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European Standard (Telecommunications series)

**Digital Enhanced Cordless Telecommunications (DECT);
DECT Multimedia Access Profile (DMAP);
Application Specific Access Profile (ASAP)**



Reference

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT), and is now submitted for the Voting phase of the ETSI standards Two-step Approval Procedure.

Proposed national transposition dates	
Date of latest announcement of this EN (doa):	3 months after ETSI publication
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	6 months after doa
Date of withdrawal of any conflicting National Standard (dow):	6 months after doa

1 Scope

The scope of the present document is to define a data Application Specific Access Profile (ASAP) intended mainly for home and small office and home office (SOHO) markets combining a selection of DECT data services with DECT voice services offered by Generic Access Profile (GAP), thereby allowing terminals to provide true integrated multimedia services.

The aim of the present document is to guarantee a sufficient level of interoperability and to provide an easy route for development of DECT DATA applications, with the features of the present document being a common fall-back option available in all compliant to this profile equipment.

2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.
- A non-specific reference to an ETS shall also be taken to refer to later versions published as an EN with the same number.

- [1] EN 300 176-1: "Digital Enhanced Cordless Telecommunications (DECT); Approval test specification; Part 1: Radio".
- [2] EN 300 176-2: "Digital Enhanced Cordless Telecommunications (DECT); Approval test specification; Part 2: Speech".
- [3] EN 300 444: "Digital Enhanced Cordless Telecommunications (DECT); Generic Access Profile (GAP)".
- [4] EN 301 649: "Digital Enhanced Cordless Telecommunications (DECT); DECT Packet Radio Services (DPRS)".
- [5] ISO/IEC 8802-3 (1996): "Information technology - Telecommunications and information exchange between systems - Local and metropolitan area networks - Specific requirements - Part 3: Carrier sense multiple access with collision detection (CSMA/CD) access method and physical layer specifications".
- [6] ISO/IEC 8802-5 (1998): "Information technology - Telecommunications and information exchange between systems - Local and Metropolitan Area Networks - Specific requirements - Part 5: Token ring access method and physical layer specifications".
- [7] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation conformance statement".
- [8] TBR 22: "Radio Equipment and Systems (RES); Attachment requirements for terminal equipment for Digital Enhanced Cordless Telecommunications (DECT) Generic Access Profile (GAP) applications".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in EN 301 649 [4] and EN 300 444 [3] apply.

3.2 Symbols

The symbols defined in this subclause are applied for procedures, features, and services in the present document if not explicitly otherwise stated. The interpretation of status columns in all tables is as follows:

- M for mandatory to support (provision mandatory, process mandatory);
- O for optional to support (provision optional, process mandatory);
- O.x option comprising number of items;
- I for out-of-scope (provision optional, process optional) not subject for testing;
- C for conditional to support (process mandatory);
- N/A for not-applicable (in the given context the specification makes it impossible to use this capability);
- X excluded, not allowed.

Provision mandatory, process mandatory means that the indicated feature service or procedure shall be implemented as described in the present document, and may be subject to testing.

Provision optional, process mandatory means that the indicated feature, service or procedure may be implemented, and if implemented, the feature, service or procedure shall be implemented as described in the present document, and may be subject to testing.

NOTE: The used notation is based on the notation proposed in ISO/IEC 9646-7 [7].

3.3 Abbreviations

For the purposes of the present document, the following abbreviations apply:

ASAP	Application Specific Access Profile
C-plane	Control Plane
DECT	Digital Enhanced Cordless Telecommunications
DLC	Data Link Control
DMAP	DECT Multimedia Access Profile
DPRS	DECT Packet Radio Service
EN	European Norm
FP	Fixed Part
FREL	Frame Relay
FT	Fixed radio Termination
FU	Fragmentation U-plane service
GAP	Generic Access Profile
IP	Internet Protocol
LAN	Local Area Network
LCE	Link Control Entity
LU	LAP-U service
MAC	Medium Access Control
ME	Management Entity
MM	Mobility Management
NWK	Network
PC	Personal Computer

PHL	PHysical Layer
PICS	Protocol Implementation Conformance Statement
PP	Portable Part
PPP	Point to Point Protocol
PT	Portable radio Termination
RFP	Radio Fixed Part
RFPI	Radio Fixed Part Identity
SOHO	Small Office and Home Office
TBR	Technical Basis for Regulation
U-plane	User-plane
WLAN	Wireless LAN
WV.24	Wireless V.24

4 Service objectives

At the moment of drafting of the present document the post DECT base standard standardization work has for a long time focused on two major streams of standards: a stream dealing with voice services and a stream dealing with data services. This has reflected the two major spheres of interest of the DECT community:

- the voice media (e.g. transmission of voice over a wireless telephone equipment); and
- the data related media (e.g. transmission of data between wireless PCs, peripherals, etc.).

The main objectives for this interest have been the better quality of the transmission, the avoidance of cable installation, the convenience of not being attached to a cable (i.e. the personal mobility), the number of the accessible services, etc.

With the increased user interest into the wireless voice media DECT has proved to be one of the favourite technologies to provide wireless telephone terminals providing a great variety of voice services. The basic general voice services that DECT could offer and the requirements to the terminals in regard to provision of such services are described in EN 300 444 [3], the DECT Gereric Access Profile (GAP).

With the constantly increasing usage of computers, and computer-like devices and peripherals, especially at home, the user being highly satisfied with the wireless voice services is turning his attention to the world of the wireless data media. The basic general packet oriented data services that DECT could offer and the requirements to the terminals in regard to provision of such services are described in EN 301 649 [4], the DECT DATA Packet Radio Service (DPRS) Profile.

This profile focuses on a Multi Media application solution combining Voice media and Data media services and requirements.

The reference model of this DECT Multi Media application is schematically depicted on the figure below.

The figure shows only the FT side where data and voice are combined. a PT may provide either VOICE either DATA or both. When both are provided the PT will have the same structure as the FT from the figure below, otherwise the PT shall contain only VOICE or DATA related blocks.

It is not a requirement for this profile to mandate connection of the FT to an external network. For example, in the case of FT providing WLAN, the FT need not be connected to an external network at all. The external data protocols required for support in regard to this profile are indicated in clause 5. External VOICE protocols that can be supported are at least those required by GAP.

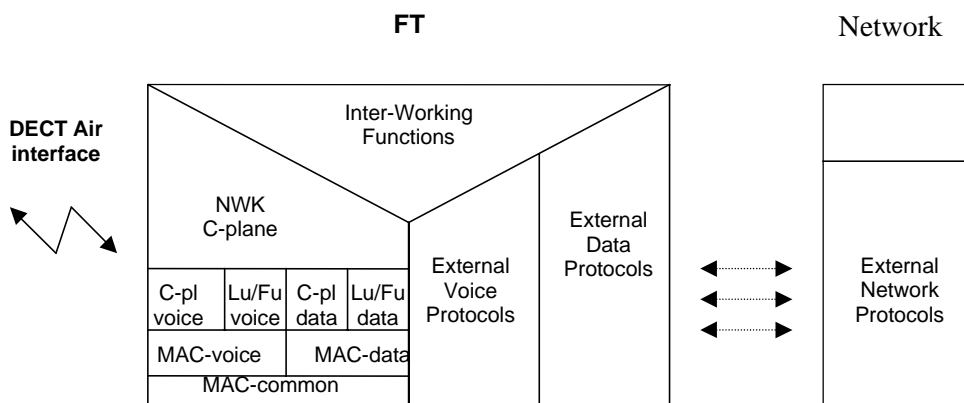


Figure 1: Reference configuration for DMAP profile

5 Relevant requirements

In any case the requirements of EN 300 176-1 [1] shall apply.

For the Wireless V.24 and Wireless LAN (ISO/IEC 8802-3 [5] (Ethernet)) applications the requirements of the EN 301 649 [4] relevant for Class 2 equipment apply with the modifications stated in clause 6 of the present document.

When Voice services are provided the requirements of EN 300 176-2 [2], EN 300 444 [3] and any based on these standards harmonized standards (at the time of drafting the present document e.g. TBR 22 [8]) shall apply as well.

If other profiles or interconnection to special networks are implemented other standards as appropriate may apply.

Additional, not covered by other standards requirements are described in subclause 6.3 and annexes.

6 Profile specific requirements

6.1 General

The requirements tables in the following subclauses are derived from the EN 301 649 [4] and the status of each particular item in regard to the required support for this profile is explicitly stated when it constitutes change to the status indicated in EN 301 649 [4].

The exact description of a modification of an existing requirement and additional requirements are provided in subclause 6.3.

6.2 Requirements tables

6.2.1 General

The tables listed in this subclause define all the protocol elements i.e. features, services, and procedures which are mandatory, optional, or conditional under the provision of another protocol element, or outside the scope of the present document, or in some context not applicable according to the status column designation as defined in clause 3.

All optional elements shall be process mandatory according to the procedures described in the present document.

A terminal that claims being compliant to this profile shall be capable of indicate and proving the indicated support to the application(s) as defined in the following table:

Table 1: General Application support

Application	FP	PP
Voice	M	O.101
Wireless V.24	O.100	O.101
Wireless LAN	O.100	O.101
Distributed Communication	O	O
O.100: At least one of this options shall be supported.		
O.101: At least one of this options shall be supported.		

6.2.2 NWK layer

In regard to Voice the requirements as indicated in EN 300 444 [3], subclauses 6, 8 and 13 shall apply.

In regard to the WV.24 and WLAN applications NWK layer requirements the following modifications to EN 301 649 [4] clause 8 shall apply:

Table 2: NWK features status in regard to EN 301 649 [4]

Feature supported						
Item no.	Name of feature	Ref.	Status			
			PT		FT	
			WV.24	WLAN	WV.24	WLAN
DPRS-N.1	Outgoing call	4.3.4	O.201	O.201	O.202	O.202
DPRS-N.3	On hook (full release)	4.3.4	M	M	O	O
DPRS-N.8	Incoming call	4.3.4	O.201	O.201	O.202	O.202
DPRS-N.11	Location registration	4.3.4	M	M	C201	C201
DPRS-N.12	On air key allocation	4.3.4	M	M	M	M
DPRS-N.15	Alerting	4.3.4	C202	C202	O	O
DPRS-N.20	Terminate access rights FT initiated	4.3.4	M	M	M	M
DPRS-N.26	Authentication of FT	4.3.4	O	O	M	M
O.201, O.202: At least one of this options shall be supported.						
C201: IF Fast Setup supported THEN M ELSE O.						
C202: IF Incoming call THEN M ELSE I.						

Table 3: NWK feature to procedure mapping in regard to EN 301 649 [4]

Feature/Procedure mapping						
Feature Name	Feature/Procedure		Status			
	Procedure name	Ref.	PT		FT	
			WV.24	WLAN	WV.24	WLAN
DPRS-N.2, Off Hook		4.3.4	M	M	M	M
	Outgoing call request	12.1	O.301	O.301	O.302	O.302
	Incoming call connection	12.2	O.301	O.301	O.302	O.302
O.301, O.302: At least one of this options shall be supported.						

6.2.3 DLC Layer

In regard to Voice the requirements as indicated in EN 300 444 [3], subclauses 6 and 9 shall apply.

In regard to the WV.24 and WLAN applications the DLC layer requirements as indicated in EN 301 649 [4] clause 7 shall apply.

6.2.4 MAC layer

In regard to Voice the requirements as indicated in EN 300 444 [3], subclauses 6 and 10 shall apply.

In regard to the WV.24 and WLAN applications the MAC layer requirements as indicated in EN 301 649 [4] clause 6 shall apply.

6.2.5 Management Entity (ME)

In regard to the WV.24 and WLAN applications ME requirements the following modifications to EN 301 649 [4] clause 9 shall apply.

Requirements related to DPRS Class 1 terminals are out of scope.

6.2.6 Application features

In regard to Voice the requirements as indicated in EN 300 444 [3], subclauses 6, and 14 shall apply.

In regard to the WV.24 and WLAN applications the Application Features requirements as defined in EN 301 649 [4] clause 8 shall apply.

6.2.7 Distributed communications

In regard to the WV.24 and WLAN applications the requirements as defined in EN 301 649 [4] clause 9 shall apply.

Voice applications may implement these requirements as well.

6.3 Profile specific procedures description

6.3.1 General

This subclause identifies differences and additions to the feature/services/procedures definitions/descriptions as specified in EN 301 649 [4].

In addition new specific to this profile requirements are provided as well.

6.3.2 Management entity requirements

The Requirements as specified in EN 301 649 [4], clause 9 shall apply.

6.3.3 MAC layer requirements

The Requirements as specified in EN 301 649 [4], clause 10 shall apply.

6.3.4 DLC layer requirements

The Requirements as specified in EN 301 649 [4], clause 11 shall apply.

6.3.5 NWK layer requirements

The Requirements as specified in EN 301 649 [4], clause 12 shall apply.

Annex A (normative): Operating parameters

A.1 General

In regard to the present document the requirements for Operating parameters as specified in EN 301 649 [4], annex A, fully apply with modifications included in this annex.

Table A.1: Operating parameters requirements in regard to EN 301 649 [4]

DPRS classes of terminals	Support
Class 2	M
Class 1	I

Annex B (normative): Wireless LAN

B.1 General

In regard to the present document the requirements for the Interworking conventions for the Frame Relay (FREL) service as specified in EN 301 649 [4], annex B, fully apply with modifications included in this annex.

Table B.1: FREL Interworking requirements in regard to EN 301 649 [4]

External Protocol	Support
ISO/IEC 8802-3 [5] (Ethernet)	M
ISO/IEC 8802-5 [6] (Token Ring)	I
Internet Protocol (IP)	I
Point to Point Protocol (PPP)	I

Annex C (normative): Wireless V.24

C.1 General

In regard to the present document the requirements for the Interworking conventions for the character-oriented service as specified in EN 301 649 [4], annex C, fully apply with modifications included in this annex.

Table C.1: Character-oriented service requirements in regard to EN 301 649 [4]

External Protocol	Support
V.24	M

Annex D (normative): Distributed Communications

In regard to the present document the requirements for the Distributed communications as specified in EN 301 649 [4], annex E, fully apply.

Bibliography

The following material, though not specifically referenced in the body of the present document (or not publicly available), gives supporting information.

- ISO/IEC 9646-6: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 6: Protocol profile test specification".
- TBR 6: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".
- TBR 10: "Digital Enhanced Cordless Telecommunications (DECT); General Terminal Attachment Requirements; Telephony applications".
- ISO/IEC 2022 (1994): "Information Technology - Character code structure and extension techniques".
- ISO/IEC 8859-1 (1987): "Information technology - 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No. 1".
- ISO/IEC 8073 (1997): "Information technology - Open Systems Interconnection - Protocol for providing the connection-mode transport service".
- EN 300 824: " Digital Enhanced Cordless Telecommunications (DECT); Cordless Terminal Mobility (CTM); CTM Access Profile (CAP)".
- EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical layer (PHL)".
- EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".
- EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".
- EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".
- EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and addressing".
- EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security features".
- EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech coding and transmission".

History

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