Contents

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 JTC1. Draft International Standards adopted by the joint technical committee are circulated to the national bodies for voting. Publication as an International Standard requires approval by at least 75% of the national bodies casting a vote.

Annex A forms an integral part of this International Standard. Annex B is for information only.

Introduction

This International Standard is one of a series of International Standards defining services and signaling 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 Stage 3, signalling protocols for use at the Q reference point in support of the following name identification supplementary services:

- Calling Name Identification Presentation (CNIP)

- Connected Name Identification Presentation (CONP)

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Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Inter-exchange signalling protocol — Name identification supplementary services

1   Scope

This International Standard specifies the signalling protocol for the support of name identification supplementary services at the Q reference point between Private Integrated Services Network Exchanges (PINXs) connected together within a Private Integrated Services Network (PISN). The name identification supplementary services are Calling Name Identification Presentation (SS-CNIP) and Connected Name Identification Presentation (SS-CONP).

Calling Name Identification Presentation (CNIP) is a supplementary service which is offered to the called user and which provides the name of the calling user (calling party name) to the called user,

Connected Name Identification Presentation (CONP) is a supplementary service which is offered to the calling user and which provides to the calling user the following:

- the name of the user who answers the call (connected party name);

- optionally the name of the alerting user (called party name);

- optionally the name of the called user who cannot be reached (busy party   name).

The supplementary service Calling/connected Name Identification Restriction (CNIR) has no impact on the signalling at Q reference point.

Provision of a user's name to the PISN is outside the scope of this International Standard.

The Q reference point is defined in ISO/IEC 11579-1

Service specifications are produced in three stages according to the method specified in CCITT Recommendation I.130. This International Standard contains the stage 3 specification for the Q reference point and satisfies the requirements identified by the stage 1 and stage 2 specifications in ISO/IEC 13864.

The signalling protocol for SS-CNIP and SS-CONP operates on top of the signalling protocol for basic circuit switched call control, as specified in ISO/IEC 11572, and uses certain aspects of the generic procedures for the control of supplementary services specified in ISO/IEC 11582.

This International Standard also specifies additional signalling protocol requirements for the support of interactions at Q reference point between name identification supplementary services and other supplementary services and ANFs.

This International Standard is applicable to PINXs which can be interconnected to form a PISN.

2   Conformance

In order to conform to this International Standard, a PINX shall satisfy the requirements identified in the Protocol Implementation Conformance Statement (PICS) proforma in annex A.

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

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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 11572:1994, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Circuit-mode bearer services - Inter-exchange signalling procedures and protocol.*

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).*

ISO/IEC 11582:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Generic functional protocol for the support of supplementary services - Inter-exchange signalling procedures and protocol.*

ISO/IEC 13864:1995, *Information technology - Telecommunications and information exchange between systems - Private Integrated Services Network - Specification, functional model and information flows - Name identification supplementary services.*

ISO 8859-1:1987, *Information processing - 8-bit single-byte coded graphic character sets - Part 1: Latin alphabet No. 1.*

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 telecommunications services supported by an ISDN and the means to describe them (Blue Book).*

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

CCITT Rec. T.61 (1988), *Character repertoire and coded character sets for the international teletex service (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:

- Application Protocol Data Unit (APDU)	(ISO/IEC 11582)
- Basic Service	(CCITT Rec. I.210)
- Call, Basic Call	(ISO/IEC 11582)
- Coordination Function	(ISO/IEC 11582)
- Incoming Gateway PINX	(ISO/IEC 11572)
- Integrated Services Digital Network	(CCITT Rec. I.112)
- Originating PINX	(ISO/IEC 11572)
- Outgoing Gateway PINX	(ISO/IEC 11572)
- Private Integrated Services Network (PISN)	(ISO/IEC 11579-1)
- Private Integrated Services Network Exchange (PINX)	(ISO/IEC 11579-1)
- Signalling	(CCITT Rec. I.112)
- Supplementary Service	(CCITT Rec. I.210)

-	Supplementary Service Control Entity	(ISO/IEC 11582)
-	Terminating PINX	(ISO/IEC 11572)
-	Transit PINX	(ISO/IEC 11572)
-	User	(ISO/IEC 11574)

4.2   **Name:** A string of maximum 50 characters which is used for the name identification of the PISN user of a call.

5   List of Acronyms

APDU	Application Protocol Data Unit
ASN.1	Abstract Syntax Notation One
ISDN	Integrated Services Digital Network
NFE	Network Facility Extension
PICS	Protocol Implementation Conformance Statement
PISN	Private Integrated Services Network
PINX	Private Integrated Services Network Exchange
SDL	Specification and Description Language
SSCE	Supplementary Service Control Entity
SS-CNIP	Calling Name Identification Presentation supplementary service
SS-CONP	Connected Name Identification Presentation supplementary service

6 SS-CNIP and SS-CONP Coding Requirements

6.1 Operations

The operations defined in ASN.1 in table 1 shall apply.

Table 1 - Operations in Support of SS-CNIP and SS-CONP

```
Name-Operations
                    { iso ( 1 )  standard ( 0)
                    pss1-name (13868) name
                    operations( 0)  }


DEFINITIONS  ::=

BEGIN

IMPORTS

        OPERATION, ERROR      FROM          Remote-Operation-Notation
                                     {
                                     joint-iso-ccitt( 2) remote-operations( 4)
                                      notation( 0)
                                     };
        Extension             FROM  Manufacturer-specific-service-
                                    extension-definition
                                    {
                                    iso standard
                                    pss1-generic-procedures (11582)
                                    msi-definition ( 0)
                                    };
        EXPORTS     Name, NameSet;

        CallingName      OPERATION
                         ARGUMENT CHOICE
                             {       Name, SEQUENCE {Name, CHOICE {
                                     [5] IMPLICIT Extension,
                                     [6] IMPLICIT SEQUENCE OF Extension } OPTIONAL }}

        CalledName       OPERATION
                         ARGUMENT CHOICE
                             {       Name, SEQUENCE {Name, CHOICE {
                                     [5] IMPLICIT Extension,
                                     [6] IMPLICIT SEQUENCE OF Extension } OPTIONAL }}

        ConnectedName    OPERATION
                         ARGUMENT CHOICE
                             {       Name, SEQUENCE {Name, CHOICE {
                                     [5] IMPLICIT Extension,
                                     [6] IMPLICIT SEQUENCE OF Extension } OPTIONAL }}

        BusyName         OPERATION
                         ARGUMENT CHOICE
                             {       Name, SEQUENCE {Name, CHOICE {
                                     [5] IMPLICIT Extension,
                                     [6] IMPLICIT SEQUENCE OF Extension } OPTIONAL }}

        Name             ::= CHOICE
                             {       NamePresentationAllowed,
                                     NamePresentationRestricted,
                                     NameNotAvailable }
```

Table 1 - Operations in Support of SS-CNIP and SS-CONP (cont'd)

```
NamePresentationAllowed
            ::= CHOICE
                    {       namePresentationAllowedSimple [0] IMPLICIT NameData,
                            namePresentationAllowedExtended [1] IMPLICIT NameSet }
            -- iso8859-1 is implied in namePresentationAllowedSimple.

NamePresentationRestricted
            ::= CHOICE
                    {       namePresentationRestrictedSimple [2] IMPLICIT NameData,
                            namePresentationRestrictedExtended [3] IMPLICIT NameSet,
                            namePresentationRestrictedNull [7]IMPLICIT NULL}
            -- iso8859-1 is implied in namePresentationRestrictedSimple.
            -- namePresentationRestrictedNull shall only be used in the
            -- case of interworking where the other network provides an
            -- indication that the name is restricted without the name itself.

NameNotAvailable
            ::= [4] IMPLICIT NULL

NameData              ::= OCTET STRING (SIZE (1..50))
                      -- The maximum allowed size of the name field is 50 octets.
                      -- The minimum required size of the name field is 1 octet.

NameSet        ::= SEQUENCE
                      {    nameData        NameData,
                           characterSet        CharacterSet OPTIONAL }
                      -- If characterSet is not included, iso8859-1 is implied.

CharacterSet        ::= INTEGER
                      {    unknown (0),
                           iso8859-1 (1),
                           t-61 (2) }  (0..255)
                      -- The character set "iso8859-1" is specified in International
                      -- Standard ISO 8859-1 [8].
                      -- The character set "t-61" is specified
                      --  in CCITT recommendation T.61.
                      -- Other character sets might be added in further editions of
                      -- this Standard.
callingName        CallingName ::=0
calledName         CalledName ::=1
connectedName      ConnectedName ::=2
busyName           BusyName ::=3


END                   -- of name operations
```

6.2 Information Elements

The operations defined in 6.1 for the support of SS-CNIP and SS-CONP shall be coded in the Facility information element in accordance with ISO/IEC 11582.

When conveying the invoke APDU of the operations defined in 6.1, the destinationEntity data element of the NFE shall contain value endPINX. The Interpretation APDU in the Facility information element shall be included and shall have the value "discardAnyUnrecognisedInvokeAPDU (0)".

6.3 Messages

Basic call messages ALERTING, CONNECT, DISCONNECT, FACILITY, RELEASE, RELEASE COMPLETE, PROGRESS and SETUP shall be used for conveying the Facility information element in support of SS-CNIP and SS-CONP as specified in ISO/IEC 11582.

7 Signalling Protocol for the Support of SS-CNIP

7.1 SS-CNIP Description

Calling Name Identification Presentation (SS-CNIP) is a supplementary service which is offered to the called user and which provides the name of the calling user to the called user.

The PISN provides the calling user's name and delivers the calling user's name to the called user whenever an incoming call is presented.

The presentation of the calling user's name may be restricted as specified in SS-CNIR. Some users may have a service profile which permits the override of calling name identification restriction.

This supplementary service is applicable to all basic services, defined in ISO/IEC 11574.

7.2 SS-CNIP Operational Requirements

7.2.1 Requirements on the Originating PINX and the Incoming Gateway PINX

Call establishment procedures, as specified in ISO/IEC 11572, shall apply. Additionally, these PINXs shall be responsible for obtaining the name information. An Originating PINX may limit, to less than 50, the number of characters that can be registered against a user.

Generic procedures for the call related control of supplementary services, as specified in ISO/IEC 11582 for a Source PINX, shall apply.

7.2.2 Requirements on the Terminating PINX and the Outgoing Gateway PINX

Call establishment procedures, as specified in ISO/IEC 11572, shall apply. Additionally, these PINXs shall be responsible for delivering the name information to the user or to the other network.

Generic procedures for the call related control of supplementary services, as specified in ISO/IEC 11582 for a Destination PINX, shall apply.

7.2.3 Requirements on a Transit PINX

Call establishment procedures, as specified in ISO/IEC 11572, shall apply.

Generic procedures for the call related control of supplementary services, as specified in ISO/IEC11582 for a Transit PINX, shall apply.

7.3 SS-CNIP State Definitions

No specific state definitions are required.