1kHz exPLMN
  - \* transfer mode = circuit mode.
- Home PLMN:  
That GSM PLMN where the mobile subscriber has his subscription for mobile services.
- Visited PLMN:  
That GSM PLMN on which the mobile subscriber is roamed to when leaving his home PLMN (HPLMN) and logged-in there.
- Basic MSisdn:  
The MSisdn stored in VLR for a visiting mobile subscriber.
- PSPDN port:  
Unit providing incoming/outgoing demand access to a PSPDN (X.32).