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Digital Enhanced Cordless Telecommunications (DECT); Integrated Services Digital Network (ISDN); DECT/ISDN interworking for end system configuration; Part 1: Interworking specification

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*European Standard (Telecommunications series)*

**Digital Enhanced Cordless Telecommunications (DECT);  
Integrated Services Digital Network (ISDN);  
DECT/ISDN interworking for end system configuration;  
Part 1: Interworking specification**

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Project Digital Enhanced Cordless Telecommunications (DECT).

Details of the Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI) may be found in EN 300 175 (parts 1 [1] to 9 [9]).

Further details of the DECT system may be found in ETR 043 [51], and TR 101 178 [53].

The present document is part 1 of a multi-part deliverable covering the Digital Enhanced Cordless Telecommunications (DECT); Integrated Services Digital Network (ISDN) interworking for end system configuration, as identified below:

**Part 1: "Interworking specification";**

Part 2: "Access profile".

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## Introduction

The present document specifies how Integrated Services Digital Network (ISDN) services are provided over the DECT air interface.

One of the main objectives is to describe how the ISDN services are mapped across the DECT air interface in a formal way, so that inter-operability of different manufacturers' equipment can be achieved. This is achieved by describing the Interworking Unit (IWU) procedures and mappings loosely following ITU-T Recommendations Q.601 to Q.699 [67] and by describing air interface protocols.

The present document is made up of 3 main clauses:

- clause 4: Interworking requirements which includes the reference configurations and the protocol architecture model and a description of the main service requirements;
- clause 5: IWU mappings which shows the C-plane and U-plane mappings. The signalling mappings are first described in terms of IWU procedures with informative data flow diagrams. Detailed descriptions follow using tables of what is mapped, what is ignored, and what is "piped";
- clause 6: Support of ISDN bearer services which identifies the main DECT connection types (U-plane + C-plane) at the air interface supporting optimized groups of services, from the IWU mappings.

Part 2 of the present document contains the ISDN Access Profile (IAP) for the end system and describes the air interface protocol in detail. It will enable the subsequent generation of Protocol Implementation Conformance Statements (PICS) and test cases.

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[SIST EN 300 434-1 V1.2.1:2003](https://standards.iteh.ai/catalog/standards/sist/983d9d03-77dc-4ce1-bb26-087bd9766e87/sist-en-300-434-1-v1-2-1-2003)

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# 1 Scope

The present document specifies how Integrated Services Digital Network (ISDN) services may be provided over Digital Enhanced Cordless Telecommunications (DECT) endsystem configurations. Apparatus claiming interoperability based upon the ISDN Access Profile (IAP) shall fully comply with the process mandatory technical requirements and those for optional features so far such are provided. Both public ISDN and private ISDN are within the scope of the present document.

An IAP is specified, defining how particular ISDN services are supported, so that inter-operability of DECT equipment can be achieved at the air interface for these services. Apparatus claiming the provision of any service feature listed in the present document should comply with the corresponding process mandatory technical requirements.

The following ISDN bearer services are covered:

- speech;
- 3,1 kHz audio; and
- unrestricted digital information 64 kbit/s.

Applications using these bearer services are outside the scope of the present document. However, such applications envisaged include 3,1 kHz telephony, 7 kHz telephony, group 4 fax, teletex, videotex, and voice-band data transmission such as group 3 fax and modem data transmission.

The bearer service "packet mode" is outside the scope of the present document.

The support of ISDN supplementary services is considered.

The DECT end system reference configuration is used where the DECT Fixed System (DFS) and DECT Portable System (DPS) together form an end system with the behaviour of an ISDN Terminal Equipment (ISDN-TE).

Mobility Management (MM) such as location registration, and subscription registration is outside the scope of the present document.

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# 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 and/or edition number or version number) or non-specific.
- For a specific reference, subsequent revisions do not apply.
- For a non-specific reference, the latest version applies.

- [1] ETSI EN 300 175-1: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 1: Overview".
- [2] ETSI EN 300 175-2: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 2: Physical Layer (PHL)".
- [3] ETSI EN 300 175-3: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 3: Medium Access Control (MAC) layer".
- [4] ETSI EN 300 175-4: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer".
- [5] ETSI EN 300 175-5: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 5: Network (NWK) layer".

- [6] ETSI EN 300 175-6: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 6: Identities and Addressing".
- [7] ETSI EN 300 175-7: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 7: Security Features".
- [8] ETSI EN 300 175-8: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 8: Speech Coding and Transmission".
- [9] ETSI EN 300 175-9: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 9: Public Access Profile (PAP)".
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- [12] ETSI EN 300 052-1: "Integrated Services Digital Network (ISDN); Multiple Subscriber Number (MSN) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [13] ETSI EN 300 058-1: "Integrated Services Digital Network (ISDN); Call Waiting (CW) supplementary service; Digital subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [14] ETSI EN 300 061-1: "Integrated Services Digital Network (ISDN); Subaddressing (SUB) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [15] ETSI EN 300 092-1: "Integrated Services Digital Network (ISDN); Calling Line Identification Presentation (CLIP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [16] ETSI EN 300 093-1: "Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [17] ETSI EN 300 097-1: "Integrated Services Digital Network (ISDN); Connected Line Identification Presentation (COLP) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [18] ETSI EN 300 098-1: "Integrated Services Digital Network (ISDN); Connected Line Identification Restriction (COLR) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [19] ETSI EN 300 130-1: "Integrated Services Digital Network (ISDN); Malicious Call Identification (MCID) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [20] ETSI EN 300 138-1: "Integrated Services Digital Network (ISDN); Closed User Group (CUG) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [21] ETSI EN 300 141-1: "Integrated Services Digital Network (ISDN); Call Hold (HOLD) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [22] ETSI EN 300 182-1: "Integrated Services Digital Network (ISDN); Advice of Charge (AOC) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [23] ETSI EN 300 185-1: "Integrated Services Digital Network (ISDN); Conference call, add-on (CONF) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

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- [25] ETSI ETS 300 081: "Integrated Services Digital Network (ISDN); Teletex end-to-end protocol over the ISDN".
- [26] ETSI ETS 300 108: "Integrated Services Digital Network (ISDN); Circuit-mode 64 kbit/s unrestricted 8 kHz structured bearer service category; Service description".
- [27] ETSI ETS 300 109: "Integrated Services Digital Network (ISDN); Circuit-mode 64 kbit/s 8 kHz structured bearer service category usable for speech information transfer; Service description".
- [28] ETSI ETS 300 110: "Integrated Services Digital Network (ISDN); Circuit-mode 64 kbit/s 8 kHz structured bearer service category usable for 3,1 kHz audio information transfer; Service description".
- [29] ETSI ETS 300 111: "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice; Service description".
- [30] ETSI ETS 300 112: "Integrated Services Digital Network (ISDN); Facsimile group 4 class 1 equipment on the ISDN End-to-end protocols".
- [31] ETSI ETS 300 120: "Integrated Services Digital Network (ISDN); Service requirements for telefax group 4".
- [32] ETSI EN 300 171: "Private Integrated Services Network (PISN); Specification, functional models and information flows; Control aspects of circuit-mode basic services [ISO/IEC 11574 (1994) modified]".
- [33] ETSI EN 300 262: "Integrated Services Digital Network (ISDN); Syntax based Videotex teleservice; Service description".
- [34] ETSI ETS 300 263: "Integrated Services Digital Network (ISDN); Telephony 7 kHz teleservice; Service description". [SIST EN 300 434-1 V1.2.1:2003](https://standards.iteh.ai/catalog/standards/sist/983d9d03-77dc-4ce1-bb26-067bd976ce8/sist-en-300-434-1-v1-2-1-2003)
- [35] ETSI ETS 300 264: "Integrated Services Digital Network (ISDN); Videotelephony teleservice; Service description". <https://standards.iteh.ai/catalog/standards/sist/983d9d03-77dc-4ce1-bb26-067bd976ce8/sist-en-300-434-1-v1-2-1-2003>
- [36] ETSI ETS 300 475-1: "Private Telecommunication Network (PTN); Reference configuration; Part 1: Reference configuration for PTN eXchanges (PTNXs) [ISO/IEC 11579-1 (1994), modified]".
- [37] ETSI EN 300 012: "Integrated Services Digital Network (ISDN); Basic User-Network Interface (UNI); Layer 1 specification".
- [38] ETSI ETS 300 402-2: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Data link layer; Part 2: General protocol specification [ITU-T Recommendation Q.921 (1993), modified]".
- [39] ETSI EN 300 403-1: "Integrated Services Digital Network (ISDN); Digital Subscriber Signalling System No. one (DSS1) protocol; Signalling network layer for circuit-mode basic call control; Part 1: Protocol specification [ITU-T Recommendation Q.931 (1993), modified]".
- [40] ETSI ETS 300 192: "Private Telecommunications Network (PTN); Signalling protocol at the S-reference point; Circuit mode basic services".
- [41] ETSI EN 300 122-1: "Integrated Services Digital Network (ISDN); Generic keypad protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [42] ETSI EN 300 196-1: "Integrated Services Digital Network (ISDN); Generic functional protocol for the support of supplementary services; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".

- [43] ETSI EN 300 188-1: "Integrated Services Digital Network (ISDN); Three-Party (3PTY) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [44] ETSI EN 300 207-1: "Integrated Services Digital Network (ISDN); Diversion supplementary services; Digital Subscriber Signalling System No. One (DSS1); Part 1: Protocol specification".
- [45] ETSI EN 300 210-1: "Integrated Services Digital Network (ISDN); Freephone (FPH) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [46] ETSI EN 300 286-1: "Integrated Services Digital Network (ISDN); User-to-User Signalling (UUS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [47] ETSI EN 300 359-1: "Integrated Services Digital Network (ISDN); Completion of Calls to Busy Subscriber (CCBS) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [48] ETSI EN 300 369-1: "Integrated Services Digital Network (ISDN); Explicit Call Transfer (ECT) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [49] ETSI EN 300 064-1: "Integrated Services Digital Network (ISDN); Direct Dialling In (DDI) supplementary service; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [50] ETSI EN 300 267-1: "Integrated Services Digital Network (ISDN); Telephony 7 kHz, videotelephony, audiographic conference and videoconference teleservices; Digital Subscriber Signalling System No. one (DSS1) protocol; Part 1: Protocol specification".
- [51] ETSI ETR 043: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Services and facilities requirements specification".
- [52] Void <https://standards.iteh.ai/catalog/standards/sist/983d9d03-77dc-4ce1-bb26-087bd9766e87/sist-en-300-434-1-v1-2-1-2003>
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- [57] ITU-T Recommendation I.241.3: "Teleservices supported by an ISDN: Telefax 4".
- [58] ITU-T Recommendation I.241.5: "Teleservices supported by an ISDN: Videotex".
- [59] ITU-T Recommendation I.241.6: "Teleservices supported by an ISDN: Telex".
- [60] ITU-T Recommendation I.411: "ISDN user-network interfaces - Reference configurations".
- [61] ETSI EN 300 011: "Integrated Services Digital Network (ISDN); Primary rate user-network interface; Layer 1 specification and test principles".
- [62] ITU-T Recommendation G.711: "Pulse code modulation (PCM) of voice frequencies".
- [63] ITU-T Recommendation G.726: "40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)".
- [64] ETSI ETS 300 242: "Terminal Equipment (TE); Group 3 facsimile equipment".