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Foreword

This European Telecommunication Standard (ETS) has been produced by the Business TeleCommunications (BTC) Technical Committee of the European Telecommunications Standards Institute (ETSI).

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1 Scope

This European Telecommunications Standard (ETS) describes the stage 1 of the Cordless Terminal Handover Additional Network Feature (ANF-CTH) for a Private Integrated Services Network (PISN). Stage one is an overall service description from the user's point of view, but does not deal with the details of the human interface itself.

ANF-CTH is an additional network feature that enables a Cordless Terminal Mobility (CTM) user to maintain a call while moving between overlapping location areas belonging to the same visitor area.

Service specifications are produced in three stages according to the method described in ENV 41005 [1]. This ETS contains the stage 1 specification of the handover additional network feature.

The purpose of the stage 1 specification is to guide and constrain the work at stage 2 and stage 3. Where the text indicates the status of a requirement (i.e. as strict command or prohibition or as authorization leaving freedom as a capability or possibility) this shall be reflected in the text of the relevant stage 2 and stage 3 standards.

Conformance to this ETS is met by conforming to the stage 3 standards with the field of application appropriate to the equipment being implemented. Therefore no method of testing is provided for this ETS.

2 Normative references

This ETS incorporates, by dated or undated reference, provisions from other publications. These normative references are cited at appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to, or revisions of any of these publications apply to this ETS only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

[1] ENV 41005 (1989): "Method for the specification of basic and supplementary services of private telecommunication networks".

[2] ETS 300 171 (1992): "Private Telecommunication Network (PTN) - Specification, functional model and information flows - Control aspects of circuit mode basic services".

[3] ETS 300 415 (1996): "Private Integrated Services Networks (PISN) - Terms and Definitions".

[4] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and means to describe them".

3 Definitions and abbreviations

3.1 Definitions

For the purposes of this ETS, the following terms, defined in other documents, apply:

Additional Network Feature (ANF): See ETS 300 415 [3].

authentication: See ETS 300 415 [3].

call (basic call): See ETS 300 171 [2].

cordless terminal: See ETS 300 415 [3].

Cordless Terminal Mobility (CTM): See ETS 300 415 [3].

Supplementary service: See CCITT Recommendation I.210 [4].

visitor area: See ETS 300 415 [3].

NOTE: For the purposes of this ETS, the visitor area is confined to the coverage area of a single PINX.

For the purposes of this ETS, the following definitions apply:

CTM user: A PISN user whose calls are processed by the additional network feature ANF-CTH.

established call: A PISN call for which communication between the end users is possible.

location area: The coverage area in which a cordless terminal may receive and make calls as a result of a single location registration.

user: An entity which uses bearer services or teleservices of a PISN.

3.2 Abbreviations

For the purposes of this ETS, the following abbreviations apply:

ANF	Additional Network Feature
ANF-CTH	Additional Network Feature-Cordless Terminal mobility Handover
ANF-CTMI	Additional Network Feature-CTM Incoming call handling
ANF-CTMO	Additional Network Feature-CTM Outgoing call handling
ANF-PR	Additional Network Feature-Path Replacement
ANF-CTSP	Additional Network Feature-Cordless terminal mobility Transfer of Service Profile
CTM	Cordless Terminal Mobility
PISN	Private Integrated Services Network
PINX	Private Integrated Network eXchange
SS-CCBS	Supplementary Service-Call Completion Busy Subscriber
SS-CCNR	Supplementary Service-Call Completion No Reply
SS-CD	Supplementary Service-Call Diversion
SS-CFB	Supplementary Service-Call Forwarding Busy
SS-CFNR	Supplementary Service-Call Forwarding No Reply
SS-CFU	Supplementary Service-Call Forwarding Unconditional
SS-CI	Supplementary Service-Call Intrusion
SS-CLIP	Supplementary Service-Calling Line Identification Presentation
SS-CLIR	Supplementary Service-Calling Line Identification Restriction
SS-CNIP	Supplementary Service-Calling Name Identification Presentation
SS-CNIR	Supplementary Service-Calling Name Identification Restriction
SS-CO	Supplementary Service-Call Offer
SS-COLP	Supplementary Service-Connected Line Identification Presentation
SS-CONP	Supplementary Service-Connected Line Naming Presentation
SS-CT	Supplementary Service-Call Transfer
SS-CTAN	Supplementary Service-Cordless Terminal mobility Authentication of Network
SS-CTAT	Supplementary Service-Cordless Terminal mobility Authentication of Terminal
SS-CTLR	Supplementary Service-Cordless Terminal mobility Location Registration
SS-DND	Supplementary Service-Do Not Disturb
SS-DNDO	Supplementary Service-Do Not Disturb Override

4 Handover Additional Network Features (ANF-CTH)

4.1 Description

4.1.1 General description

ANF-CTH enables a CTM user involved in a call to continue with the call while moving between overlapping location areas within the same visited area.

NOTE: "Hysteresis" algorithms can be used to ensure that a CTM user receives stable service in a single location area when the signal quality in two or more overlapping location areas is similar. Such algorithms are beyond the scope of this ETS.

4.1.2 Qualifications on applicability to telecommunication services

This ANF is applicable to all basic services as defined in ETS 300 171 [2].

NOTE: During the handover, there might be a brief interruption to an established connection. This additional network feature should only be used in conjunction with basic services where such a temporary interruption is tolerable.

4.2 Procedures

4.2.1 Provision and withdrawal

Not applicable.

4.2.2 Normal procedures

4.2.2.1 Activation, deactivation, registration and interrogation

ANF-CTH shall be permanently activated.

Registration and interrogation are not applicable to this additional network feature.

4.2.2.2 Invocation and operation

Invocation of ANF-CTH shall be required only after a call has been established. ANF-CTH may be rejected if the call is in the establishment phase.

If speech is encrypted on air before the invocation of handover it should be maintained encrypted after handover. If this is not possible the handover may be rejected.

As an implementation option security parameters used on the old connection may be provided for use on the new connection.

On invocation, an attempt shall be made to establish a connection via the new location area to the CTM user. If a new connection is successfully established, it shall replace the previous connection which shall be released.

NOTE: Changeover from the old connection to the new connection should be performed in a manner which minimizes disruption to user information.

4.2.3 Exceptional procedures

4.2.3.1 Activation, deactivation, registration and interrogation

Not applicable.

4.2.3.2 Invocation and operation

If it is not possible to establish a new connection, the call shall continue to use the old connection and any resources reserved for the new connection shall be released.

4.3 Interactions with other supplementary services and ANFs

The following interactions shall apply.

4.3.1 Number identification services (SS-CLIP, SS-COLP, SS-CLIR)

No interaction.

4.3.2 Name identification services (SS-CNIP, SS-CONP, SS-CNIR)

No interaction.

4.3.3 Call diversion services (SS-CFU, SS-CFB, SS-CFNR, SS-CD)

No interaction.

4.3.4 Call Transfer (SS-CT)

No interaction.

4.3.5 Path replacement (ANF-PR)

No interaction.

4.3.6 Call completion services (SS-CCBS, SS-CCNR)

No interaction.

4.3.7 Do not disturb services (SS-DND, SS-DNDO)

No interaction.

4.3.8 Call Offer (SS-CO)

No interaction.

4.3.9 Call Intrusion (SS-CI)

No interaction.

4.3.10 Incoming CTM call handling (ANF-CTMI)

No interaction.

4.3.11 Outgoing CTM call handling (ANF-CTMO)

No interaction.

4.3.12 Authentication (SS-CTAT, SS-CTAN)

ANF-CTH may cause the PISN to invoke SS-CTAT. If authentication is performed and the CTM user's identity is not validated, the handover request may be rejected.

ANF-CTH may cause the invocation of the SS-CTAN. If authentication is performed and the network's identity is not validated, the handover request may be rejected.

4.3.13 CTM Location Handling (SS-CTLR)

It may be necessary to invoke SS-CTLR prior to completing a handover request in order to resolve a temporary identity or non-PISN number.

4.3.14 CTM Transfer of Service Profile (ANF-CTSP)

No interaction.

4.4 Inter working considerations

Not applicable.

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