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Cordless Terminal Mobility (CTM); Phase 2; Service description

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Contents

Intellectual Property Rights	5
Foreword	5
1 Scope	6
2 References	7
3 Definitions	7
4 Abbreviations	9
5 Description	9
5.1 Core service features	10
5.1.1 Numbering	10
5.1.2 Outgoing call	10
5.1.3 Emergency call	10
5.1.4 Incoming call	10
5.1.5 Roaming	10
5.1.6 Handover	11
5.1.7 Security	11
5.1.7.1 Terminal authentication	11
5.1.7.2 Network authentication	11
5.1.7.3 Encryption	11
5.1.8 Service profile	12
5.1.9 Message waiting indication	12
5.2 Optional service features	12
5.2.1 Service profile modification	12
5.2.2 Service profile interrogation	12
5.3 CTM supplementary services	12
5.3.1 CTM call forwarding on not reachable	12
5.3.2 CTM call forwarding unconditional	12
5.3.3 CTM call forwarding on busy	13
5.3.4 CTM call forwarding on no reply	13
5.3.5 CTM calling line identification presentation	13
5.3.6 CTM calling line identification restriction	13
5.3.7 CTM connected line identification presentation	13
5.3.8 CTM connected line identification restriction	13
5.3.9 CTM incoming call screening	13
5.3.10 CTM outgoing call barring	13
6 Procedures	13
6.1 Provision and withdrawal	13
6.2 Normal procedures	14
6.2.1 Registration, deregistration and erasure	14
6.2.1.1 Core requirements	14
6.2.1.2 Optional requirements	14
6.2.2 Activation and deactivation	14
6.2.2.1 Core requirements	14
6.2.2.2 Optional requirements	14
6.2.3 Invocation and operation	15
6.2.3.1 Core requirements	15
6.2.3.2 Optional requirements	16
6.2.4 Interrogation	16
6.2.4.1 Core requirements	16
6.2.4.2 Optional requirements	16
6.3 Exceptional procedures	16
6.3.1 Registration and erasure	16
6.3.1.1 Core requirements	16

6.3.1.2	Optional requirements	16
6.3.2	Activation and deactivation	16
6.3.2.1	Core requirements	16
6.3.2.2	Optional requirements	17
6.3.3	Invocation and operation	17
6.3.3.1	Core requirements	17
6.3.3.2	Optional requirements	17
6.3.4	Interrogation	18
6.3.4.1	Core requirements	18
6.3.4.2	Optional requirements	18
7	Interworking requirements	18
7.1	Interworking between public networks providing the CTM service	18
7.1.1	Public CTM user roams into a visited public network	18
7.2	Interworking with private networks	18
7.2.1	Public CTM user roams into a PISN area	19
7.2.2	Private CTM user roams into a public CTM network area	19
7.3	Interworking with networks not providing the CTM service	19
7.4	Co-operation between network operators and service providers	19
8	Interaction with ISDN supplementary services	20
8.1	Interaction description	20
8.1.1	Advice of charge services (AOC-S, AOC-D, AOC-E, AOC-R)	20
8.1.2	Call hold (HOLD)	20
8.1.3	Explicit call transfer	20
8.1.4	Calling line identification presentation	20
8.1.5	Calling line identification restriction	20
8.1.6	Connected line identification presentation	21
8.1.7	Connected line identification restriction	21
8.1.8	Closed user group	21
8.1.9	Completion of calls to busy subscriber	21
8.1.10	Completion of calls on no reply	21
8.1.11	Conference call add-on (CONF)	21
8.1.12	Call forwarding unconditional	21
8.1.13	Call forwarding on busy	21
8.1.14	Call forwarding on not reachable	22
8.1.15	Selective call forwarding	22
8.1.16	Call forwarding unconditional to a service centre	22
8.1.17	Malicious call identification	22
8.1.18	Three party	22
8.1.19	User-to-user signalling	22
8.1.20	In-call modification	22
8.1.21	Trunk hunting	22
8.1.22	Fixed outgoing call barring	22
8.1.23	User controlled outgoing call barring	23
8.1.24	Reverse charging at call set up time	23
8.1.25	Message waiting indication	23
8.1.26	Other supplementary services, other services	23
9	Interaction with other services	24
9.1	Universal personal telecommunication	24
History	25

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Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Network Aspects (NA).

In accordance with CCITT Recommendation I.130 [7], the first stage of the following three level structure is used to describe the telecommunications services as provided by European public telecommunications operators:

- Stage 1: is an overall service description, from the service subscriber's and user's standpoint;
- Stage 2: identifies the functional capabilities and information flows needed to support the service described in stage 1; and
- Stage 3: defines the signalling system protocols and switching functions needed to implement the service described in stage 1.

The present document details the stage 1 aspects (overall service description) for the CTM service, taking into account the various network architectures, e.g., IN. [SIST EN 301 273 V1.1.3:2003](https://standards.iteh.ai/catalog/standards/sist/1b59fc07-d525-43fa-a094-6578076d9d5c/sist-en-301-273-v1-1-3-2003)

The application of stage 2 and stage 3 may be different when the service is supported on an IN environment.

NOTE: CTM phase 2 service description improves phase 1 with enhancements in the area of mobility (handover, message waiting indication). Moreover it defines a comprehensive support for emergency call core feature. CTM phase 2 defines also CTM specific supplementary services. Regarding terminal capabilities the present document forms the basis for the DECT CTM Access Profile (CAP) ETS 300 824 [5].

National transposition dates	
Date of adoption of this EN:	31 December 1999
Date of latest announcement of this EN (doa):	31 March 2000
Date of latest publication of new National Standard or endorsement of this EN (dop/e):	30 September 2000
Date of withdrawal of any conflicting National Standard (dow):	30 September 2000

1 Scope

The present document defines the stage 1 service description for phase 2 of the CTM service. Stage 1 is an overall service description, primarily from the service subscriber's and user's point of view, but does not deal with the details of the human interface itself. The present document includes information applicable to network operators and terminal, switch and database manufacturers.

The present document specifies the requirements where the service is provided to the CTM user via a telecommunications network that is either the pan-European ISDN or a PSTN as provided by European public telecommunications operators.

The present document includes interworking requirements for cases where users in a call are located on different networks.

The provision of the CTM service on mobile networks is outside the scope of the present document.

The present document contains the core requirements for phase 2 of the CTM. A service may be provided on the basis of these core requirements alone.

The present document also documents some optional service features which may be used to enhance the service.

Furthermore, additional functionalities not documented in the present document may be implemented. The requirements of which are considered outside of the scope of the present document and consequently outside the scope of the corresponding stage 2 and stage 3 standards. Such additional functionality may be on a network-wide basis, or particular to one CTM user or a group of CTM users. Such additional functionality does not compromise conformance to the core requirements of the service.

Charging principles are outside the scope of the present document, unless specific service requirements are stated. These requirements deal with the allocation of certain call charges to particular CTM users.

Interactions with services and ISDN supplementary services not listed in clauses 8 and 9 are outside the scope of the present document.

The CTM service allows users of cordless terminals to be mobile within and between networks. Where radio coverage is provided and the cordless terminal has appropriate access rights the CTM user is able to make calls from, and to receive calls at, any location within the fixed public and/or private networks, and may move without interruption of a call in progress.

Phase 2 of the CTM service is applicable to the telephony 3,1 kHz teleservice (see ETS 300 111 [3]). Phase 2 of the CTM service is also applicable to the speech bearer service (see ETS 300 109 [1]) and the 3,1 kHz audio bearer service (see ETS 300 110 [2]).

If the present document is applicable to the stage 2 and stage 3 standards for the phase 2 of the CTM service, where the text indicates the status of a requirement (i.e. as strict command or prohibition, as authorization leaving freedom, as a capability or a possibility), this shall be reflected in the relevant stage 2 and stage 3 standards. Otherwise, the status of a requirement shall be reflected in the relevant standards for the underlying protocols. Furthermore, conformance to the present document is either met by:

- conforming to the stage 3 standards; or
- implicitly covered by conforming to the standards for the underlying protocols,

with the field of application appropriate to the equipment being implemented. Therefore no method of testing is provided for the present document.

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, subsequent revisions do apply.
- 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] ETS 300 109 (1992): "Integrated Services Digital Network (ISDN); Circuit-mode 64 kbit/s 8 kHz structured bearer service category usable for speech information transfer, Service description".
- [2] ETS 300 110 (1992): "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".
- [3] ETS 300 111 (1992): "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice, Service description".
- [4] ETS 300 345 (1994): "Integrated Services Digital Network (ISDN); Interworking between public ISDNs and private ISDNs for the provision of telecommunication services; General aspects".
- [5] ETS 300 824: "Digital Enhanced Cordless Telecommunications (DECT); Cordless Terminal Mobility (CTM); CTM Access Profile (CAP)".
- [6] ITU-T Recommendation E.164 (1997): "The international public telecommunication numbering plan".
- [7] CCITT Recommendation I.130 (1988): "Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN".

3 Definitions

For the purpose of the present document, the following terms and definitions apply:

authentication: security mechanism allowing the verification of the provided identity

access rights: indication that the cordless terminal has appropriate access allowance to the CTM service

NOTE 1: This definition does not refer to any specific access technology.

access rights identity: identity which is globally unique to a service provider and which shows the access rights related to this service provider

basic call (procedures): procedures by which a call (as an instance of a basic telecommunication service) is established and terminated

NOTE 2: Emergency call is not a basic call.

cordless terminal: physical entity that provides access to the telecommunication services of a network via a radio interface

core service feature: particular service feature fundamental to the telecommunication service, i.e., in the absence of this service feature, the telecommunication service does not make sense as a commercial offering to the service subscriber

coverage area: area within the radio coverage area in which the CTM user has subscribed to use the CTM service

CTM identity: identity by which a CTM user is known to the CTM service providers and networks supporting CTM, and it is used for flexibility and security purposes. The CTM identity identifies a CTM user unambiguously. The CTM identity does not need to be known by users

CTM number: number that uniquely and unambiguously identifies each CTM user. It is used by a calling party to reach the CTM user. The number is independent of the calling terminal, network or service used and it is a E.164 number

E.164 number: number conforming to the numbering plan and structure specified in ITU-T Recommendation E.164 [6]

forwarded-to number: number to which the call is redirected as a result of call forwarding

handover: process by which a call in progress is maintained when the CTM user moves with the cordless terminal with a call in progress within a network where continuous radio coverage is provided

location area: radio coverage area in which a cordless terminal may receive calls as a result of a single location registration

location registration: process whereby the position of a CTM terminal is determined to the level of one location area

network operator: entity that provides the network operating elements and resources for the execution of the CTM service

not reachable: status in the network when an incoming call is offered to a cordless terminal but the cordless terminal is out of radio coverage, switched off or there is radio congestion

optional service feature: service feature added to core feature to optionally enhance a service offering

radio coverage: area in which cordless terminals may be used to establish and maintain telecommunication services via the radio base stations supported by the network supporting the CTM service

NOTE 3: The radio coverage supported by an individual network supporting the CTM service may be continuous or discontinuous, i.e. it may correspond to the complete geographical territory served by the network or it may not.

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In the case of discontinuous radio coverage, the areas of radio coverage may consist of individual radio cells, serving for example isolated houses or very small businesses, or cordless islands consisting of a collection of radio cells providing continuous coverage of larger areas.

The radio coverage supported by a network supporting the CTM service may overlap with the radio coverage supported by one or more other networks supporting the CTM service or it may be complementary.

roaming: CTM user moves with the cordless terminal without a call in progress from one location area to another location area within the same and/or between different networks supporting the CTM service

service feature: specific aspect of a telecommunication service that can also be used in conjunction with other telecommunication services or service features as part of a commercial offering. It is either a core part of a telecommunication service or an optional part offered as an enhancement to a telecommunication service

service profile: record containing all the service information related to a CTM user

service provider: actor who provides CTM services to its service subscribers on a contractual basis and who is responsible for the CTM services offered. The same organization may act as a network operator and a service provider

service subscriber: entity that contracts for services offered by service providers

service: that which is offered by an administration or a public or private service provider to its service subscriber in order to satisfy a telecommunication requirement

terminal mobility: ability of a terminal to access telecommunication services, while in motion, and the capability of the network to locate and identify that terminal as it moves

user: person or machine delegated by a service subscriber to use the services and/or facilities of a telecommunication network

4 Abbreviations

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

CAP	CTM Access Profile
CCBS	Completion of Calls to Busy Subscriber
CCNR	Completion of Calls on No Reply
CFB	Call Forwarding on Busy
CFNR	Call Forwarding on No Reply
CFNRc	Call Forwarding on Not Reachable
CFU	Call Forwarding Unconditional
CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
COLP	Connected Line Identification Presentation
COLR	Connected Line Identification Restriction
CT2	Second generation of Cordless Technology
CTM	Cordless Terminal Mobility
CUG	Closed User Group
DECT	Digital Enhanced Cordless Telecommunications
ICS	Incoming Call Screening
IM	In-call Modification
IN	Intelligent Network
ISDN	Integrated Services Digital Network
OCB	Outgoing Call Barring
PISN	Private Integrated Services Network
PSTN	Public Switched Telephone Network
REV-S	REVerse charging at call Set up time
UPT	Universal Personal Telecommunication
UUS	User-to-User Signalling

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5 Description

The CTM service allows users of cordless terminals to be mobile within and between networks. Where radio coverage is provided and the cordless terminal has appropriate access rights the CTM user shall be able to make calls from, and to receive calls at, any location within the fixed public and/or private networks, and may move without interruption of a call in progress.

The CTM service can be composed by "core service features" and "optional service features". The core service features provide a basic service, available to all CTM users.

The optional service features contain functionality that is additional to the core service features, that customise the service according to the needs of a specific service subscriber. These additional parts may be offered either to all the service provider's service subscribers, or to a group of service subscribers or even to a single service subscriber.

In addition to core service features, a network can implement optional service features. The availability to roaming CTM users of the optional features depends on the implementation of the optional features in other networks.