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Digitalne izboljšane brezvrvične telekomunikacije (DECT) - Profil generičnega dostopa (GAP)

Digital Enhanced Cordless Telecommunications (DECT) - Generic Access Profile (GAP)

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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 based on EN 300 175, parts 1 [1] to 8 [8]. General attachment requirements and speech attachment requirements are based on EN 301 406 [11] (replacing TBR 006 [i.1]) and EN 300 176-2 [10] (previously covered by TBR 010 [i.2]).

The present document has been developed in accordance to the rules of documenting a profile specification as described in ISO/IEC 9646-6 [12].

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1 Scope

The present document specifies that set of technical requirements for Digital Enhanced Cordless Telecommunications (DECT) Fixed Part (FP) and DECT Portable Part (PP) necessary for the support of the Generic Access Profile (GAP).

The GAP is applicable to all DECT Portable radio Terminations (PT) and Fixed radio Terminations (FT) which under the scope of EN 300 176-2 [10] (i.e. 3,1 kHz telephony teleservice) and specifies the minimum functionality that is supported by all other 3,1 kHz voice profiles.

The objective of the present document is to ensure the Air Interface (AI) inter-operability of DECT equipment capable of 3,1 kHz telephony applications, in such a way that any DECT PT conforming to the procedures described in the present document is inter-operable with any DECT FT conforming to the procedures described in the present document.

The profile consists of the minimum mandatory requirements that allow a 3,1 kHz teleservice connection to be established, maintained and released between a FT and a PT with the appropriate access rights, irrespective of whether the FP provides residential, business or public access services.

In addition, the present document defines the features, services, procedures etc. for both the FT and the PT, which are provision mandatory either in the PT or in the FT, as well as some elements that are provision optional but still process mandatory.

Mobility Management (MM) procedures at the DECT AI to support incoming calls and outgoing calls are included.

Inter-working between the FT and the attached network is outside the scope of the present document.

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2 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 reference document (including any amendments) applies.

SIST EN 300 444 V2.3.1:2012
https://standards.iteh.ai/catalog/standards/sist/bbf77ac7-e408-4cca-a6e0-1f1958e4348f/sist-en-300-444-v2.3.1-2012

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.

2.1 Normative references

The following referenced documents are necessary for the application of the present document.

[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".

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[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 EN 300 176-1: "Digital Enhanced Cordless Telecommunications (DECT); Test specification; Part 1: Radio".

[10] ETSI EN 300 176-2: "Digital Enhanced Cordless Telecommunications (DECT); Test specification; Part 2: Audio and speech".

[11] ETSI EN 301 406: "Digital Enhanced Cordless Telecommunications (DECT); Harmonized EN for Digital Enhanced Cordless Telecommunications (DECT) covering the essential requirements under article 3.2 of the R&TTE Directive; Generic radio".

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

[13] ISO/IEC 9646-7: "Information technology - Open Systems Interconnection - Conformance testing methodology and framework - Part 7: Implementation Conformance Statements".

[14] ISO/IEC 8073 (1997): "Information technology - Open Systems Interconnection - Protocol for providing the connection-mode transport service".

[15] ITU-T Recommendation G.726: "40, 32, 24, 16 kbit/s Adaptive Differential Pulse Code Modulation (ADPCM)".

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2.2 Informative references

The following referenced documents are not necessary for the application of the present document but they assist the user with regard to a particular subject area.

SIST EN 300 444 V2.3.1:2012
https://standards.iteh.ai/catalog/standards/sist/51e577e7-e48e-4ee6-9f5f-434f8/sist-en-300-444-v2-3-1-2012

[i.1] ETSI TBR 006: "Digital Enhanced Cordless Telecommunications (DECT); General terminal attachment requirements".

[i.2] ETSI TBR 010: "Digital Enhanced Cordless Telecommunications (DECT); General Terminal Attachment Requirements; Telephony Applications".

[i.3] ETSI TS 102 527-3: "Digital Enhanced Cordless Telecommunications (DECT); New Generation DECT; Part 3: Extended wideband speech services".

3 Definitions, symbols and abbreviations

3.1 Definitions

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

attach: process whereby a PP within the coverage area of a FP to which it has access rights, notifies this FP that it is operative

NOTE 1: The reverse process is detach, which reports the PP as inoperative.

NOTE 2: An operative PP is assumed to be ready to receive calls.

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

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

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

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

C-plane: 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: The C-plane stack always contains protocol entities up to and including the NWK layer.

call: all of the NWK layer processes involved in one NWK layer peer-to-peer association

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

DECT network: network that uses the DECT AI 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 NWK layer

NOTE: A DECT network is a logical grouping that contains one or more FTs plus their associated PT. The boundaries of the DECT network are not physical boundaries.

Fixed Part (DECT Fixed Part) (FP): physical grouping that contains all of the elements in the DECT network between the local network and the DECT AI

NOTE: A DECT FP contains the logical elements of at least one FT, plus additional implementation specific elements.

Fixed radio Termination (FT): logical group of functions that contains all of the DECT processes and procedures on the fixed side of the DECT AI

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NOTE: A FT only includes elements that are defined in the DECT Common Interface (CI) standard. This includes radio transmission elements together with a selection of layer 2 and layer 3 elements.

geographically unique identity: related to FP identities, PARIs and RFPIs, it indicates that two systems with the same PARI, or respectively two RFPs with the same RFPI, cannot be reached or listened to at the same geographical position

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https://standards.iteh.ai/catalog/standards/sist/6b177ac7-e408-4cca-a6e0-1f3958c4348f/sist-en-300-444-v2-3-1-2012

NOTE: For PARI and RFPI, see abbreviations clause.

global network: telecommunication network capable of offering a long distance telecommunication service

NOTE: The term does not include legal or regulatory aspects, nor does it indicate if the network is a public or a private network.

globally unique identity: identity is unique within DECT (without geographical or other restrictions)

handover: process of switching a call in progress from one physical channel to another physical channel

NOTE: There are two physical forms of handover, intra-cell handover and inter-cell handover.

incoming call: call received at a PP

inter-cell handover: switching of a call in progress from one cell to another cell

internal general call: internal call setup by a PP to ring all other PPs (i.e. excluding the initiator) and FP (when capable of)

NOTE: This is typically useful in residential environments when transferring a call.

internal handover: handover processes that are completely internal to one FT Internal handover reconnects the call at the lower layers, while maintaining the call at the NWK layer

NOTE: The lower layer reconnection can either be at the Data Link Control (DLC) layer (connection handover) or at the Medium Access Control (MAC) layer (bearer handover).

inter-operability: capability of FPs and PPs, that enable a PP to obtain access to teleservices in more than one Location Area (LA) and/or from more than one operator (more than one service provider)