SLOVENSKI STANDARD
SIST ETS 300 792:2001

01-september-2001

Digitalne izboljġane brezvrviļ ne telekomunikacije (DECT) - Globalni sistem mobilnih komunikacij (GSM) - Profil medsebojnega delovanja DECT/GSM (IWP) - Izvedba faksimila skupine 3

Digital Enhanced Cordless Telecommunications (DECT); Global System for Mobile communications (GSM); DECT/GSM Interworking Profile (IWP); Implementation of facsimile group 3

Ta slovenski standard je istoveten z: **ETS 300 792 Edition 1**

ICS:

33.070.30	Digitalne izboljġane brezvrviļ ne telekomunikacije (DECT)	Digital Enhanced Cordless Telecommunications (DECT)
33.070.50	Globalni sistem za mobilno telekomunikacijo (GSM)	Global System for Mobile Communication (GSM)

SIST ETS 300 792:2001 **en**

EUROPEAN TELECOMMUNICATION STANDARD

ETS 300 792

June 1997

Source: ETSI EP-DECT

Reference: DE/DECT-010072

ICS: 33.020

Key words: DECT, FAX, GSM, profile

Digital Enhanced Cordless Telecommunications (DECT); Global System for Mobile communications (GSM); DECT/GSM Interworking Profile (IWP); Implementation of facsimile group 3

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

Contents

Foreword 5

Introduction 5

1 Scope 7

2 Normative references 7

3 Definitions, abbreviations and symbols 10
3.1 Definitions 10
3.2 Abbreviations 13
3.3 Symbols for status columns 14

4 General 14

5 Interworking requirements 15
5.1 General 15
5.2 Supported ITU-T Recommendation T.30 features 16
5.3 Reference configurations 16
5.4 General interworking model for FP GSM PLMN attachment 16
5.5 Service requirements 17
5.6 Interworking context 18
5.6.1 General 18
5.6.2 Basic interworking rules 18
5.6.3 Interpretation of broadcast attributes 18
5.6.4 Interpretation of terminal capability 19

6 Interworking mappings, FP attached to the GSM PLMN 19
6.1 General 19
6.2 FP C-Plane IWU procedures 19
6.2.1 Call handling IWU procedures 19
6.2.1.1 General 19
6.2.1.2 Outgoing automatic facsimile group 3 call (PP to FP) 19
6.2.1.2.1 Call setup procedure (including T.30 phase A) 19
6.2.1.2.2 Call release (including ITU-T Recommendation T.30, phase E) 20
6.2.1.2.3 Other call handling procedures 20
6.2.1.3 Incoming automatic facsimile group 3 call (FP to PP) 20
6.2.1.3.1 Call setup procedure (including ITU-T Recommendation T.30, phase A) 20
6.2.1.3.2 Call release (including ITU-T Recommendation T.30, phase E) 20
6.2.1.3.3 Other call handling procedures 20
6.2.2 Mobility management IWU procedures 20
6.2.3 Channel mode modify procedures 21
6.2.4 CC and mobility management message mappings 21
6.2.4.1 GSM to DECT 21
6.2.4.2 DECT to GSM 21
6.3 FP U-Plane ITU-T Recommendation T.30 and MMSP IWU procedures 21
6.3.1 General 21
6.3.2 GSM automatic facsimile group 3 transparent and MMSP interworking 21
6.3.2.1 FP interworking function requirements 21
6.3.2.2 The fax adaptor and ITU-T Recommendation T.30/MMSP mapping entity functionality 21
6.3.2.3 Flow control 22
6.3.2.4 Interchange circuit mappings 22

6.3.3 GSM automatic facsimile group 3 non-transparent and MMSP interworking 23
6.3.3.1 FP interworking function requirements 23
6.3.3.2 The FA and ITU-T Recommendation T.30/MMSP mapping entity functionality 23
6.3.3.3 Flow control 23
6.3.3.4 Interchange circuit mappings 23
6.3.4 Supported ITU-T Recommendation T.30 procedures 23
6.3.5 Outgoing call ITU-T Recommendation T.30 procedures (PP to FP) 24
6.3.5.1 Phase A 24
6.3.5.2 Phase B 24
6.3.5.3 Phase C 24
6.3.5.4 Phase D 24
6.3.5.5 Phase E 24
6.3.6 Incoming call ITU-T Recommendation T.30 procedures (FP to PP) 24
6.3.6.1 Phase A 24
6.3.6.2 Phase B 24
6.3.6.3 Phase C 24
6.3.6.4 Phase D 24
6.3.6.5 Phase E 24
6.4 PP C-Plane IWU procedures 24
6.5 PP U-Plane IWU procedures 25

7 Interworking connection types 25
7.1 Connection type definitions 25
7.1.1 General 25
7.2 Connection type definitions 25
7.2.1 <<Basic service>> coding 25
7.2.2 <<Iwu-attributes>> default coding 26
7.2.3 <<Call attributes>> default coding 26
7.2.4 <<Connection attributes>> default coding 26
7.2.5 <<MMS Gen Hdr>> coding 26
7.2.6 <<MMS Obj Hdr>> coding 26

Annex A (informative): Procedure examples of transparent A-interface solutions 27

Annex B (informative): Alternate speech and facsimile group 3 teleservice 29

History 30

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:	6 June 1997
Date of latest announcement of this ETS (doa):	30 September 1997
Date of latest publication of new National Standard or endorsement of this ETS (dop/e):	31 March 1998
Date of withdrawal of any conflicting National Standard (dow):	31 March 1998

Introduction

This ETS is a part of a set of standards for the DECT/GSM Interworking Profile (IWP) concept that includes:

- general description of service requirements, functional capabilities and information flows, (ETS 300 466 [13]);
- access and mapping (protocol/procedure description for 3,1 kHz speech service), (ETS 300 370 [10]);
- GSM-MSC/DECT-FP fixed interconnection (ETS 300 499 [14]);
- GSM Phase 2 supplementary services implementation (ETS 300 703 [23]);
- short message services, point to point and cell broadcast (ETS 300 764 [26]);
- implementation of bearer services (ETS 300 756 [25]);
- implementation of facsimile group 3 (this ETS).

This ETS is based on Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI) specification ETS 300 175, parts 1 to 8 [1] to [8] to enable DECT terminals to interwork in the public and private environment with DECT systems which are connected to a Global System for Mobile communications (GSM) core infrastructure.

In addition, this ETS is based on the DECT Generic Access Profile (GAP), ETS 300 444 [12] to enable the same DECT/GSM terminal to interwork with a DECT Fixed Part (FP) complying to the GAP requirements, irrespective of whether this FP provides residential, business or public access services. General attachment requirements and speech attachment requirements are based on TBR 6 [28] and TBR 10 [29].

Further details on the DECT system may be found in ETR 015 [30], ETR 043 [31], ETR 056 [32], and in ETS 300 176 [9].

Blank page

1 Scope

This European Telecommunication Standard (ETS) is a part of the Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM) Interworking Profile (IWP) and specifies the Portable Part (PP) interworking requirements and Fixed Part (FP) interworking requirements/mappings necessary to ensure that the GSM facsimile group 3 service can be provided over DECT, as specified in ETS 300 466 [13]. To enable DECT terminals to interwork with DECT systems which are connected to the GSM infrastructure, from the DECT side this ETS is based on ETS 300 755 [24].

NOTE: The DECT data service profile is based upon the Generic Access Profile (GAP) ETS 300 444 [12] and on the DECT Common Interface specification ETS 300 175, parts 1 to 8 [1] to [8].

Interworking functions/mappings are specified for Mobile Switching Centre (MSC) attachment for the DECT FP as the FP is using the A-interface towards the GSM MSC in the respect that the FP emulates a GSM Base Station Controller (BSC) with regards to the GSM messages which are relevant to this ETS. The complete interface used between the DECT Fixed Part (FP) and the GSM Mobile Switching Centre (MSC) is specified in ETS 300 499 [14]. Attachment via other interfaces to GSM-networks is outside the scope of this ETS.

The DECT access protocols and FP and PP interworking/mappings necessary for the support of basic voice telephony service are specified in ETS 300 370 [10]. Support of bearer services is specified in ETS 300 756 [25].

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 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] ETS 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".

[3] ETS 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4] ETS 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5] ETS 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

[6] ETS 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".

[7] ETS 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

[8] ETS 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".

[9] ETS 300 176: "Digital Enhanced Cordless Telecommunications (DECT); Approval test specification".

[10] 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)".

[11] ETS 300 435: "Digital European Cordless Telecommunications (DECT); Data Services Profile (DSP); Base standard including interworking to connectionless networks (service types A and B, Class 1)".

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

[13] ETS 300 466: "Digital European Cordless Telecommunications/Global System for Mobile Communications (DECT/GSM) interworking profile; General description of service requirements; Functional capabilities and information flows".

[14] ETS 300 499: "Digital Enhanced Cordless Telecommunications / Global System for Mobile Communications (DECT/GSM) interworking profile; Mobile services Switching Centre (MSC) - Fixed Part (FP) interconnection".

[15] ETS 300 538: "European digital cellular telecommunications system (Phase 2); Technical realization of facsimile group 3 transparent (GSM 03.45)".

[16] ETS 300 539: "European digital cellular communications system (Phase 2); Technical realization of facsimilé group 3 non-transparent (GSM 03.46)".

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

[18] ETS 300 562: "European digital cellular telecommunications system (Phase 2); Rate adaption on the Mobile Station - Base Station System (MS - BSS) Interface (GSM 04.21)".

[19] ETS 300 563: "European digital cellular telecommunications 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 (GSM 04.22)".

[20] ETS 300 584: "European digital cellular telecommunications system (Phase 2); Terminal Adaptation Functions (TAF) for services using synchronous bearer capabilities (GSM 07.03)".

[21] ETS 300 590: "Digital cellular telecommunications system (Phase 2); Mobile-services Switching Centre - Base Station System (MSC - BSS) interface; Layer 3 specification (GSM 08.08)".

[22] ETS 300 651: "Digital Enhanced Cordless Telecommunications (DECT); Data Services Profile (DSP); Generic data link service; Service type C, class 2".

[23] ETS 300 703: "Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM) Inter-Working Profile (IWP); GSM phase 2 supplementary services implementation".

[24] ETS 300 755: "Digital Enhanced Cordless Telecommunications (DECT); Data services profile; Multimedia Messaging Service (MMS) with specific provision for facsimile services; (Service type F, class 2)".

[25] ETS 300 756: "Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM) interworking profile; Implementation of bearer services".

[26] ETS 300 764: "Digital Enhanced Cordless Telecommunications / Global System for Mobile communications (DECT/GSM) Interworking Profile (IWP); Implementation of short message service, point-to-point and cell broadcast".

[27] EN 301 238: "Digital Enhanced Cordless telecommunications (DECT); Data Service Profile (DSP); Isochronous data bearer services with mobility (service type D, mobility class 2)".

[28] TBR 6: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".

[29] TBR 10: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements; Telephony applications".

[30] ETR 015: "Radio Equipment and Systems; Digital European Cordless Telecommunications (DECT); Reference document".

[31] ETR 043: "Digital European Cordless Telecommunications (DECT); Common interface; Services and facilities requirements specification".

[32] ETR 056: "Digital European Cordless Telecommunications (DECT); System description document".

[33] ETR 100: "European digital cellular telecommunications system (Phase 2); Abbreviations and acronyms (GSM 01.04)".

[34] DEN/DECT-020087: "Digital Enhanced Cordless Telecommunications (DECT); Dynamic Multimedia Service Change on the DECT access interface".

[35] ISO/IEC 9646-6: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".

[36] ITU-T Recommendation Q.6xx series: "Interworking of signalling systems".

[37] ITU-T Recommendation T.4: "Standardization of Group 3 facsimile apparatus for document transmission".

[38] ITU-T Recommendation T.30: "Procedures for document facsimile transmission in the general switched telephone network".

[39] ITU-T Recommendation T.31 (1995): "Asynchronous facsimile DCE control - Service Class 1".

[40] ITU-T Recommendation T.32 (1995): "Asynchronous facsimile DCE control - Service Class 2".

[41] CCITT Recommendation V.24 (1988): "List of definitions for interchange circuits between data terminal equipment (DTE) and data circuit-terminating equipment (DCE)".

[42] CCITT Recommendation V.25bis (1988): "Automatic calling and/or answering equipment on the general switched telephone network (GSTN) using the 100-series interchange circuits".

[43] CCITT Recommendation V.110: "Support of data terminal equipments with V-Series type interfaces by an integrated services digital network".

3 Definitions, abbreviations and symbols

3.1 Definitions

GSM-specific definitions may be found in ETR 100 [33]. In addition, for the purposes of this ETS, the following definitions apply:

attach: The process whereby a PP within the coverage area of a FP to which it has access rights, notifies this FP that it is operative. The reverse process is detach, which reports the PP as inoperative.

NOTE 1: An operative PP is assumed to be ready to receive calls.

authentication: The process whereby a DECT subscriber is positively verified to be a legitimate user of a particular FP.

NOTE 2: Authentication is generally performed at call set-up, but may also be done at any other time (e.g. during a call).

bearer service: A type of telecommunication service that provides a defined capability for the transmission of signals between user-network interfaces.

NOTE 3: The DECT user-network interface corresponds to the top of the network layer (layer 3).

C-Plane: The control plane of the DECT protocol stacks, which contains all of the internal DECT protocol control, but may also include some external user information.

NOTE 4: The C-Plane stack always contains protocol entities up to and including the network layer.

call: All of the Network (NWK) layer processes involved in one network layer peer-to-peer association.

NOTE 5: Call may sometimes be used to refer to processes of all layers, since lower layer processes are implicitly required.

DECT Network (DNW): A network that uses the DECT air interface to interconnect a local network to one or more portable applications. The logical boundaries of the DECT network are defined to be at the top of the DECT network layer.

NOTE 6: A DECT Network (DNW) is a logical grouping that contains one or more fixed radio termination plus their associated portable radio termination. The boundaries of the DECT network are not physical boundaries.

Fixed Part (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 7: A DECT FP contains the logical elements of at least one fixed radio termination, plus additional implementation specific elements.

fixed part GSM PLMN attachment (DECT fixed part attached to a GSM MSC): A definition of a functional environment where a DECT system (FP) is attached to an GSM MSC. The MSC in this case refers to a functional entity providing the required MM and CC functionality defined in this ETS in order to communicate with the FP.