SLOVENSKI STANDARD
SIST ETS 300 788:2001

01-september-2001

8][ ]H·U·bY·]nVc`·ýU·bY·VfY·njfj] bY·h·Y·Y_ca i b]_U·W·]^·Y·fB 97 H·Ł·!·; ·`cV·U·b]·g]gh·Y·a
a cV·]`·b]\ ·`_ca i b]_U·W·]^·f¦ GA·Ł·!·8][ ]H·U·bc·ca fY·ÿ·^·Y·n·]bh·Y·[f]f·U·b]a]·gh·cf]·h·j·U]·f·¦G8 B·Ł·!·
8 cgh·cd·8 97 H·Xc·; GA·dfY·_c·=·G8 B·!·: i b·_W·]^·g_Y·na cÿbcgh·]·]·b·]·bZcf·a U·W·]^·g_]·h·c_cj]

Digital Enhanced Cordless Telecommunications (DECT); Global System for Mobile
communications (GSM); Integrated Services Digital Network (ISDN); DECT access to
GSM via ISDN; Functional capabilities and information flows

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Ta slovenski standard je istoveten z: ETS 300 788 Edition 1

ICS:

33.070.30	Öã̃·ã·ce·}·^·Áã·à·[·|·bz·æ·}·^· à¦·^·: ç¦çã·}·^·Ác^·|·^·\·[·{·ˇ·}·ã·æ·&·Ăk̂· Ç·Ö·Ò·Ô·VD	Digital Enhanced Cordless Telecommunications (DECT)
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)

SIST ETS 300 788:2001   en

iTeh STANDARD PREVIEW
(standards.iteh.ai)

EUROPEAN
TELECOMMUNICATION
STANDARD

ETS 300 788

July 1997

Source: EP DECT

Reference: DE/DECT-010064

ICS: 33.020

Key words: CTM, DECT, GSM, ISDN, mobility, radio, stage 2

Digital Enhanced Cordless Telecommunications (DECT);
Global System for Mobile communications (GSM);
Integrated Services Digital Network (ISDN);
DECT access to GSM via ISDN;
Functional capabilities and information flows

ETSI

European Telecommunications Standards Institute

ETSI Secretariat

Postal address: F-06921 Sophia Antipolis CEDEX - FRANCE
Office address: 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE
X.400: c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 4 92 94 42 00 - Fax: +33 4 93 65 47 16

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Whilst every care has been taken in the preparation and publication of this document, errors in content, typographical or otherwise, may occur. If you have comments concerning its accuracy, please write to "ETSI Editing and Committee Support Dept." at the address shown on the title page.

Contents

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Foreword

This European Telecommunication Standard (ETS) has been produced by the Digital Enhanced Cordless Telecommunications (DECT) Project of the European Telecommunications Standards Institute (ETSI).

Transposition dates	
Date of adoption:	20 June 1997
Date of latest announcement of this ETS (doa):	31 October 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	30 April 1998
Date of withdrawal of any conflicting National Standard (dow):	30 April 1998

iTeh STANDARD PREVIEW

(standards.iteh.ai)

Page 6
ETS 300 788: July 1997

Blank page

iTeh STANDARD PREVIEW

(standards.iteh.ai)

1 Scope

This European Telecommunication Standard (ETS) defines the functional capabilities and information flows for the scenarios where Global System for Mobile communications (GSM) basic services are provided via the Digital Enhanced Cordless Telecommunications System (DECT) air interface for the case that the DECT network elements are interconnected with the GSM Public Land Mobile Network (PLMN) via Integrated Services Digital Network (ISDN) interfaces.

The general description of the service requirements are specified in ETS 300 787 [1].

The following core features are covered by this ETS:

- outgoing calls;
- emergency calls;
- incoming calls;
- location updating, location cancellation;
- IMSI attach/detach;
- TMSI reallocation procedure (temporary identity assign);
- IMSI authentication;
- ciphering;
- identity request.

Handover, which is another Mobility Management (MM) service, is outside the scope of this ETS.

The service is produced in three stages according to the method specified in CCITT Recommendation I.130 [6]. Stage 2 identifies the Functional Entities (FEs) involved in the service and the information flows between them. This ETS is specified according to the methodology specified in CCITT Recommendation Q.65 [7].

The purpose of the stage 2 specification is to guide and constrain the work on signalling protocols at stage 3, while fulfilling the requirements of stage 1. Stage 1 and stage 3 are defined in separate standards.

This ETS distinguishes DECT access networks from the global network. The DECT access network provides the point of attachment for the served user and ensures a transparent access to the GSM services. The global network is the GSM PLMN or network of GSM PLMNs which provides the served user with the global service specified in this ETS. The specification of information flows within the global network (e.g. between Mobile Switching Centres (MSCs), Home Location Register (HLR) and Visitor Location Register (VLR)) is beyond the scope of this ETS.

Furthermore, conformance to this ETS is met by conforming to the stage 3 standards which fulfil the requirements of this ETS that are relevant to the equipment for which the stage 3 standard applies. Therefore no method of testing is provided for 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]   ETS 300 787: "Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM); DECT access to GSM via Integrated Services Digital Network (ISDN); General description of service requirements".

[2]   ETS 300 444: "Digital European Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

[3]   ETS 300 370: "Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM) inter-working profile; Access and mapping (Protocol/procedure description for 3,1 kHz speech service)".

[4]   ETS 300 557: "Digital cellular telecommunications system (Phase 2); Mobile radio interface layer 3 specification (GSM 04.08)".

[5]   ITU-T Recommendation Q.71 (1993): "ISDN circuit mode switched bearer services".

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

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

[8]   ETS 300 434-1: "Digital Enhanced Cordless Telecommunications (DECT) and Integrated Services Digital Network (ISDN) interworking for end system configuration; Part 1: Interworking specification".

[9]   ITU-T Recommendation Z.100: "CCITT Specification and description language (SDL)".

3 Definitions and abbreviations

3.1 Definitions

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

DECT access network: Physical entity that contains all of the elements of a DECT Fixed Part (FP) and that is attached to a GSM MSC.

> NOTE 1:   A DECT access network provides a transparent access to the services of the GSM PLMN. This does however not exclude that it may in addition provide services and switching capabilities to its own users.

DECT Fixed Part (FP): A physical grouping that contains all of the elements in the DECT network between the local network and the DECT air interface.

> NOTE 2:   A DECT FP contains the logical elements of at least one fixed radio termination, plus additional implementation specific elements.

DECT location area: The domain in which a DECT Portable Part (PP) may receive and/or make calls as a result of a single location registration in the DECT access network.

global network: The GSM PLMN or network of GSM PLMNs which provides the served user with the global service specified in this ETS.

GSM location area: The domain in which a DECT PP may receive and/or make calls as a result of a single location updating in the GSM network.

> NOTE 3: A GSM location area may cover more than one DECT location area.

GSM service provider: An administration which offers global mobile telecommunication services to its subscribers.

GSM services: Services which are offered to the subscriber/user by a GSM Service Provider and which are defined by the appropriate GSM specifications.

location area: The domain in which a DECT PP may receive and/or make calls as a result of a single location registration/updating in the network.

location registration: The process whereby the position of a PP is determined to the level of one location area, and this position is updated in the network.

location updating: The process whereby the position of a PP is determined to the level of one location area, and this position is updated in the network.

> NOTE 4: DECT and GSM respectively use the terms location registration and location updating for corresponding processes.

MSC area: The MSC area is the part of the network covered by a MSC. A MSC area may consist of one or several GSM location areas. A MSC area may also consist of one or several BSC areas and/or one or several DECT location areas.

network: The totality of GSM and DECT access network elements through which the GSM service provider provides its services to the served user.

Public Land Mobile Network (PLMN): A PLMN is established and operated by an administration or for the specific purpose of providing land mobile telecommunication services to the public. A PLMN may be regarded as an extension of a network (e.g. ISDN); it is a collection of MSC areas within a common numbering plan (e.g. same national destination code) and a common routeing plan. The MSCs are the functional interfaces between the fixed networks and a PLMN for call set-up. Functionally the PLMNs may be regarded as independent telecommunication entities even though different PLMNs may be interconnected through the ISDN/PISN and PDNs for forwarding of calls or network information. A similar type of interconnection may exist for the interaction between the MSCs of one PLMN.

served user: The user of a DECT PP who has a subscription with the GSM service provider. The DECT PP accepts the GSM Subscriber Identity Module (SIM) and optionally the DECT DAM with a GSM application.

> NOTE 5: For the purpose of this ETS no distinction is made between the served user and its associated DECT PP.

3.2 Abbreviations

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

CC   Call Control (functional entity)
CCA   Call Control Agent (functional entity)
DECT   Digital Enhanced Cordless Telecommunications
FE   Functional Entity
FP   Fixed Part
GSM   Global System for Mobile communications
HLR   Home Location Register
IMEI   International Mobile Equipment Identity
IMEISV   IMEI Software Version number
IMSI   International Mobile Subscriber Identity (GSM)
IPEI   International Portable Equipment Identity
IPUI   International Portable User Identity (DECT)
ISDN   Integrated Services Digital Network
MM   Mobility Management
MSC   Mobile Switching Centre
PABX   Private Automatic Branch Exchange
PDN   Packet Data Network
PISN   Private Integrated Services Network
PLMN   Public Land Mobile Network
PP   Portable Part
RAND   Random number
RES   A Response calculated by a PP
SDL   Specification and Description Language
SIM   Subscriber Identity Module
SRES   A GSM specific authentication RES calculated by the GSM SIM or the DAM
TE   Terminal Equipment
TMSI   Temporary Mobile Subscriber Identity (GSM)
TPUI   Temporary Portable User Identity
VLR   Visitor Location Register

4 Mobility management features

4.1 Functional model

4.1.1 Functional model description

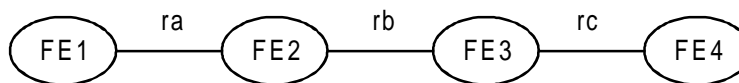The functional model for the MM features shall be as shown in figure 1.

Figure 1: Functional model for MM features

The FEs for the MM features shall be as follows:

FE1: Mobile user's MM agent;
FE2: Currently visited DECT access network MM control;
FE3: Global network MM control;
FE4: Previously visited DECT access network MM control.

The following functional relationships shall exist between these functional entities:

ra   between FE1 and FE2;
rb   between FE2 and FE3;
rc   between FE3 and FE4.