INTERNATIONAL STANDARD

ISO/IEC 8208

Fourth edition
2000-11-01

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

Technologies de l'information — Communication de données — Protocole X.25 de couche paquet pour terminal de données

Reference number
ISO/IEC 8208:2000(E)

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.ch
Web www.iso.ch

Printed in Switzerland

CONTENTS

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

International Standard ISO/IEC 8208 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This fourth edition cancels and replaces the third edition (ISO/IEC 8208:1995), which has been technically revised.

Annexes A and B form a normative part of this International Standard. Annexes C and D are for information only.

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. The third edition is based upon the 1993 version of X.25. This fourth edition is based on the 1996 version of X.25. Retained within this fourth edition are the necessary provisions for compatibility with the 1993, 1988, 1984 and 1980 versions of X.25. The differences between various 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 normative documents contain provisions which, through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC 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*

ITU-T Recommendation X.212 (1995) | ISO/IEC 8886 : 1996, *Information technology — Open Systems Interconnection — Data link service definition*

ITU-T Recommendation X.213 (1995) | ISO/IEC 8348 : 1996, *Information technology — Open Systems Interconnection — Network service definition*

ITU-T Recommendation X.263 (1998) | ISO/IEC TR 9577:1999, *Information technology — Protocol identification in the network layer*

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*

2.2 Paired Recommendations | International Standards equivalent in technical content

– CCITT Recommendation T.50 (1992), *International Reference Alphabet (IRA)*

  ISO/IEC 646 : 1991, *Information technology — ISO 7-bit coded character set for information interchange*

– ITU-T Recommendation X.223 (1993), *Use of X.25 to provide the OSI connection-mode network service for ITU-T applications*

  ISO/IEC 8878 : 1992, *Information technology — Telecommunications and information exchange between systems — Use of X.25 to provide the OSI Connection-mode Network Service*

– ITU-T Recommendation X.290 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications — General concepts*

  ISO/IEC 9646-1 : 1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts*

– ITU-T Recommendation X.296 (1995), *OSI conformance testing methodology and framework for protocol Recommendations for ITU-T applications — Implementation Conformance Statements*

  ISO/IEC 9646-7 : 1995, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 7: Implementation Conformance Statements*

2.3 Additional references

CCITT Recommendation D.12 (1988), *Measurement unit for charging by volume in the international packet-switched data communication service*

ITU-T Recommendation X.2 (1996), *International data transmission services and optional user facilities in public data networks and ISDNs*

ITU-T Recommendation X.25 (1996), *Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and connected to public data networks by dedicated circuit*

ITU-T Recommendation X.29 (1997), *Procedures for the exchange of control information and user data between a packet assembly/disassembly (PAD) facility and a packet mode DTE or another PAD*

ITU-T Recommendation X.31 (1995), *Support of packet mode terminal equipment by an ISDN*

ITU-T Recommendation X.32 (1996), *Interface between data terminal equipment (DTE) and data circuit-terminating equipment (DCE) for terminals operating in the packet mode and accessing a packet switched public data network through a public switched telephone network or an integrated services digital network or a circuit switched public data network*

ITU-T Recommendation X.75 (1996), *Packet-switched signalling system between public networks providing data transmission services*

ITU-T Recommendation X.96 (1993), *Call progress signals in public data networks*

ITU-T Recommendation X.121 (1996), *International numbering plan for public data networks*

ITU-T Recommendation X.301 (1996), *Description of the general arrangements for call control within a subnetwork and between subnetworks for the provision of data transmission services*

CCITT Recommendation X.610 (1992), *Provision and support of the OSI connection-mode network service*

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*

ISO/IEC 8881 : 1989, *Information processing systems — Data communications — Use of the X.25 packet level protocol in local area networks*

ISO/IEC TR 10029 : 1989, *Information technology — Telecommunications and information exchange between systems — Operation of an X.25 interworking unit*

ISO/IEC 10039 : 1991, *Information technology — Open Systems Interconnection — Local area networks — Medium Access Control (MAC) service defintion*

ISO/IEC TR 13532 : 1995, *Information technology — Telecommunications and information exchange between systems — Protocol combinations to provide and support the OSI network service*

RFC 1166, *Internet numbers*, July 1990.