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AS/NZS 14475

Australian/New Zealand Standard™

**Information technology—
Telecommunications and
information exchange between
systems—Private integrated
services network—Architecture
and scenarios for private integrated
services networking**

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/16, Private Telecommunications Networking.

This Standard is identical with, and has been reproduced from, ISO/IEC TR 14475:1996, *Information technology—Telecommunications and information exchange between systems—Private Integrated Services Network—Architecture and Scenarios for Private Integrated Services Networking*.

The objective of this Standard is to provide private integrated services network (PISN) designers and users with the specification for inter-private exchange connections provided by intervening networks in order to provide a platform for inter-private exchange communication worldwide.

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 ITU-T and is also within the framework of Standards for Open Systems Interconnection (OSI) as defined by ISO/IEC JTC 1.

The number of this Standard is not reproduced on each page; its identity is shown only on the cover and title page.

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7776	Information technology— Telecommunications and information exchange between systems— High-level data link control procedures—Description of the X.25 LAPB-compatible DTE data link procedures	—	
11579	Information technology— Telecommunication and information exchange between systems— Private integrated service network	4136	Information technology— Telecommunications and information exchange between systems— Private integrated services network
11579-1	Part 1: Reference configuration for PISN Exchanges (PINX)	4136.1	Part 1: Reference configuration for PISN exchanges (PINX)
ITU-T			
Rec. I.112	Vocabulary of terms for ISDN (Blue Book)	—	
Rec. I.140	Attribute technique for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN (Blue Book)	—	

iii

ITU-T	AS/NZS
Rec. I.210 Principles of telecommunication services supported by an ISDN and means to describe them (Blue Book)	—
Rec. I.411 ISDN user-network interfaces— Reference configurations (Blue Book)	—

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CONTENTS

	Page
1 Scope	1
2 References	1
3 Definitions	2
3.1 External Definitions	2
3.2 Special Definitions	2
3.2.1 Scenario	2
3.2.2 Inter-PINX Connection (IPC)	2
3.2.3 Inter-PINX Link (IPL)	2
3.2.4 Channel	2
3.2.4.1 DQ-Channel	2
3.2.4.2 UQ-Channel	3
3.2.4.3 DC-Channel	3
3.2.4.4 IPL-Service-Channel (IS-Channel)	3
3.2.5 Signalling Functions	3
3.2.5.1 CSIG	3
3.2.5.2 QSIG	3
3.2.5.3 TSIG	3
3.2.5.4 ScenSIG	3
4 Symbols and Abbreviations	3
5 Introduction	4
5.1 PINX Reference Configuration	4
5.2 Additional Descriptions	5
5.2.1 Inter-PINX Connection (IPC)	5
5.2.2 Inter-PINX Link (IPL)	6
5.2.2.1 IPL Identity	6
5.2.2.2 Channel Identity	6
5.2.2.3 Channel Usage	6
5.2.2.4 Channel Characteristics	6
5.2.3 Relationship between IPLs and IPCs	6

	Page
6 Details of the Functional Groupings as Relevant for Scenario Handling	7
6.1 Mapping Unit (MP)	7
6.1.1 Physical Adaptation	7
6.1.2 Mapping Matrix	7
6.2 Inter-PINX Connection Control (ICC)	8
6.2.1 IPC Control	8
6.2.2 IPL Control	8
6.3 Scenario Management	9
6.3.1 Link Resource Management	9
6.3.2 Mapping Management	9
6.3.3 IPC Management	10
6.4 Complete PINX Model	10
7 Configuration Variants	10
7.1 PINX with Multiple IPLs	11
7.2 More than One Type of IVN	11
7.3 Different Spread of IPCs among the Interfaces at the Two PINXs	11
8 IPL Establishment using ScenSIG	12
8.1 Static Pre-Conditions	12
8.2 Establishment of a First IPC	13
8.3 IPL Initialization Process	13
8.4 Establishment of the DQ-Channel	13
8.4.1 DQ-Channel and ScenSIG on the First IPC	13
8.4.2 DQ-Channel and ScenSIG on another IPC	13
8.5 Establishment of UQ-Channels	14
8.6 Channel Mapping	14
9 IPL Establishment Procedures without using ScenSIG	14
9.1 Static Pre-Conditions	15
9.2 Establishment of a First IPC	15
9.3 Establishment of the DQ-Channel	15
9.4 Establishment of UQ-Channels	15
10. IPL Administration Procedures	15
11 Items for Future Standardization	15
11.1 Static Pre-Conditions	15
11.2 IVN Bearer Capabilities	16
11.3 Physical Adaptation	16
11.4 Mapping Matrix, including Bearer Conditioning	16
11.5 IPC Establishment	16
11.6 ScenSIG	16
Annex A: Attribute Values	17

AUSTRALIAN/NEW ZEALAND STANDARD

Information technology — Telecommunications and information exchange between systems — Private Integrated Services Network — Architecture and Scenarios for Private Integrated Services Networking

1 Scope

A Private Integrated Service Network (PISN) is a network comprising either one PINX or more than one PINX interconnected by Inter-PINX connections. This Technical Report is concerned with inter-PINX connections (IPC) that are provided by Intervening Networks (IVN), and the way in which these are handled by PINXs to provide a platform for inter-PINX communication. Different types of IVNs can be used to provide IPCs, in accordance with the scenarios indicated in [1]. These are Overlay Scenarios in that they enable the services of the PISN to operate transparently across an IVN.

Connected PINXs need to coordinate their use of IVNs, and appropriate standardization is needed to allow networks to be created employing PINXs and IVNs from multiple vendors. The following points need to be considered:

1. In general but depending on the type of IVN, procedures and signalling protocols between the PINXs are needed for the establishment, maintenance and disestablishment of IPCs. Appropriate standardization of these procedures and signalling protocols is necessary.
2. At the Q-reference point (a conceptual point within a PINX) channels and PISN call control signalling (QSIG) are defined independently of the type of IVN. However, at the C-reference point (where the PINX is connected to the IVN), the representation of the channels and of signalling is dependent on the type of IVN, and on how the PINXs use the IPCs. Appropriate standardization of these aspects at the C reference point is necessary.
3. In general the relationship between a channel at the Q-reference point and its representation at the C-reference point is not static, and procedures and signalling between the PINXs are needed for the coordination of these relationships. Appropriate standardization of these procedures and signalling is necessary.
4. Appropriate mechanisms need to be standardized for conveying inter-PINX signalling through the IVN. These will depend on the characteristics of the IPC used.

The aim of this Technical Report is to identify:

1. in addition to PISN call control signalling (QSIG), what needs to be standardized, in order to be able to inter-connect PINXs;
2. techniques, procedures, protocols etc. that are general in that they apply to the use of all (or at least very many) types of IVNs.

2 References

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

ISO/IEC 7776:1995, *Information technology — Telecommunications and information exchange between systems — High-level data link control procedures — Description of the X.25 LAPB-compatible DTE data link procedures*.

ITU-T Rec. I.140(1994), *Attribute technique for the characterization of telecommunication services supported by an ISDN and network capabilities of an ISDN (Blue Book)*.

ITU-T Rec. I.112(1993), *Vocabulary of terms for ISDN (Blue Book)*.

ITU-T Rec. I.210(1993), *Principles of telecommunication services supported by an ISDN and means to describe them (Blue Book)*.

ITU-T Rec. I.411(1993), *ISDN user-network interfaces — Reference configurations (Blue Book)*.

3 Definitions

For the purposes of this Technical Report the following definitions apply.

3.1 External Definitions

This Technical Report uses the following terms defined in other documents:

- Basic Service	(ITU-T Rec. I.210)
- Private Integrated Services Network (PISN)	(ISO/IEC 11579-1)
- Private Integrated Services Network Exchange (PINX)	(ISO/IEC 11579-1)
- Service	(ITU-T Rec. I.112)
- Signalling	(ITU-T Rec. I.112)
- Supplementary Service	(ITU-T Rec. I.210)
- Supplementary Service Control Entity	(ISO/IEC 11582)
- Terminating PINX	(ISO/IEC 11572)
- Transit PINX	(ISO/IEC 11572)
- User	(ISO/IEC 11574)

3.2 Special Definitions

3.2.1 Scenario

A particular type of IPC provided by a particular type of IVN.

3.2.2 Inter-PINX Connection (IPC)

A connection provided by an IVN between two C reference points used to transport inter-PINX information from the PISN control plane and/or the PISN user plane.

3.2.3 Inter-PINX Link (IPL)

A link between the Q reference points of two PINXs, comprising the totality of signalling transfer and user information transfer means.

3.2.4 Channel

A means of bi-directional transmission of user or signalling information between two points.

3.2.4.1 D_Q-Channel

A channel used to convey call control information between the Q reference points of two peer PINXs.

NOTE - Call control information can include information for the control of basic services, supplementary services, additional network features, etc.