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*European Standard (Telecommunications series)*

**Cordless Terminal Mobility (CTM);  
Phase 2+ Feature Package 1 (FP1);  
Circuit-switched data;  
Service description**

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## Foreword

This European Standard (Telecommunications series) has been produced by ETSI Technical Committee Services and Protocols for Advanced Networks (SPAN).

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Date of adoption of this EN:	28 April 2000
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# 1 Scope

The present document defines the stage 1 service description for Feature Package 1 - Circuit Switched Data (CSD) of the Cordless Terminal Mobility (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.

Feature Packages are offered in addition to the standard Cordless Terminal Mobility (CTM) Phase 2 service. However, for Feature Package 1 it is not necessary for the user to subscribe to the telephony service if he only requires data service applications.

The present document contains the core service features and attributes for CTM CSD.

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. The CTM CSD service allows CTM users having a valid subscription to have access to CTM CSD services if CSD service is offered in the serving network.

CTM CSD service is applicable to the 64 kbit/s and 32 kbit/s Unrestricted Digital Information (UDI) bearer services.

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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, 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] ETSI ETS 300 345 (1995): "Integrated Services Digital Network (ISDN); Interworking between public ISDNs and private ISDNs for the provision of telecommunication services; General aspects".
- [2] ITU-T Recommendation E.164: (1997): "The international public telecommunication numbering plan".
- [3] ETSI ETS 300 824: "Digital Enhanced Cordless Telecommunications (DECT); Cordless Terminal Mobility (CTM); CTM Access Profile (CAP)".
- [4] ETSI EN 301 273: "Cordless Terminal Mobility (CTM); Phase 2; Service description".
- [5] ITU-T Recommendation V.25 ter: "Serial asynchronous automatic dialling and control".

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## 3 Definitions and abbreviations

### 3.1 Definitions

For the purposes of the present document, the terms and definitions given in CTM Phase 2, and the following apply.

**datacall:** call requesting an end to end data connection

### 3.2 Abbreviations

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

CSD	Circuit Switched Data
CTM	Cordless Terminal Mobility
PISN	Private Integrated Services Network

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## 4 Description

The Circuit Switched Data (CSD) service is Feature Package 1 offered in addition to the Cordless Terminal Mobility (CTM) Phase 2 service.

However, for Feature Package 1 it is not necessary for the user to subscribe to the telephony service if he only requires data service applications.

The CTM CSD is a bearer service.

The CTM CSD service allows users of cordless data terminals to be mobile within and between networks where CTM CSD is provided and the cordless terminal has appropriate access rights. The CTM CSD user can make data calls from, and receive data calls at, any location where radio coverage is provided and may move without interruption of a call in progress.

The CTM CSD service can be composed of "core service features". The core service features provide a basic service, available to all CTM CSD users. In addition to the CTM core features, the CSD service is described using service attributes.

The availability of CTM CSD service to roaming CTM CSD users depends on the provision of the CTM CSD service.

### 4.1 Core service features

All CTM Phase 2 core features are applicable to the CTM CSD service unless explicitly stated in the present document.

The core service features are listed hereafter.

#### 4.1.1 Numbering

The CTM number may be a non-geographical number or a geographical number according to the operator's choice.

It may therefore be possible for a user subscribing to the CTM service to keep its existing ITU-T Recommendation E.164 [2] number as a network option.

When a user subscribes to the CTM service using its existing ITU-T Recommendation E.164 [2] number as the CTM number, calls to the served user's ITU-T Recommendation E.164 [2] number may be routed either to the served user's cordless terminal or to the served user's fixed terminal according to the operator's choice.



### 4.1.2 Outgoing call

This service feature enables a CTM CSD user to originate calls from the cordless terminal irrespective of its location in the coverage area.

The network may verify that the CTM CSD user is permitted to place the call as requested.

### 4.1.3 Incoming call

This service feature enables a CTM CSD user to have incoming calls delivered to the cordless terminal irrespective of its location in the coverage area. The CTM CSD user holds a CTM number that has to be used to reach the cordless terminal associated to this CTM number, wherever it is located, within the coverage area.

If the network is unable to complete an incoming call, the network shall send an appropriate notification to the calling user.

### 4.1.4 Roaming

This service feature enables a CTM CSD user without a call in progress to move within the coverage area. Therefore, the network shall enable the roaming CTM CSD user to register its current location. The deregistration of the CTM CSD user's previous location shall also be performed. The extent to which roaming is permitted may depend on the CTM CSD user's subscription.

As an option, CTM CSD user roaming may be provided to and from the CTM CSD user's own residential area.

As a network operator/service provider option a CTM CSD user may roam to and from another CTM CSD user's residential area with that user's agreement.

NOTE 1: Roaming within and between networks supporting CTM requires that all networks maintain access rights information relating to each service provider with whom a roaming agreement exists.

NOTE 2: In the user's own residential area it is a network operator/service provider option to provide alternative or additional (supplementary) services to CTM. These services are outside the scope of the present document.

### 4.1.5 Handover

Handover for CTM CSD is for further study.

### 4.1.6 Security

This service feature enables the CTM CSD user (and the network) to be protected from different types of misuse due to the CTM service. Different type of security mechanisms may be used to protect from:

- fraudulent use;
- fraudulent access;
- eavesdropping;
- malicious behaviour.

Access network security mechanisms shall be provided by using terminal authentication, network authentication and encryption subject to the limitations of the appropriate cordless access standard.

Different service providers may offer different levels of security mechanisms to its subscribers.

#### 4.1.6.1 Terminal authentication

Terminal authentication is a security mechanism by which the network verifies that the identity provided by the terminal is the one claimed.

The purpose of this authentication security feature is to protect the network against unauthorized use. It enables also the protection of the service subscriber by denying the possibility for intruders to impersonate authorized CTM CSD users.

The authentication of the terminal may be invoked by the network in various cases e.g. when the service subscriber requests:

- to access a service (including some or all of: originating or terminating CTM call, activation or deactivation of a feature/supplementary service); or
- a change of service subscriber related information (including some or all of: location handling, registration or erasure of a feature/supplementary service).

#### 4.1.6.2 Network authentication

Network authentication is a security mechanism by which a cordless terminal verifies that the identity provided by the network is the one claimed.

The purpose of this authentication security feature is to protect the cordless terminal from unauthorized access.

#### 4.1.6.3 Encryption

Encryption is a security mechanism by which the signalling and CTM CSD user information is encrypted over the air interface.

The purpose of the encryption feature is to protect the signalling and CTM CSD user information from eavesdropping.

#### 4.1.7 Service profile

This service feature enables the CTM CSD user to be provided with the CTM service according to subscription parameters as determined by the service provider. For that purpose, a service profile (e.g. containing the information needed for correct call handling) shall be maintained for the CTM CSD user.

#### 4.1.8 Message waiting indication

This feature enables a CTM CSD user to receive an indication of the status of a mailbox to which the CTM CSD user has access.

For the purpose of the attribute method the following reference configuration is used:

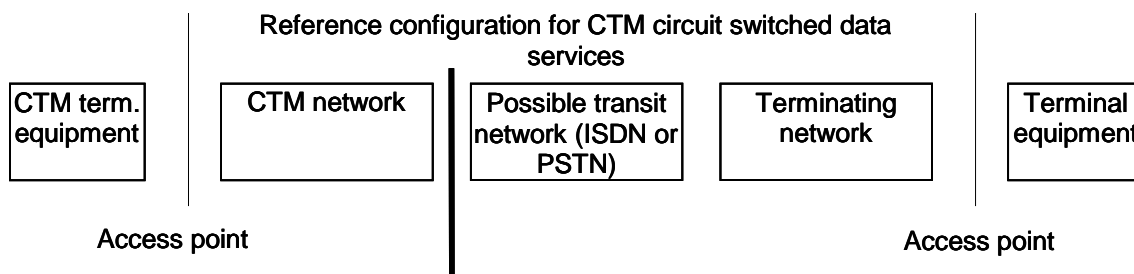


Figure 1: ALPHA Interface - S/T reference point

## 4.2 Circuit Switched Data Service

CTM circuit switched data services features are described by attributes, which are intended to be independent.

This characterization is made by using a set of attributes. A telecommunication service attribute is a specific characteristic of that service whose values distinguish it from other telecommunication services. Particular values are assigned to each attribute when a given telecommunication service is described and defined.

Attributes are grouped into four categories:

- 1) information transfer attributes, which characterize the network capabilities for transferring information from a user access point in a CTM network to a user access point in another network;
- 2) access attributes, which describe the means for accessing network functions or facilities as seen at the access point in the CTM network;
- 3) interworking attributes, which describe properties of the terminating network and its access point. The terminating network may include another CTM network or the originating CTM network;
- 4) general attributes, which deal with the service in general.

## 4.3 Information transfer attributes

### 4.3.1 Information transfer capability

This attribute describes the capability associated with the transfer of different types of information through a CTM network and another network or through a CTM network.

Values supported:

- unrestricted digital information;

transfer of information sequence of bits at its specified bit rate without alteration; this implies bit sequence independence, digit sequence integrity and bit integrity;

- 3,1 kHz external to CTM network;

unrestricted digital information transfer within the CTM network and 3,1 kHz audio restricted within the PSTN.

### 4.3.2 Information transfer mode

This attribute describes the operational mode of transferring (transportation and switching) through a CTM network.

Values supported:

- circuit.

### 4.3.3 Information transfer rate

This attribute describes the bit rate (circuit mode). It refers to the transfer of digital information between two access points or reference points.

Values supported:

- 64 Kbit/s;
- 32 Kbit/s.

### 4.3.4 Establishment of communication

This attribute associated with a telecommunication service describes the mode of establishment used to establish a given communication.

In every telecommunication service communication may be between users within the CTM network or between a user in the CTM network and a user in another network.

Values supported:

- on demand terminal initiated or terminated (outgoing and incoming calls).

### 4.3.5 Communication configuration

This attribute describes the spatial arrangement for transferring information between two or more access points. It completes the structure associated with a telecommunication service as it associates the relationship between the access points involved and the flow of information between those access points.

Values supported:

- point-to-point communication;

this value applies when there are only two access points.

### 4.3.6 Symmetry

This attribute describes the relationship of information flow between two (or more) access points or reference points involved in a communication.

It characterizes the structure associated to a communication service.

Values supported:

- bi-directional symmetric;

this value applies when the information flow characteristics provided by the service are the same between two (or more) access points or reference points in the forward and backward directions.

### 4.3.7 Access attributes

#### 4.3.7.1 Information access

##### 4.3.7.1.1 Rate

This attribute describes the bit rate used to transfer the user information at a given access point or reference point.

Values supported:

- 64 Kbit/s;
- 32 Kbit/s;
- 28,8 Kbit/s (V.34 modem interworking on PSTN as defined in ETS 300 824 [3]).

#### 4.3.7.1.2 Interface

This attribute describes the interface according to the protocol used to transfer user information at a given access point.

Values supported:

- ITU-T Recommendation V.25 ter [5] interface;
- S interface.

### 4.3.8 Interworking attribute

#### 4.3.8.1 Type of terminating network

Communication can be established between a terminal in a CTM network (originating network) and a terminal in a network (terminating network) including the same CTM network or another CTM network. The attribute designates the terminating network.

NOTE 1: The terms "originating" and "terminating" do not indicate the direction of communication establishment.

NOTE 2: This attribute does not reflect whether there is none, one or several transit networks between the originating and terminating networks.

Values supported:

- PSTN;
- ISDN;
- CTM network.

#### 4.3.8.2 Terminal to terminating network interface

This attribute describes the interface between a terminal equipment and the terminating network.

Values supported:

- appropriate V-series (DTE/DCE) interface;
- S interface (2B+D).

#### 4.3.8.3 General attributes

##### 4.3.8.3.1 Quality of service

This attribute is described by a group of specific sub-attributes, for example: service reliability, service availability.

Values supported:

- transparent;

service characterized by constant throughput, constant transit delay and variable error rate.

##### 4.3.8.3.2 Encryption

If end-to-end encryption is required, it shall be supported by the application and or the terminal. For further study.

## 4.4 Optional service features

All optional service features offered in CTM Phase 2 are applicable to CTM CSD if not explicitly stated.

## 4.5 CTM supplementary services

All CTM supplementary services offered in CTM Phase 2 are applicable to CTM CSD if not explicitly stated.

### 4.5.1 CTM Call Forwarding on Not Reachable (CTM-CFNRc)

It shall be possible to activate the CTM-CFNRc supplementary service for all calls with the same forwarded-to number and for voice calls or data calls individually with different forwarded-to numbers.

### 4.5.2 CTM Call Forwarding Unconditional (CTM-CFU)

It shall be possible to activate the CTM-CFU supplementary service for all calls with the same forwarded-to number and for voice calls or data calls individually with different forwarded-to numbers.

### 4.5.3 CTM Call Forwarding on Busy (CTM-CFB)

It shall be possible to activate the CTM-CFB supplementary service for all calls with the same forwarded-to number and for voice calls or data calls individually with different forwarded-to numbers.

### 4.5.4 CTM Call Forwarding on No Reply (CTM-CFNR)

It shall be possible to activate the CTM-CFNR supplementary service for all calls with the same forwarded-to number and for voice calls or data calls individually with different forwarded-to numbers.

### 4.5.5 CTM Incoming Call Screening (CTM-ICS)

The screening criteria recorded in the CTM service profile may be different for voice and data calls.

### 4.5.6 CTM Outgoing Call Barring (CTM-OCB)

The barring criteria recorded in the CTM service profile may be different for voice and data calls.

---

## 5 Procedures

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.

### 5.1 Provision and withdrawal

The CTM CSD service shall be provided after prior arrangement with the service provider and in addition to the CTM Phase 2 service.

The CTM CSD service shall be withdrawn from a specific user upon request of the service subscriber or for service provider reasons.

## 5.2 Normal procedures

The procedures specified for EN 301 273 [4] are applicable for the CTM CSD service if not explicitly stated.

This clause contains the additional procedures for the support of cordless terminals. The procedures specified in this clause are applicable for the served user's cordless terminal.

### 5.2.1 Registration, deregistration and erasure

#### 5.2.1.1 Core requirements

Before the CTM CSD user receives access rights to the service, its cordless terminal has to be made known to the network and certain identities and other specific information shall be exchanged between network and terminal by means of on-air procedures. This process of obtaining access rights is called service registration. This procedure is used by the cordless terminal to gain access to the network to enable calls to be made and received.

Access rights for a cordless terminal shall be terminated by following a service de-registration procedure.

Service registration and de-registration are administrative procedures controlled by the service provider.

The network shall support procedures for service registration and de-registration. If service registration or de-registration is performed then this shall be valid throughout the area of service provision, i.e. a roaming CTM CSD user shall not be required to perform new service registrations while roaming between networks.

Service registration related data (i.e. identities and other specific information exchanged between network and terminal) could be changed after service registration by means of on air procedures. This procedure is initiated by the network operator.

#### 5.2.1.2 Optional requirements

Access rights may be terminated by means of on-air procedures.

The CTM CSD user may register and erase data in its service profile by means of procedures. The network may optionally give the CTM CSD user knowledge of some or all the data in its service profile. It is a service provider option to define the limit of restriction for the registration and erasure procedures.

The network shall respond with the requested information to the CTM CSD user if access to the service profile is allowed.

### 5.2.2 Activation and deactivation

#### 5.2.2.1 Core requirements

The CTM CSD service shall be activated when the user makes its location known to the network (location registration). Location registration shall cause the network to register the user at the current location area.

#### 5.2.2.2 Optional requirements

Not applicable.

## 5.2.3 Invocation and operation

### 5.2.3.1 Core requirements

#### Roaming

For each CTM CSD user, information shall be maintained relating to the location of the CTM CSD user within the network.

Location registration shall be invoked to register a CTM CSD user's current location area when the location area has changed, or at intervals of time specified by the network.

Location registration shall cause the network to register the CTM CSD user at the current location area. The location information at the previously visited location shall be deleted. When the procedures are completed, the location registration shall be confirmed to the CTM CSD user.

As a result of a location registration the network may assign a temporary identity to the CTM CSD user.

Location deregistration is invoked by the user (e.g. detach) in order to inform the network that it is no longer able to receive calls.

#### Authentication

At any time a CTM CSD user is registered in the network, authentication may be invoked. Authentication may be invoked by both the CTM CSD user and the network. Upon invocation by the network, the network shall send specific information (challenge) to the CTM CSD user and await a response. The response from the CTM CSD user to the network may either indicate success or failure or contain sufficient information for the network to determine the result. If the result is not the expected response, the network may take any action as appropriate. Upon invocation of authentication by the CTM CSD user, the CTM CSD user shall send specific information (challenge) to the network and awaits a response. The response from the network to the CTM CSD user may either indicate a success or a failure or contain sufficient information for the CTM CSD user to determine the result. If the result is not the expected response, the CTM CSD user may take any action as appropriate.

The scope of network authentication is limited to security aspects related to service registration/de-registration.

#### Encryption

In order to protect the signalling and CTM CSD user information from eavesdropping encryption on the air interface shall be invoked.

#### Outgoing call

If the CTM CSD user originates a call, the network shall verify that the CTM CSD user is registered in the network, and if so, set the originating number to the complete CTM number, if applicable. The network shall then make the CTM CSD user's service profile available in order to check the relevant CTM subscribed feature, with further call establishment following normal basic call procedures.

#### Incoming call

When analysis of a destination number for an incoming call indicates that the called user is the CTM CSD user, the network shall route the call to the CTM CSD user using the CTM CSD user's currently registered location.

#### Message waiting indication

The network shall be capable of providing the message waiting indication to the CTM user (e.g. number and type of messages contained in the CTM user's mailbox).

### 5.2.3.2 Optional requirements

The CTM CSD user may be given the possibility of modifying some of the data in the served user's CTM CSD service profile using data procedures. The CTM CSD user may not have access to all of the data in its service profile.

The definition of these data procedures is outside the scope of the present document.



## 5.2.4 Interrogation

### 5.2.4.1 Core requirements

Not applicable.

### 5.2.4.2 Optional requirements

The served user may interrogate data in its service profile by means of procedures. The CTM CSD user should have access to the data in its service profile. However, as a service provider option some data may be restricted for the interrogation procedure.

The network shall respond with the requested information to the CTM CSD user if access is allowed.

## 5.3 Exceptional procedures

### 5.3.1 Registration and erasure

#### 5.3.1.1 Core requirements

CTM CSD service registration shall be rejected under at least the following circumstances:

- authentication fails;
- terminal identity unknown.

#### 5.3.1.2 Optional requirements

Termination of access rights shall be rejected if the network authentication fails.

If the CTM CSD user requests to register or erase inaccessible service profile data the request shall be rejected.

### 5.3.2 Activation and deactivation

#### 5.3.2.1 Core requirements

Location registration shall be rejected under at least the following circumstances:

- user identity not known;
- user not permitted to register in the current location area;
- location registration temporarily not possible.

#### 5.3.2.2 Optional requirements

Not applicable.

### 5.3.3 Invocation and operation

#### 5.3.3.1 Core requirements

##### Roaming

Location registration shall be rejected under at least the following circumstances:

- user identity not known;
- user not permitted to register in the current location area;
- location registration temporarily not possible.

##### Authentication

If authentication fails for one of the following reasons, the network may withdraw or limit the service to the CTM CSD user. Possible reasons for failure are:

- incorrect authentication parameters;
- cordless terminal not accessible.

##### Encryption

If the encryption fails then the connection may proceed without protection from eavesdropping.

##### Outgoing call.

The network may reject outgoing call requests from a user with an appropriate failure indication for any of the following reasons:

- no originating number provided;
- the indicated user is not registered at the network;
- the CTM CSD user's service profile does not allow the requested call.

##### Incoming call

If the network is unable to complete an incoming call to a CTM CSD user, an indication that the call was unsuccessful shall be sent to the calling user. Normal basic call failure procedures shall be used.

##### Message waiting indication

If message waiting indication fails due to the unreachability of the CTM CSD user, the network shall attempt to send the message waiting indication as soon as the CTM CSD user becomes reachable again.

##### Outgoing call

The network may reject outgoing call requests from a user with an appropriate failure indication for any of the following reasons:

- no originating number provided;
- the indicated user is not registered at the network;
- the CTM CSD user's service profile does not allow the requested call.

##### Message waiting indication

Not applicable.

#### 5.3.3.2 Optional requirements

Not applicable.

## 5.3.4 Interrogation

### 5.3.4.1 Core requirements

Not applicable.

### 5.3.4.2 Optional requirements

If the CTM CSD user requests to interrogate inaccessible service profile data then the request shall be rejected.

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# 6 Interworking requirements

## 6.1 Interworking between public networks providing the CTM service

The interworking requirements for CTM Phase 2 applies for CTM CSD if not explicitly stated.

### 6.1.1 Public CTM CSD user roams into a visited public network

The roaming user will not get CTM CSD service if the CTM CSD service is not supported in the visited network.

## 6.2 Interworking with private networks

The interworking requirements for CTM Phase 2 apply for CTM CSD if not explicitly stated.

### 6.2.1 Public CTM CSD user roams into a PISN area

The roaming user will not get CTM CSD service if the CTM CSD service is not supported in the visited network.

### 6.2.2 Private CTM CSD user roams into a public CTM network area

The roaming user will not get CTM CSD service if the CTM CSD service is not supported in the visited network.

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# 7 Interaction with ISDN supplementary services

Interactions between the CTM service and ISDN supplementary services have not been considered, unless specific indication is given.

## 7.1 Use of supplementary services in combination with the Circuit Switched Data service

The specified interactions are according to the following principles:

- the ISDN supplementary services are subscribed to on an ISDN access;
- the CTM CSD user does not have any ISDN supplementary services;
- the CTM CSD user is able to subscribe to CTM supplementary services;
- "CTM calling user" means that the call in question originates from the CTM CSD user and terminates at the ISDN user;
- "CTM called user" means that the call in question originates from an ISDN user and terminates at the CTM CSD user.

### 7.1.1 Advice of charge services (AOC-S, AOC-D, AOC-E, AOC-R)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.2 Call hold (HOLD)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.3 Explicit call transfer (ECT)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.4 Calling line identification presentation (CLIP)

#### **CTM calling user:**

The called user shall not receive information pertaining to the CTM CSD user's registered location but the CTM number of the calling user. If the calling CTM CSD user has invoked the CTM calling line identification restriction supplementary service (CTM-CLIR), the calling user's CTM number shall not be presented to the called user unless the called user has an override capability.

#### **CTM called user:**

Presentation of the calling party's number to the called CTM CSD user is done by means of the CTM Calling Line Identification Presentation (CTM-CLIP) supplementary service.

### 7.1.5 Calling line identification restriction (CLIR)

#### **CTM calling user:**

Restriction of the presentation of the calling party's number of a CTM CSD user is done by means of the CTM Calling Line Identification Restriction (CTM-CLIR) supplementary service.

#### **CTM called user:**

If the calling line identification restriction supplementary service has been invoked, the calling user's number shall not be presented to the called CTM CSD user unless the called CTM CSD user has an override capability.

## 7.1.6 Connected line identification presentation (COLP)

### **CTM calling user:**

Presentation of the connected party's number to the calling CTM CSD user is done by means of the CTM Connected Line Identification Presentation (CTM-COLP) supplementary service.

### **CTM called user:**

The calling user shall not receive information pertaining to the CTM CSD user's registered location but the CTM number of the called user. If the called CTM CSD user has invoked the CTM connected line identification restriction supplementary service (CTM-COLR), the called user's CTM number shall not be presented to the calling user unless the calling user has an override capability.

## 7.1.7 Connected line identification restriction (COLR)

### **CTM calling user:**

If the connected line identification restriction supplementary service has been invoked by the called user, the called user's number shall not be presented to the calling CTM CSD user unless the calling CTM CSD user has an override capability.

### **CTM called user:**

Restriction of the presentation of the connected party's number of a CTM CSD user is done by means of the CTM Connected Line Identification Restriction (CTM-COLR) supplementary service.

## 7.1.8 Closed user group (CUG)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: Restrictions applied by the closed user group supplementary service may block CTM calls.

## 7.1.9 Completion of calls to busy subscriber (CCBS)

### **CTM called user:**

A request for the completion of calls to busy subscribers supplementary service on a call to a CTM number shall be rejected.

## 7.1.10 Completion of calls on no reply (CCNR)

### **CTM called user:**

A request for the completion of calls on no reply supplementary service on a call to a CTM number shall be rejected.

## 7.1.11 Conference call, add-on (CONF)

Not applicable to data calls.

## 7.1.12 Call Forwarding Unconditional (CFU)

### **CTM calling user:**

No impact, i.e. neither service shall affect the operation of the other service.

### **CTM called user:**

A call to a CTM number may be forwarded by means of the CTM Call Forwarding unconditional (CTM-CFU) supplementary service.

### 7.1.13 Call Forwarding On Busy (CFB)

**CTM calling user:**

No impact, i.e. neither service shall affect the operation of the other service.

**CTM called user:**

A call to a CTM number may be forwarded by means of the CTM Call Forwarding on Busy (CTM-CFB) supplementary service.

### 7.1.14 Call Forwarding on No Reply (CFNR)

**CTM calling user:**

No impact, i.e. neither service shall affect the operation of the other service.

**CTM called user:**

A call to a CTM number may be forwarded by means of the CTM Call Forwarding on not reachable (CTM-CFNR) supplementary service.

### 7.1.15 Selective Call Forwarding (SCF)

**CTM calling user:**

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.16 Malicious call identification (MCID)

Both the CTM number and the number of the CTM CSD user's currently registered location shall be registered.

### 7.1.17 Three party (3PTY)

3PTY does not apply to data calls.

### 7.1.18 User-to-user signalling (UUS)

Activation of the user-to-user-signalling supplementary service is not possible on calls to/from a CTM number.

### 7.1.19 Fixed outgoing call barring (OCB-F)

**CTM calling user:**

Restriction of outgoing calls is done by means of the CTM Outgoing Call Barring (CTM-OCB) supplementary service. When CTM and CTM CSD are supplied at the same subscription, the barring criteria may be different for voice and data calls.

**CTM called user:**

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.20 User controlled outgoing call barring (OCB-UC)

**CTM calling user:**

Restriction of outgoing calls is done by means of the CTM Outgoing Call Barring (CTM-OCB) supplementary service. When CTM and CTM CSD are supplied at the same subscription, the barring criteria may be different for voice and data calls.

**CTM called user:**

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.21 Message waiting indication (MWI)

Not applicable.

### 7.1.22 Meet-me conference (MMC)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.23 Direct dialling in (DDI)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.24 Multiple subscriber number (MSN)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.25 Sub addressing (SUB)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.26 Terminal portability (TP)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.27 Line hunting (LH)

No impact, i.e. neither service shall affect the operation of the other service.

### 7.1.28 Remote control of supplementary services (RC)

**CTM calling user:**

No impact, i.e. neither service shall affect the operation of the other service.

**CTM called user:**

Not applicable. However, CTM has its own access to the CTM service profile.

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## 8 Interaction with other services

### 8.1 Universal Personal Telecommunication

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the UPT service are independent of each other.

### 8.2 Universal access number (UAN)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the UAN service are independent of each other.

### 8.3 Charge card calling (CCC)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the CCC service are independent of each other.

### 8.4 Virtual card calling (VCC)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the VCC service are independent of each other.

### 8.5 Freephone (FPH)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the FPH service are independent of each other.

### 8.6 Premium rate (PRM)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the PRM service are independent of each other.

### 8.7 Televoting (VOT)

No impact, i.e. neither service shall affect the operation of the other service.

NOTE: The CTM service and the VOT service are independent of each other.



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## Bibliography

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

- ETSI ETS 300 111: "Integrated Services Digital Network (ISDN); Telephony 3,1 kHz teleservice; Service description".
- 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".
- 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".

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## History

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