AS/NZS 3621:2000
ISO/IEC 8208:1995

Australian/New Zealand Standard™

Information technology—
Data communications—
X.25 packet layer protocol for data terminal equipment

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT/1, Information Systems—Interconnection. It was approved on behalf of the Council of Standards Australia on 21 September 1999 and on behalf of the Council of Standards New Zealand on 20 September 1999. It was published on 17 January 2000.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT/1, Information Systems—Interconnection to supersede AS/NZS 3621:1994. This Standard is identical with and has been reproduced from ISO/IEC 8208:1995, *Information technology—Data communications—X.25 Packet Layer Protocol for Data Terminal Equipment*.

The objective of this Standard is to provide network designers with a specification for the procedures, formats and facilities at the packet layer for data terminal equipment operating in conformance with ITU-T Recommendation X.25.

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

As this Standard is reproduced from an International Standard, the following applies:

(a) Its number does not appear on each page of text and its identity is shown only on the cover and title page.

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References to International Standards should be replaced by references to equivalent Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC		AS/NZS	
646	Information technology—ISO 7-bit coded character set for information interchange	1776	Information processing—7-bit coded character set for information interchange
7498	Information technology—Open Systems Interconnection—Basic Reference Model	2777	Information processing systems—Open Systems Interconnection—Basic reference model
7498-1	Part 1: The Basic Model	2777.1	Part 1: The basic model
8348	Information technology—Open Systems Interconnection—Network Service Definition	2994	Information technology—Open Systems Interconnection—Network service definition
8878	Information technology—Telecommunications and information exchange between systems—Use of X.25 to provide the OSI Connection-mode Network Service	3604	Information technology—Telecommunications and information exchange between systems—Use of X.25 to provide the OSI connection-mode network service
8886	Information technology—Telecommunications and information exchange between systems—Data link service definition for Open Systems Interconnection	3701	Information technology—Telecommunications and information exchange between systems—Data link service definition for Open Systems Interconnection
9574	Information technology—Provision of the OSI connection-mode network service by packet-mode terminal equipment connected to an integrated services digital network (ISDN)	4099	Information technology—Telecommunications and information exchange between systems—Provision of the OSI connection-mode network service by packet mode terminal equipment connected to an integrated services digital network

ISO/IEC		AS/NZS	
9646	Information technology—Open Systems Interconnection—Conformance testing methodology and framework	4103	Information technology—Open Systems Interconnection—Conformance testing methodology and framework
9646-1	Part 1: General concepts	4103.1	Part 1: General concepts
9646-7	Part 7: Implementation Conformance Statements	—	
10588	Information technology—Use of X.25 Packet Layer Protocol in conjunction withX.21/X.21bis to provide the OSI connection-mode Network Service	4232	Information technology—Use of X.25 packet layer protocol in conjunction withX.21/X.21bis to provide the OSI connection-mode network service
10732	Information technology—Use of X.25 Packet Layer Protocol to provide the OSI connection-mode Network Service over the telephone network	4224	Information technology—Use of X.25 packet layer protocol to provide the OSI connection-mode network service over the telephone network
11577	Information technology—Open Systems Interconnection—Network layer security protocol	4471	Information technology—Open Systems Interconnection—Network layer security protocol
CCITT			
Rec. T.50	International Reference Alphabet (IRA)	—	
Rec. X.212	Data link service definition for open systems interconnection for CCITT applications	—	
ITU-T			
Rec. X.223	Use of X.25 to provide the OSI connection-mode network service for ITU-T applications		
Rec. X.290	OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications—General concepts	—	
Rec. X.296	OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications—Implementation Conformance Statements	—	

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AUSTRALIAN/NEW ZEALAND STANDARD

Information technology — Data communications — X.25 Packet Layer Protocol for Data Terminal Equipment

1 Scope

This International Standard specifies the procedures, formats and facilities at the Packet Layer for Data Terminal Equipment (DTE) operating in conformance with ITU-T Recommendation X.25. Both Virtual Call and Permanent Virtual Circuit modes of operation are covered.

The Packet Layer protocol specified herein can be used in both Open Systems Interconnection (OSI) and non-OSI environments. When used within the context of OSI, the Packet Layer protocol is encompassed in the Network Layer of the OSI Reference Model, ITU-T Rec. X.200 | ISO/IEC 7498-1.

This International Standard covers DTE operation at the Packet Layer when accessing a public or private packet-switched network conforming to ITU-T Recommendation X.25 by means of a dedicated path or a circuit-switched connection. It also covers the additional Packet Layer procedures necessary for two DTEs conforming to this International Standard to communicate directly (i.e., without an intervening packet-switched network) over a dedicated path, a circuit-switched connection, or a local area network (LAN).

This International Standard also covers private networks that use ITU-T Recommendation X.25 to connect to packet-switched public data networks and that may also offer an X.25 interface to a DTE (see annex A).

To evaluate conformance of a particular implementation, it is necessary to have a statement of which capabilities and options have been implemented. Such a statement is called a Protocol Implementation Conformance Statement (PICS), as defined in ITU-T Rec. X.290 | ISO/IEC 9646-1. Annex B provides the PICS proforma in accordance with the relevant guidance given in ITU-T Rec. X.296 | ISO/IEC 9646-7.

The first edition of this International Standard was based on the 1984 CCITT Red Book text of Recommendation X.25. It also contained the necessary provisions for compatibility with the earlier 1980 CCITT Yellow Book text of Recommendation X.25. The second edition was based on the 1988 CCITT Blue Book text of Recommendation X.25. This third edition is based upon the 1993 version of X.25. Retained within this third edition are the necessary provisions for compatibility with the 1988, 1984 and 1980 versions of X.25. The differences between the first, second and third editions of this International Standard are summarized in annex C.

It should be noted that this International Standard and ITU-T Recommendation X.25 as it applies to DTEs are different in scope. This International Standard contains the specifications that ITU-T Recommendation X.25 places on DTEs. In addition, this International Standard contains added specifications to facilitate interworking between DTEs and to cover direct DTE-to-DTE operation. This broader scope has to be recognized in the application of this International Standard.

2 Normative references

The following standards and recommendations 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 and recommendations 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 and recommendations listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a register of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

ITU-T Recommendation X.200 (1994) | ISO/IEC 7498-1 : 1994, *Information technology — Open Systems Interconnection — Basic Reference Model: The Basic Model*

CCITT Recommendation X.213 (1992) | ISO/IEC 8348 : 1993, *Information technology — Open Systems Interconnection — Network Service Definition*

ITU-T Recommendation X.273 (1994) | ISO/IEC 11577 : 1995, *Information technology — Open Systems Interconnection — Network layer security protocol*

CCITT Recommendation X.612 (1992) | ISO/IEC 9574 : 1992, *Information technology — Provision of the OSI connection-mode network service by packet-mode terminal equipment connected to an integrated services digital network (ISDN)*

CCITT Recommendation X.613 (1992) | ISO/IEC 10588 : 1993, *Information technology — Use of X.25 Packet Layer Protocol in conjunction with X.21/X.21bis to provide the OSI connection-mode Network Service*

CCITT Recommendation X.614 (1992) | ISO/IEC 10732 : 1993, *Information technology — Use of X.25 Packet Layer Protocol to provide the OSI connection-mode Network Service over the telephone network*