DECT – CI (Common Interface) – Del 4: Datalinkkontrollag

Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer

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Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Part 4: Data Link Control (DLC) layer

Reference
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Foreword

This European Standard (EN) has been produced by ETSI Technical Committee Digital Enhanced Cordless Telecommunications (DECT).

The present document is part 4 of a multi-part deliverable ([1] to [8]). Full details of the entire series can be found in part 1 [1].

Further details of the DECT system may be found in ETSI TR 101 178 [i.1] and ETSI ETR 043 [i.2].

National transposition dates	
Date of adoption of this EN:	25 September 2017
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Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 June 2018
Date of withdrawal of any conflicting National Standard (dow):	30 June 2019

Modal verbs terminology

In the present document "**shall**", "**shall not**", "**should**", "**should not**", "**may**", "**need not**", "**will**", "**will not**", "**can**" and "**cannot**" are to be interpreted as described in clause 3.2 of the ETSI Drafting Rules (Verbal forms for the expression of provisions).

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1 Scope

The present document is one of the parts of the specification of the Digital Enhanced Cordless Telecommunications (DECT) Common Interface (CI).

The present document specifies the Data Link Control (DLC) layer. The DLC layer is part 4 of the DECT CI standard and layer 2b of the DECT protocol stack.

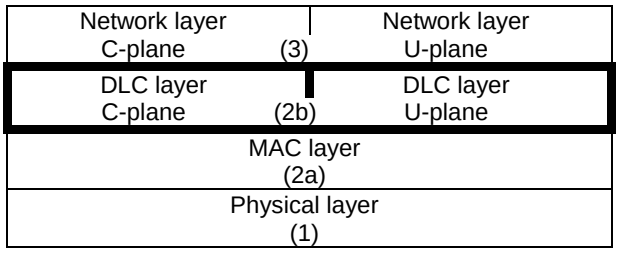

Figure 1.1

Two planes of operation are specified for this DLC (sub)layer. These planes are called the Control plane (C-plane) and the User plane (U-plane).

The C-plane is mostly concerned with the DECT signalling aspects. It provides a reliable point-to-point service that uses a link access protocol to offer error protected transmission of Network (NWK) layer messages. The C-plane also provides a separate point-to-multipoint (broadcast) service (Lb).

The U-plane is only concerned with end-to-end user information. This plane contains most of the application dependent procedures of DECT. Several alternative services (both circuit-mode and packet-mode) are defined as a family of independent entities. Each service provides one or more point-to-point U-plane data links, where the detailed characteristics of those links are determined by the particular needs of each service. The defined services cover a wide range of performance, from "unprotected with low delay" for speech applications to "highly protected with variable delay", for local area network applications.

NOTE: The performance of the DLC services need not be tight to any particular application. For example the "unprotected with low delay" service could also be used for data applications, e.g. if some data protection is provided outside the DECT protocol.

The present document uses the layered model principles and terminology as described in Recommendations ITU-T X.200 [14] and X.210 [15].

The present document includes New Generation DECT, a further development of the DECT standard introducing wideband speech, improved data services, new slot types and other technical enhancements.

2 References

2.1 Normative references

References are either specific (identified by date of publication and/or edition number or version number) or non-specific. For specific references, only the cited version applies. For non-specific references, the latest version of the referenced document (including any amendments) applies.

Referenced documents which are not found to be publicly available in the expected location might be found at http://docbox.etsi.org/Reference.

NOTE: While any hyperlinks included in this clause were valid at the time of publication, ETSI cannot guarantee their long term validity.

[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] Void.

[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 and audio coding and transmission".

[9] ETSI TS 144 006: "Digital cellular telecommunications system (Phase 2+) (GSM); Mobile Station - Base Station System (MS - BSS) interface; Data Link (DL) layer specification (3GPP TS 44.006)".

[10] Recommendation ITU-T Q.920: "ISDN user-network interface data link layer - General aspects".

[11] Recommendation ITU-T Q.921: "ISDN user-network interface - Data link layer specification".

[12] Recommendation ITU-T V.42: "Error-correcting procedures for DCEs using asynchronous-to-synchronous conversion".

[13] Recommendation ITU-T V.110: "Support by an ISDN of data terminal equipments with V-Series type interfaces".

[14] Recommendation ITU-T X.200: "Information technology - Open Systems Interconnection - Basic Reference Model: The basic model".

[15] Recommendation ITU-T X.210: "Information technology - Open Systems Interconnection - Basic Reference Model: Conventions for the definition of OSI services".

[16] ISO/IEC 8073: "Information technology -- Open Systems Interconnection -- Protocol for providing the connection-mode transport service".

[17] ETSI EN 301 649: "Digital Enhanced Cordless Telecommunications (DECT); DECT Packet Radio Service (DPRS)".

[18] FIPS Publication 197 (2001): "Advanced Encryption Standard (AES)", National Institute of Standards and Technology (NIST).

[19] IETF RFC 3610: "Counter with CBC-MAC (CCM)".

2.2 Informative references

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user with regard to a particular subject area.

[i.1] ETSI TR 101 178: "Digital Enhanced Cordless Telecommunications (DECT); A High Level Guide to the DECT Standardization".

[i.2] ETSI ETR 043: "Digital Enhanced Cordless Telecommunications (DECT); Common Interface (CI); Services and facilities requirements specification".

[i.3] Recommendation ITU-T I.122: "Framework for frame mode bearer services".

[i.4] Recommendation ITU-T V.24: "List of definitions for interchange circuits between Data Terminal Equipment (DTE) and data circuit-terminating equipment (DCE)".

[i.5] IETF RFC 4749: "RTP Payload Format for the G.729.1 Audio Codec".

3 Definitions, symbols and abbreviations

3.1 Definitions

For the purposes of the present document, the terms and definitions given in ETSI EN 300 175-1 [1] apply.

3.2 Symbols and abbreviations

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

AAL	ATM Adaptation Layers
ACK	ACKnowledgement
ADU	Adapted Data Unit
AES	Advanced Encryption Standard
ALI	Assigned Link Identifier
AMCI	Advanced MAC Connection Identifier
ARI	Access Rights Identity
ARQ	Automatic Repeat reQuest
ASM	Assigned link identifier with Synchronous Mode
ATM	Asynchronous Transfer Mode
BCH	Bose-Chaudhuri-Hochquenghem
BER	Bit Error Ratio
BFI	Bad Frame Indicator
BMCI	Basic MAC Connection Identifier
BRAT	Basic RATe adaption service
B_S	A logical channel to the MAC layer
C/R	Command/Response bit
CBC-MAC	Cipher Block Chaining Message Authentication Code
CC	Call Control
CCM	Counter with CBC-MAC
C_F	higher layer signalling Channel (fast)
CHO	Connection HandOver
CHP	Connection Handover Pending
CI	Common Interface
CL	higher layer ConnectionLess channel (protected; see CL_S and CL_F)
CL_F	higher layer ConnectionLess channel (fast), (logical channel to the MAC layer)
CL_S	higher layer Connectionless channel (slow)
C-plane	Control plane
CRC	Cyclic Redundancy Check
C_S	higher layer signalling Channel (slow)
CTS	Clear To Send (see Recommendation ITU-T V.24 [i.4])
DCD	Data Carrier Detect (see Recommendation ITU-T V.24 [i.4])