

INTERNATIONAL STANDARD

ISO/IEC 14136

First edition
1995-06-01

Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Specification, functional model and information flows — Identification supplementary services

*Technologies de l'information — Télécommunications et échange
d'information entre systèmes — Réseau privé avec intégration de
services — Spécifications, modèle fonctionnel et flux d'informations —
Compléments de service d'identification*



Reference number
ISO/IEC 14136:1995

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Printed in Switzerland

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

International Standard ISO/IEC 14136 was prepared by European Computer Manufacturers Association (ECMA) (as Standard ECMA-148) and was adopted, under a special “fast-track procedure”, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.

Annex A of this International Standard is for information only.

Introduction

This International Standard is one of a series of International Standards defining services and signalling protocols applicable to Private Integrated Services Networks (PISNs). The series uses ISDN concepts as developed by ITU-T and conforms to the framework of International Standards for Open Systems Interconnection as defined by ISO/IEC.

This particular International Standard specifies the Identification supplementary services, which allow a user involved in a call to receive information concerning the identity (number and subaddress) of the other user in the call. In addition a user can prevent the presentation of his number to other users. Corresponding services are specified for public ISDNs in CCITT recommendations I.251 and Q.81 (1992), and annex A to this International Standard provides a comparison.

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Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Identification supplementary services

1 Scope

This International Standard specifies the following Identification supplementary services: Calling Line Identification Presentation (SS-CLIP), Connected Line Identification Presentation (SS-COLP) and Calling/Connected Line Identification Restriction (SS-CLIR), which are applicable to various basic services supported by Private Integrated Services Networks (PISN). Basic services are specified in ISO/IEC 11574.

Calling Line Identification Presentation (SS-CLIP) is a supplementary service which is offered to the called user and which provides the calling user's PISN number, and possibly a subaddress, to the called user.

Connected Line Identification Presentation (SS-COLP) is a supplementary service which is offered to the calling user and which provides the called (connected) user's PISN number, and possibly a subaddress, to the calling user.

Calling/connected Line Identification Restriction (SS-CLIR) is a supplementary service offered to a user to restrict presentation of that user's PISN number to another user.

Supplementary service specifications are produced in three stages, according to the method described in CCITT Recommendation I.130. This International Standard contains the stage 1 and stage 2 specifications of SS-CLIP, SS-COLP and SS-CLIR. The stage 1 specifications (clauses 6, 7 and 8) specify the supplementary services as seen by users of PISNs. The stage 2 specifications (clauses 9, 10 and 11) identify the functional entities involved in the supplementary services and the information flows between them.

2 Conformance

In order to conform to this International Standard, a stage 3 International Standard shall specify signalling protocols and equipment behaviour that are capable of being used in a PISN which supports the supplementary services specified in this International Standard. This means that, to claim conformance, a Stage 3 International Standard is required to be adequate for the support of those aspects of clauses 6, 7 and 8 (stage 1) and clauses 9, 10 and 11 (stage 2) which are relevant to the interface or equipment to which the Stage 3 International Standard applies.

3 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this International Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

ISO/IEC 11571:1994, *Information technology - Telecommunications and information exchange between systems - Numbering and sub-addressing in private integrated services networks*.

ISO/IEC 11574:1994, *Information technology - Telecommunications and information exchange between systems - Private integrated services network - Circuit-mode 64 kbit/s bearer services - Service description, functional capabilities and information flows*.

ISO/IEC 11579-1:1994, *Information technology - Telecommunications and information exchange between systems - Private integrated services network - Part 1: Reference configuration for PISN exchanges (PINX)*.

CCITT Rec. I.112:1988, *Vocabulary of terms for ISDNs (Blue Book)*.

CCITT Rec. I.130:1988, *Method for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN (Blue Book)*.

CCITT Rec. I.210:1988, *Principles of telecommunication services supported by an ISDN and the means to describe them (Blue Book)*.

CCITT Rec. Z.100:1988, *Specification and Description Language (Blue Book)*.

4 Definitions

For the purposes of this International Standard the following definitions apply.

4.1 External definitions

This International Standard uses the following terms defined in other documents:

- Basic service (CCITT Rec. I.210)
- PISN number (ISO/IEC 11571)
- Private Integrated Services Network (PISN) (ISO/IEC 11579-1)
- Private Integrated Services Network Exchange (PINX) (ISO/IEC 11579-1)
- Service (CCITT Rec. I.112)
- Signalling (CCITT Rec. I.112)
- Subaddress (ISO/IEC 11571)
- Supplementary Service (CCITT Rec. I.210)
- User (ISO/IEC 11574)

This International Standard refers to the following basic call functional entities (FEs) defined in ISO/IEC 11574:

- Call Control (CC)
- Call Control Agent (CCA)

This International Standard refers to the following basic call inter-FE relationships defined in ISO/IEC 11574:

- r1
- r2
- r3

This International Standard refers to the following basic call information flows defined in ISO/IEC 11574:

- Setup request/indication
- Setup response/confirmation.

4.2 Other definitions

4.2.1 calling user number: The PISN number of the calling user.

4.2.2 calling user subaddress: The subaddress supplied by the calling user for identification purposes.

4.2.3 connected user: The called user that answers a call.

4.2.4 connected user number: The PISN number of the connected user for identification purposes.

4.2.5 connected user subaddress: The subaddress supplied by the connected user.

5 List of acronyms

CC	Call Control (functional entity)
CCA	Call Control Agent (functional entity)
CGLI	Calling Line Identification
CN	Connected Number
COLI	Connected Line Identification

CS	Connected Subaddress
FE	Functional Entity
ISDN	Integrated Services Digital Network
ON	Originating Number
OS	Originating Subaddress
PINX	Private Integrated Services Network Exchange
PISN	Private Integrated Services Network
PSTN	Public Switched Telephone Network
RI	Restriction Indicator
SS-CLIP	Supplementary Service Calling Line Identification Presentation
SS-CLIR	Supplementary Service Calling/Connected Line Identification Restriction
SS-COLP	Supplementary Service Connected Line Identification Presentation
SDL	Specification and Description Language
TE	Terminal Equipment

6 SS-CLIP stage 1 specification

6.1 Description

6.1.1 General description

The PISN provides the called user with the PISN number of the calling user whenever an incoming call is presented. The number provided should be sufficient to enable the called user to return the call.

The calling user number may be accompanied by the calling user subaddress.

6.1.2 Qualifications on applicability to telecommunication services

SS-CLIP is applicable to all basic services defined in ISO/IEC 11574.

6.2 Procedure

6.2.1 Provision/withdrawal

SS-CLIP shall be generally available. There is no need for service profile control.

Some users may have a service profile which permits the override of calling line identification restriction.

6.2.2 Normal procedures

6.2.2.1 Activation/deactivation/registration/interrogation

SS-CLIP shall be permanently activated. No information needs to be registered with the PISN for this supplementary service, and therefore interrogation is not applicable.

6.2.2.2 Invocation and operation

The PISN shall provide the called user with the calling user number at the same time as indicating an incoming call.

The number presented shall be accompanied by indications of the numbering plan and type of number, and should be sufficient to unambiguously identify the calling user.

Where the number presented has been wholly or partially provided by the calling user, it shall be marked "user provided, verified and passed". Otherwise it shall be marked "network-provided".

If the calling user has also provided a calling user subaddress, it shall be delivered to the called user along with the calling user number.

In some cases where calling line identification restriction has been invoked, there may be certain categories of called user that have the service profile to override this restriction and have the calling user number presented, e.g., emergency

stations, PISN attendants. In these circumstances, presentation shall include an indication that restriction has been invoked.

6.2.3 Exceptional procedures

6.2.3.1 Activation/deactivation/registration/interrogation

Not applicable.

6.2.3.2 Invocation and operation

There are two exceptions when the calling user number is not presented to the called user:

- when calling line identification restriction has been invoked (see definition of Calling/Connected Line Identification Restriction) and the called user does not have the service profile to override this restriction; and
- when the calling user number is not available, e.g. due to interworking with the analogue telephone network (PSTN).

In such cases the called user shall receive an indication of the situation. In either case the called user can receive the calling user subaddress, if available.

6.3 Interaction with other supplementary services and ANFs

Interactions with other supplementary services and ANFs for which PISN International Standards were available at the time of publication of this International Standard are specified below.

6.3.1 Connected Line Identification Presentation (SS-COLP)

No interaction.

6.3.2 Calling/Connected Line Identification Restriction (SS-CLIR)

The calling user number shall not be presented if calling line identification restriction has been invoked at the calling user, unless the called user has the service profile to override this restriction.

6.4 Interworking considerations

6.4.1 Incoming calls

On calls incoming from another network, the calling user number, and calling user subaddress, if available, are obtained from the other network. In some circumstances the number may be marked "user provided, not screened".

Where no number is provided by the other network, the called user shall be given an indication "number unavailable due to interworking" or "presentation restricted", as appropriate.

6.4.2 Outgoing calls

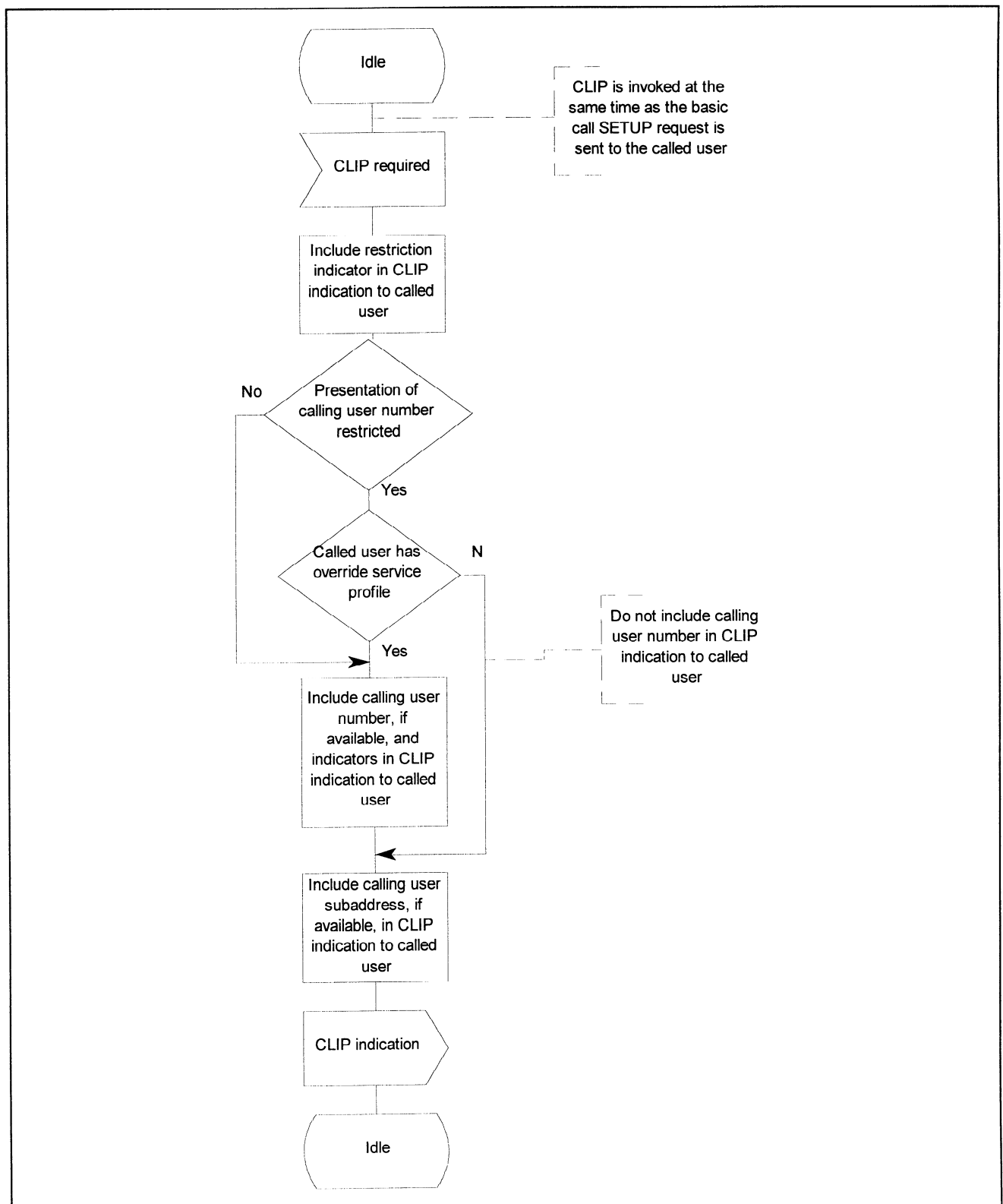
This PISN supplementary service does not apply to outgoing calls.

NOTE 1 — The possible provision of the calling user number and/or calling user subaddress to another network is part of the basic call, see ISO/IEC 11574.

6.5 Overall SDL

Figure 1 contains the dynamic description of SS-CLIP using the Specification and Description Language (SDL) defined in CCITT Rec. Z.100 (1988). The SDL process represents the behaviour of the PISN in providing SS-CLIP. The relationship of this process to the basic call process is indicated in the annotations.

Output signals to the right represent primitives to the called user. Input signals from the left represent internal stimuli.

**Figure 1 - SS-CLIP, overall SDL**