

AS/NZS 4134:1995

ISO/IEC 11571:1994

Australian/New Zealand Standard

**Information technology—
Telecommunications and
information exchange between
systems—Numbering and
sub-addressing in private
integrated services networks**

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Information technology— Telecommunications and information exchange between systems—Numbering and sub-addressing in private integrated services networks

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/16 on Private Telecommunications Networking to supersede AS 4134(Int)—1993.

This Standard is identical with, and has been reproduced from, ISO/IEC 11571:1994, *Information technology—Telecommunications and information exchange between systems—Numbering and sub-addressing in private integrated services networks*.

The objective of this Standard is to provide private integrated services network (PISN) designers and users with the specification of the requirements for the handling of network addresses and numbering in order to give PISN users a unique identification.

The Standard is one of a series of emerging ISO/IEC Standards applicable to private integrated services networking. The series uses the ISDN concepts as developed by CCITT and is also within the framework of Standards for Open Systems Interconnection (OSI) as defined by ISO/IEC JTC 1.

Statements expressed in mandatory terms in notes to tables, figures or clauses are deemed to be requirements of this Standard.

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The terms 'normative' and 'informative' have been used in this standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

For the purpose of this Joint Standard, the ISO/IEC text should be modified as follows:

- (a) *Terminology* The words 'this Australian/New Zealand Standard' should replace the words 'this International Standard' wherever they appear.
- (b) *References* The references to international Standards should be replaced by references, where appropriate, to the following Australian/New Zealand Standards.

*Reference to International Standard
or other Publication*

Australian/New Zealand Standard

ISO/IEC

8348 Information technology—
Open systems Interconnection—
Network Service Definition

11579 Information technology—
Telecommunications and information
exchange between systems—
Reference configuration for Private
Integrated Services Networking (PISN)
Exchanges

CCITT

E.160 Definitions relating to National and
International Numbering Plans

E.164 Numbering Plan for the ISDN Era

AS/NZS

2994 Information technology—
Open System Interconnection—
Network service definition

4136 Information technology—
Telecommunications and information
exchange between systems— Private
integrated services network
4136.1 Part 1: Reference configuration for
PISN exchanges (PINX)

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CCITT		AS/NZS
I.334	Principals relating ISDN Numbers/Addresses to the OSI Reference Model Network Layer Addresses	—
Q.931	ISDN User-Network Interface Layer 3 Specification for Basic Call Control	—

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Originated in Australia as AS 4134(Int)—1993.
Jointly revised and designated AS/NZS 4134:1995.

AUSTRALIAN/NEW ZEALAND STANDARD

Information technology — Telecommunications and information exchange between systems — Numbering and sub-addressing in private integrated services networks

1 Scope

This International Standard defines the requirements for the handling of network addresses for the identification of entities which use/provide telecommunications services offered by Private Integrated Services Networks (PISNs). This International Standard covers numbering, including the requirements for the support of a Private Numbering Plan, and the support of sub-addressing.

This International Standard is applicable to Private Integrated Services Network Exchanges (PINXs) and to terminals attached to the PINXs. Any use by a PINX of the "Support of Private Numbering Plans" supplementary service provided by a public ISDN is outside the scope of this International Standard.

Although this Standard does not explicitly describe its application to location independent (mobile) addressable entities, this application is not precluded.

In order to conform to this International Standard, a PINX shall meet the mandatory requirements of clauses 5, 6, 7, and 9 and for a terminal attached to a PINX it shall meet the mandatory requirements of clauses 8 and 10.

2 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 8348:1993, *Information technology - Open Systems Interconnection - Network Service Definition*.

ISO/IEC 11579-¹⁾, *Information technology - Telecommunications and information exchange between systems - Reference configuration for Private Integrated Services Networking (PISN) Exchanges*

CCITT Recommendation I.334, 1988. *Principals relating ISDN Numbers/Addresses to the OSI Reference Model Network Layer Addresses*

CCITT Recommendation E.160, 1988. *Definitions relating to National and International Numbering Plans*

CCITT Recommendation E.164, 1988. *Numbering Plan for the ISDN Era*.

CCITT Recommendation Q.931, 1988. *ISDN User-Network interface Layer 3 Specification For Basic Call Control*.

In addition to these normative references, informative references are listed in Annex A.

3 Definitions

The definitions in ISO/IEC 8348 and CCITT Recommendation E.160 shall apply in ascending order (i.e., in the case of conflict the definition in the publication nearest the end of the list shall apply)

3.1 Address : Formalized information used to indicate unambiguously an identifiable entity. Within the context of this International Standard, identifiable entities are those which use/provide telecommunication services.

3.1.1 Number : An address restricted to containing numerical values, as defined by a numbering plan.

3.1.1.1 PISN Number : A number in the domain covered by a PISN Numbering Plan.

¹⁾ To be Published

3.1.1.2 Partial Number : The subset of a number which is at least significant at a particular access of the network concerned for the distinguishing addressable entities beyond that access.

3.1.2 Sub-address : A part of an address beyond the addressing capability of a numbering plan.

3.2 Domain : The range of responsibility of a PISN Administrator for setting up numbering and/or addressing plans.

3.2.1 Sub-domain : A part of a domain where the responsibility for administering numbering and/or addressing plans is delegated to a subordinate PISN Administrator.

3.3 Explicit Numbering Plan : A numbering plan in which each number is accompanied by an indication as to which numbering plan applies.

3.4 Implicit Numbering Plan : A numbering plan in which no explicit indication is given to indicate which numbering plan applies. Instead the identification has to be determined from the number digits themselves.

NOTE - The relationship between Dialling Plan and an Implicit Numbering Plan is explained in annex E.

3.4.1 Prefix : A (set of) defined leading digit(s) indicating within the context of an implicit numbering plan the numbering plan or (sub)domain in which the subsequent digits form a significant number.

3.5 Native Numbering Plan : The numbering plan employed by a PISN Administrator in a given network in a way in which it unambiguously identifies the addressable entities of a PISN.

3.6 Foreign Numbering Plan : A numbering plan not native to a given PISN, however, supported by it in so far as that it is known to the given PISN.

3.7 Private Integrated Services Network Numbering Plan (PISN NP) : The generic designation for the numbering plan(s) chosen as native by a PISN Administrator for its particular PISN.

3.8 ISDN Numbering Plan (ISDN NP) : The numbering plan explicitly relating to global ISDN as defined by CCITT Recommendation E.164.

NOTE - The ISDN NP can fulfill the function of the PISN NP.

3.9 Private Numbering Plan (PNP) : The numbering plan explicitly relating to a particular private numbering domain, defined by the PISN Administrator of that domain.

NOTE - The PNP can fulfill the function of the PISN NP.

3.9.1 PNP Number : A number belonging to a PNP.

3.9.2 Region : The entire domain or a sub-domain of a PNP.

NOTE - A region does not necessarily correspond to a geographical area of a PISN.

3.9.3 Region Code (RC) : The leading digits of a PNP Number which identify a region.

NOTE - The RC may be omitted to yield a shortened form of a PNP Number for use internally to that region.

3.9.4 Regional Number (RN) : A particular form of a PNP Number which is unambiguous in the region concerned.

3.9.5 Complete Number (CN) : A number which is unambiguous in the entire PNP, i.e., which corresponds to the highest regional level employed in that PISN.

3.10 Unknown Numbering Plan : The numbering plan reflecting a dialling plan which is implicitly based on a particular private numbering domain as defined by the PISN Administrator.

3.11 Dialling Plan : A plan according to which a user can identify addressable entities by means of numbers and, if applicable, of prefixes indicating the (sub-)domain to which the addressable entity belongs.

3.12 Numbering Plan Identifier (NPI) : An indication of the numbering plan to which a number belongs; it is separate from the number itself.

3.13 Type of Number (TON) : An indication which distinguishes the various complete and shortened forms of a number; it is separate from the number itself.

3.14 Escape Code : A code defined by a given numbering plan to indicate that the number following is significant only in another defined numbering plan.

3.15 Selection Address/Number : An address or a number used to select an addressable entity to which a call is to be established.

NOTE - This term also applies to addresses in general, i.e., also to sub-addresses.

3.16 Identification Address/Number : An address or a number when used to present an addressable entity identity to another user.

NOTE - This term also applies to addresses in general, i.e., also to sub-addresses.

3.17 Multiple Subscriber Number (MSN) : A full or a partial number assigned to a user-to-network access for which an arrangement has been established in the context of the MSN supplementary service ("MSN arrangement").

3.18 PISN Administrator : The entity that has the function and responsibility of administering numbering and/or addressing plans for the PISN under their purview.