SLOVENSKI STANDARD
PSIST ETR 185:1998

01-avgust-1998

Digitalne izboljšane brezvrvične komunikacije (DECT) - Profil podatkovnih storitev (DSP) - Pregled profilov

Digital Enhanced Cordless Telecommunications (DECT); Data Services Profile (DSP); Profile overview

Ta slovenski standard je istoveten z: ETR 185 Edition 1

ICS:

33.070.30	Digitalne izboljšane brezvrvične telekomunikacije (DECT)	Digital Enhanced Cordless Telecommunications (DECT)

PSIST ETR 185:1998 **en**

ETSI TECHNICAL REPORT

ETR 185

December 1995

Source: ETSI TC-RES

Reference: DTR/RES-03030

ICS: 33.020, 33.060.50

Key words: DECT, Profile, Data, LAN, WAN, PABX, Fax, Modem

Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Data Services Profile (DSP); Profiles overview

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Foreword

This ETSI Technical Report (ETR) has been produced by the Radio Equipment and Systems (RES) Technical Committee of the European Telecommunications Standards Institute (ETSI).

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1 Scope

This ETR describes the objectives, structure and content of the Digital European Cordless Telecommunications (DECT) Data Services Profiles (DSPs), which define a set of profile standards for systems conforming to the DECT standard. They are a family of profile standards which build upon, and extend, each other, aimed at the general connection of terminals offering non-voice services between themselves or to other communications network, both public and private, via a DECT Fixed Part (FP).

This ETR also describes possible user scenarios in wireless mobile computing. These scenarios have formed the guidelines of the DECT DSPs.

2 References

For the purposes of this ETR, the following references apply:

[1] ETS 300 175-1: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".

[2] ETS 300 175-2: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical (PHL) layer".

[3] ETS 300 175-3: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".

[4] ETS 300 175-4: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".

[5] ETS 300 175-5: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

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

[7] ETS 300 175-7: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".

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

[9] ETS 300 175-9: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface (CI); Part 9: Public Access Profile (PAP)".

[10] ETR 043: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Common Interface; Services and facilities requirements specification".

[11] ETR 056: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); System description document".

[12] ETS 300 435: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Data Services Profile (DSP); Base standard including inter-working to connectionless networks (service types A and B, Class 1)".

[13] ETS 300 651: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Data Services Profile (DSP); Generic data link service; Service Type C, Class 2".

[14] ETR 178: "Radio Equipment and System (RES); Digital European Cordless Telecommunications (DECT); A high level guide to the DECT standardization".

[15] Arik Elberse Teltec Ireland; IEE Colloquium on Teleworking and Teleconferencing: "DECT: The Ideal Telework Access Technology", June 1994.

[16] Commission of the European Communities: "Towards the Personal Communications Environment: GREEN PAPER on a common approach in the field of mobile communications in the European Union.", September 1994.

[17] Telecomeuropa's Personal Communications Newsletter; June 20th 1994.

[18] Andrew Bud, Olivetti Systems & Networks, Italy; 5th IEE International Conference on Mobile Radio & Personal Communications: "Data Services in DECT", December 1989.

[19] Jan Libenga, MOBILE europe March 1994, "Communicating into the Future with PDAs".

[20] ETS 300 444: "Radio Equipment and Systems (RES); Digital European Cordless Telecommunications (DECT); Generic Access Profile (GAP)".

3 Definitions and abbreviations

3.1 Definitions

For the purpose of this ETR, the following definitions apply:

authentication: The process whereby a DECT subscriber is positively verified to be a legitimate user of a particular Fixed Part (FP) and vice versa.

frame relay: Transmission of an Service Data Unit (SDU) with frame boundaries maintained but without notification of correct or otherwise receipt of that SDU.

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.

interoperability: The ability of a FP from one manufacturer and a Portable Part (PP) from another manufacturer to communicate, exclusively by means of reliance on a common protocol profile.

mobile computing: The use of portable computer type equipment in different locations.

on-line media: The availability of a wide range of copyright material, such as encyclopedias, maps, directories, timetables and newspapers, to users for access via telecommunications networks.

Personal Intelligent Communicator (PIC): A hand held computer, possibly with a pen based user interface, and the ability to communicate via data networks.

Portable Part (PP): A physical grouping that contains all elements between the user and the DECT air interface. PP is a generic term that may describe one or several physical pieces.

roaming: The movement of a PP from one FP coverage area to another FP coverage area, where the capabilities of FPs enable the PP to make or receive calls in both areas.

teleservices: A type of telecommunications services that provides the complete capability, including terminal equipment functions, for communication between users, according to protocols that are established by agreement.

terminal mobility: The ability to access a set of communications services, associated with a specific terminal, in different locations.

3.2 Abbreviations

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

ATM	Asynchronous Transfer Mode
DECT CI	Digital European Cordless Telecommunications Common Interface
DSP	Data Services Profile
FP	Fixed Part
GAP	Generic Access Profile
GSM	Global System for Mobile communication
IPX/SPX	Internetwork Packet Exchange/Sequenced Packet Exchange
ISDN	Integrated Services Digital Network
LAN	Local Area Network
LAP	Link Access Protocol
MAN	Metropolitan Area Network
PABX	Private Automatic Branch Exchange
PAD	Packet Assembly/Disassembly
PCMCIA	Personal Computer Memory Card International Association
PDA	Personal Digital Assistant
PIC	Personal Intelligent Communicator
POS	Point Of Sale
PP	Portable Part
SDU	Service Data Unit
TCP/IP	Transmission Control Protocol/Internet Protocol
WAN	Wide Area Network
PIN	Personal Identification Number

4 User scenarios

The rapid evolution in mobile computing is one of the key trends in the development of the information society. Today more laptop computers than desktop computers are sold. In addition the market for Personal Intelligent Communicators (PICs) is predicted to be on the verge of mass-market takeoff. Some market analysts estimate that more than 100 million personal communicators will be sold by the year 2 000 (see Libenga [19]).

A major trend towards multimedia communications can also be seen. The number of users of various on-line services is increasing dramatically every day. There are over 20 million subscribers to the Internet, and new commercial services appear frequently. New software for teleconferencing and teleworking is continuously being developed.

The result of these two trends will be an exploding demand for systems and networks which permit users of mobile computers to communicate on the move, and, therefore, without wires. Such a possibility will transform the mobile computer and the PIC into terminals for telecommunications services thus enhancing their role as personal productivity tools. This will create opportunities for many new applications and services, in areas such as on-line media and business process re-engineering.

From this perspective, standards for wireless multi-media communications are urgent requirements to expand the market, reduce costs and permit the establishment of wireless networks.

The following subclauses describes user scenarios related to wireless data communication. The purpose of these subclauses is to give a background for user requirements and an introduction to the services and facilities that the DECT DSPs are aiming to support.