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**ETSI**

European Telecommunications Standards Institute

**ETSI Secretariat**

**Postal address:** F-06921 Sophia Antipolis CEDEX - FRANCE

**Office address:** 650 Route des Lucioles - Sophia Antipolis - Valbonne - FRANCE

**X.400:** c=fr, a=atlas, p=etsi, s=secretariat - **Internet:** secretariat@etsi.fr

Tel.: +33 92 94 42 00 - Fax: +33 93 65 47 16

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## Foreword

This European Telecommunication Standard (ETS) has been produced by the Network Aspects (NA) Technical Committee of the European Telecommunications Standards Institute (ETSI), and was adopted having passed through the ETSI standards approval procedure.

In accordance with CCITT Recommendation I.130 [1], the following three level structure is used to describe the supplementary telecommunications services as provided by European public telecommunications operators under the pan-European Integrated Services Digital Network (ISDN):

- Stage 1: is an overall service description, from the 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.

This ETS details the stage 1 aspects (overall service description) for the Calling Line Identification Presentation (CLIP) supplementary service. The stage 2 and stage 3 aspects are detailed in ETS 300 091 (1992) and ETS 300 092 (1992), respectively.

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## 1 Scope

This standard defines the stage one of the Calling Line Identification Presentation (CLIP) supplementary service for the pan-European Integrated Services Digital Network (ISDN) as provided by European public telecommunications operators. Stage one is an overall service description from the user's point of view (see CCITT Recommendation I.130 [1]), but does not deal with the details of the human interface itself.

This standard defines the interworking requirements of private ISDNs with the public ISDN.

In addition this standard specifies the base functionality where the service is provided to the user via a private ISDN.

This standard does not specify the additional requirements where the service is provided to the user via a telecommunications network that is not an ISDN but does include interworking requirements of other networks with the public ISDN.

Interactions with supplementary services not listed in Clause 8 are outside the scope of this standard.

Charging principles are outside the scope of this standard.

The CLIP supplementary service provides the called party with the possibility of receiving identification of the calling party.

The CLIP supplementary service is applicable to all telecommunications services.

This standard is applicable to the stage two and stage three standards for the ISDN CLIP supplementary service. The terms "stage two" and "stage three" are also defined in CCITT Recommendation I.130 [1]. Where the text indicates the status of a requirement, (i.e. as strict command or prohibition, as authorisation leaving freedom or, as a capability or possibility), this shall be reflected in the text of the relevant stage two and stage three standards.

Furthermore, conformance to this standard is met by conforming to the stage three standards with the field of application appropriate to the equipment being implemented. Therefore no method of testing is provided for this standard.

## 2 Normative references

This standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the 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 standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

- [1] CCITT Recommendation I.130 (1988): "Method for the characterisation of telecommunication services supported by an ISDN and network capabilities of an ISDN".
- [2] CCITT Recommendation I.112 (1988): "Vocabulary of terms for ISDNs".
- [3] CCITT Recommendation E.164 (1988): "Numbering plan for the ISDN era".
- [4] CCITT Recommendation I.210 (1988): "Principles of telecommunication services supported by an ISDN and the means used to describe them".
- [5] ETS 300 062 (1991): "Integrated Services Digital Network (ISDN); Direct Dialling In (DDI) supplementary service; Service description".
- [6] ETS 300 050 (1991): "Integrated Services Digital Network (ISDN); Multiple Subscriber Number (MSN) supplementary service; Service description".

- [7] CCITT Recommendation Q.9 (1988): "Vocabulary of switching and signalling terms".
- [8] ETS 300 090 (1991): "Integrated Services Digital Network (ISDN); Calling Line Identification Restriction (CLIR) supplementary service; Service description".

### 3 Definitions

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

**Integrated Services Digital Network (ISDN):** see CCITT Recommendation I.112 [2], § 2.3, definition 308.

**Service; telecommunications service:** see CCITT Recommendation I.112 [2], § 2.2, definition 201.

**Supplementary service:** see CCITT Recommendation I.210 [4], § 2.4.

**ISDN number:** a number conforming to the numbering plan and structure specified in CCITT Recommendation E.164 [3].

**Subaddress:** see CCITT Recommendation E.164 [3], § 11.2.

**National (ISDN) number:** see CCITT Recommendation E.164 [3], § 3.2.

**International (ISDN) number:** see CCITT Recommendation E.164 [3], § 3.2.

**Partial number:** a part of an ISDN number which is significant for distinguishing between addressable entities beyond the network boundary. The partial number digits and the partial number length shall be governed by the requirements of the direct dialling in supplementary service and multiple subscriber number supplementary service (see ETS 300 062 [5] and ETS 300 050 [6]).

**Default number:** an ISDN number registered within the public ISDN following prior agreement between the calling party and the public ISDN.

**Screening:** a process whereby the network checks that a user provided information is acceptable to the network.

**Special arrangement:** an agreement between a customer and a public network operator whereby customer supplied calling party ISDN numbers are not screened by the public ISDN.

**Basic access:** see CCITT Recommendation Q.9 [7], § 1, definition 1551.

**Primary rate access:** see CCITT Recommendation Q.9 [7] § 1, definition 1552.

### 4 Symbols and abbreviations

CLIP	Calling Line Identification Presentation
CLIR	Calling Line Identification Restriction
ISDN	Integrated Services Digital Network

### 5 Description

The CLIP supplementary service shall apply to the basic access and to the primary rate access. The CLIP supplementary service provides the called party with the possibility of receiving identification of the calling party.

In addition to the ISDN number, the calling line identity may include a subaddress generated by the calling user and transparently transported by the network. The network cannot be responsible for the content of this subaddress.



The network shall deliver the calling line identity to the called party during call establishment, regardless of the terminal capability to handle the information.

## **6 Procedures**

### **6.1 Provision and withdrawal**

The CLIP supplementary service may be provided after prior arrangement with the service provider or be generally available.

The CLIP supplementary service shall be withdrawn at the customer's request or for administrative reasons.

A special arrangement may exist whereby calling party provided ISDN numbers are not screened by the public ISDN.

### **6.2 Normal procedures**

#### **6.2.1 Activation, deactivation and registration**

The CLIP supplementary service shall be activated and deactivated by the service provider. This supplementary service requires no registration.

#### **6.2.2 Erasure**

Not applicable.

#### **6.2.3 Invocation and operation**

The network shall automatically invoke the CLIP supplementary service in the call set-up phase.

The calling line identity supplied to the called party is made up of a number of information units:

- the national (ISDN) number;
- the country code and possible other indications only for international calls;
- optionally, subaddress information, if provided by the calling user.

The public ISDN shall treat such numbers in the same manner, including those provided under the special arrangement. This means that the public ISDN shall add a country code to a national ISDN number when a call crosses an international boundary.

##### **6.2.3.1 Calling user side**

A calling user can insert the calling line identity at call request.

In a full ISDN environment, the calling line identity shall include all the information necessary to unambiguously identify the calling line.

This information is generated:

- in the case of a terminal equipment directly connected to the public ISDN, normally by the public ISDN;
- in the case of a private ISDN connected to the public ISDN, normally by the private ISDN.

This information can be provided in the form of either a partial number or an ISDN number. Where a special arrangement exists this number shall be provided by the user as an E.164 national or international number.

The public ISDN shall screen the provided number. In the case of a special arrangement (e.g. private network situation), no screening shall take place in the public ISDN and the public ISDN shall mark that number as "user provided, not screened".

For successful screening, the number shall be marked as "user provided, verified and passed". Where the public ISDN screening is successful, the public ISDN shall complete this number to form a national ISDN number.

If the user does not provide any number or the screening performed by the public ISDN is not successful, the public ISDN shall enter a default number marked as "network provided".

NOTE: Provision of a partial number or an ISDN number will make sense only when the direct dialling in supplementary service or the multiple subscriber number supplementary service applies at the interface of the calling party. Where a special arrangement exists for not screening a calling party number, the provision of a national ISDN number or an international ISDN number is independent of the direct dialling in supplementary service or the multiple subscriber number supplementary service at that interface.

#### **6.2.3.2 Called user side**

When the CLIP supplementary service is invoked, the user shall receive the call with the calling line identity indicated above.

#### **6.2.4 Interrogation**

Not applicable.

### **6.3 Exceptional procedures**

#### **6.3.1 Activation, deactivation and registration**

Not applicable.

#### **6.3.2 Erasure**

Not applicable.

#### **6.3.3 Invocation and operation**

If the presentation of the ISDN number of the calling user is restricted due to the CLIR supplementary service (see ETS 300 090 [8]), then the called ISDN user shall receive an indication that the calling line identity is not available because of restriction.

In some interworking situations in which the connection is not completely supported by sufficient signalling capability, then the called ISDN user shall receive an indication that the calling line identity is not available.

For an international call in which the originating network does not provide the calling line identity or a calling line identity is unavailable for some other reason, then the called ISDN user shall receive an indication that the calling line identity is not available.

#### **6.3.4 Interrogation**

Not applicable.

## **7 Intercommunication considerations**

NOTE: In interworking situations when information is passed to other networks which do not support the requirements of this standard, information (e.g. the "user provided, not screened" number) could be discarded.

### **7.1 Interworking with non-ISDNs**

According to national network specific rules, the CLIP supplementary service need not be applicable if at least one of the two parties is not an ISDN subscriber.

### **7.2 Interworking with private ISDNs**

For a call which originated in the private ISDN, the private ISDN shall perform its own screening function on the calling user provided information, after which the resulting number shall be given to the public ISDN in the form of an E.164 national or international ISDN number. This number shall be screened by the public ISDN unless a special arrangement has been made (see subclause 6.2.3.1).

If the private ISDN does not provide any number, or if the screening performed by the public ISDN is unsuccessful, the public ISDN shall enter a default number and shall mark this number as "network provided".

Where the calling user is attached to a public ISDN and the called user is attached to a private ISDN, the public ISDN shall forward the appropriate calling party ISDN number to the private ISDN.

## **8 Interaction with other supplementary services**

### **8.1 Advice of charge services**

#### **8.1.1 Charging information at call set-up time**

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

#### **8.1.2 Charging information during the call**

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

#### **8.1.3 Charging information at the end of the call**

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

### **8.2 Call waiting**

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

### **8.3 Call hold**

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

### **8.4 Call transfer**

#### **8.4.1 Explicit call transfer**

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

#### **8.4.2 Single step call transfer**

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

#### **8.5 Number identification services**

##### **8.5.1 Calling line identification presentation**

Not applicable.

##### **8.5.2 Calling line identification restriction**

The CLIR supplementary service shall normally take precedence over the CLIP supplementary service.

The CLIP supplementary service can take precedence over the CLIR supplementary service when the called user has an override category. This is a national matter, the operation of which is outside the scope of this standard.

##### **8.5.3 Connected line identification presentation**

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

##### **8.5.4 Connected line identification restriction**

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

#### **8.6 Closed user group**

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

#### **8.7 Completion of calls to busy subscriber**

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

#### **8.8 Conference services**

##### **8.8.1 Conference call, add-on**

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

##### **8.8.2 Meet me conference**

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

#### **8.9 Direct dialling in**

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

NOTE: At the calling party's user-network interface, the network may be supplied with a calling party number as a result of the direct dialling in supplementary service applying either:

- at that interface, in which case a partial or full calling party number may be supplied and may be subject to screening by the ISDN; or

- at that interface or at another interface to which the same private ISDN is attached, in which case a full (international or national) ISDN number may be supplied, subject to the existence of a special arrangement for not screening.

## **8.10 Diversion services**

### **8.10.1 Call forwarding unconditional**

When a call has been forwarded and the forwarded-to user has been provided with the CLIP supplementary service, the forwarded-to user shall receive the number of the original calling user, if this calling user has not subscribed to or invoked the CLIR supplementary service.

### **8.10.2 Call forwarding busy**

When a call has been forwarded and the forwarded-to user has been provided with the CLIP supplementary service, the forwarded-to user shall receive the number of the original calling user, if this calling user has not subscribed to or invoked the CLIR supplementary service.

### **8.10.3 Call forwarding no reply**

When a call has been forwarded and the forwarded-to user has been provided with the CLIP supplementary service, the forwarded-to user shall receive the number of the original calling user, if this calling user has not subscribed to or invoked the CLIR supplementary service.

### **8.10.4 Call deflection**

When a call has been deflected and the deflected-to user has been provided with the CLIP supplementary service, the deflected-to user shall receive the number of the original calling user, if this calling user has not subscribed to or invoked the CLIR supplementary service.

## **8.11 Freephone**

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

## **8.12 Malicious call identification**

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

## **8.13 Multiple subscriber number**

If the multiple subscriber number supplementary service is applicable to the public network access interface of the calling party, then this party can provide the appropriate calling party multiple subscriber number digits or the full ISDN number on outgoing call requests. If no special arrangement has been made with the calling subscriber, then the network shall check the user provided calling party number information for validity on the corresponding access. If the check fails or if no calling number information is provided by the user, then the network shall apply the default number of the calling party's access.

If the multiple subscriber number supplementary service is applicable to the public network access interface of the called party, then neither supplementary service shall affect the operation of the other supplementary service.

## **8.14 Subaddressing**

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

NOTE: If the called user subscribes to the CLIP supplementary service, the calling party subaddress (if provided by the calling user) and the calling party number are presented to the called user.

**8.15 Terminal portability**

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

**8.16 Three party**

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

**8.17 User-user signalling**

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

## **Annex A (normative): Two calling party number delivery option**

### **A.1 Scope**

This annex describes additional features of the CLIP supplementary service that may be provided by some public ISDNs as a network option.

These additional features shall have no impact on and shall place no requirement whatsoever on the provision and operation of the CLIP supplementary service defined in this standard by the ISDNs that do not support these additional features, nor on the interchangeability of terminals.

### **A.2 Description**

Some public ISDNs shall deliver two numbers at the called subscriber's user-to-network interface. The network provided number shall be marked "network provided" and presented together with the user provided unscreened number marked "user provided, not screened".

Principles for interaction with other supplementary service are those of Clause 8 of this standard with the following characteristics:

- a) The CLIR supplementary service when subscribed-to/invoked at the calling side applies for both network provided and user provided numbers;
- b) When a call has been forwarded/diverted and the forwarded-to/diverted-to user has been provided with the CLIP supplementary service, that user shall receive the original user and network provided numbers if this calling user has not subscribed to/invoked the CLIR supplementary service.

**Annex B (informative): Terminal interchangeability between public and private ISDNs**

In private ISDNs, Private Numbering Plans are likely to be used, either as an alternative to, or as an addition to, the ISDN numbering plan according to CCITT Recommendation E.164 [3]. In order to connect terminals to private ISDNs, terminals need to support such number plans. To ensure terminal interchangeability, terminals need to support both kinds of numbering schemes.

Relevant material has been published by the European Computer Manufacturers' Association (ECMA), including a standard ECMA-155: "Addressing in private telecommunications networks".



**Annex C (informative): Bibliography**

ECMA-155 "Addressing in private telecommunications networks".

## History

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