INTERNATIONAL STANDARD

ISO/IEC 8882-3

Third edition
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Information technology — Telecommunications and information exchange between systems — X.25 DTE conformance testing —

Part 3: Packet layer conformance test suite

Technologies de l'information — Télécommunications et échange d'information entre systèmes — Test de conformité X.25 DTE —

Partie 3: Suite d'essais de conformité pour la couche paquet

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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 part of ISO/IEC 8882-3 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 8882-3 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 6, *Telecommunications and information exchange between systems*.

This third edition cancels and replaces the second edition (ISO/IEC 8882-3:1995), which has been technically revised.

ISO/IEC 8882 consists of the following parts, under the general title *Information technology — Telecommunications and information exchange between systems — X.25 DTE conformance testing*:

— *Part 1: General principles*

— *Part 2: Data link layer conformance test suite*

— *Part 3: Packet layer conformance test suite*

Annex A forms a normative part of this part of ISO/IEC 8882.

Introduction

This part of ISO/IEC 8882 specifies a set of tests to evaluate Data Terminal Equipment (DTE) conformance to International Standards ISO 7776:1986, ISO 7776:1995 (X.25 LAPB) and/or ISO 8208:1987, ISO 8208:1990, ISO 8208:1995 (X.25 Packet Layer). ISO 7776 (1986,1995) and ISO 8208 (1987,1990, 1995) allow for a DTE to interface with a Data Circuit-Terminating Equipment (DCE) conforming to CCITT respectively ITU-T Recommendation X.25 or to another DTE conforming to ISO 7776 (1986,1995) and/or ISO 8208 (1987,1990, 1995) also allows for connection to Local Area Networks.

CCITT respectively ITU-T Recommendation X.25 1980, X.25 1984, X.25 1988 and X.25 1993 are written from the perspective of a DCE and therefore do not explicitly specify the DTE operation. However, recommended operation of DTEs is included by implication because of the need to communicate with X.25 DCEs. Tests within this part of ISO/IEC 8882 pertaining to X.25 1980, X.25 1984, X.25 1988 and X.25 1993 are based on the DTE operational characteristics implied by CCITT X.25 respectively ITU-T X.25.

This part of ISO/IEC 8882 presents the packet layer aspects for evaluating conformance to ISO 8208 (1987, 1990, 1995) and follows the procedures and guidelines defined in ISO/IEC 9646.

Where it is claimed that X.25 is used to provide the OSI Network Layer Service, the conformance tests as defined in this part of ISO/IEC 8882 can be used to verify the implementation of the necessary protocol elements.

The test suite is presented in an abstract form by means of the test case notation TTCN, as defined in ISO/IEC 9646-3. This is an abstract set of tests. Not every test applies to every public network or every type of DTE.

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1 Scope

This part of ISO/IEC 8882 specifies a set of abstract tests for verifying that the implementation of X.25 protocols for use by Data Terminal Equipment (DTE), conforms to the requirements of International Standards that specify those protocols.

Testing of a DCE is not subject of this test suite. Testing of a DTE in DCE mode is covered in test group 28 of this test suite

a) specifies a PIXIT proforma;

b) describes the relationship of the PICS to the test suite,

c) describes the relationship of the PIXIT to the test suite,

d) specifies a set of abstract tests using TTCN Graphical notation.

This part of ISO/IEC 8882 defines the testing of a DTE operating at the packet layer designed to access a public or private packet-switched network conforming to CCITT respectively ITU-T Recommendation X.25 (1980, 1984, 1988, 1993) or another DTE conforming to ISO 8208. The specification of test cases in executable/machine processable TTCN is outside the scope of this part of ISO/IEC 8882.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 8882. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this part of ISO/IEC 8882 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 7498-1:1994, *Information technology — Open Systems Interconnection — Basic Reference Model: The Basic Model.* (See also ITU-T Recommendation X.200)

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 8208:1987, *Information processing systems — Data communication — X.25 Packet Layer Protocol for Data Terminal Equipment.*

ISO/IEC 8208:1990, *Information technology — Data communication — X.25 Packet Layer Protocol for Data Terminal Equipment.*

ISO/IEC 8208:1995, *Information technology — Data communication — X.25 Packet Layer Protocol for Data Terminal Equipment.*

ISO/IEC 8824:1990, *Information technology — Open Systems Interconnection — Specification of Abstract Syntax Notation One (ASN.1).*

ISO/IEC 8882-1:1996, *Information technology — Telecommunications and information exchange between systems — X.25 DTE conformance testing — Part 1: General principles.*

ISO/IEC 8886:1992, *Information technology — Telecommunications and information exchange between systems — Data link service definition for Open Systems Interconnection.*

ISO/IEC 9646-1:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts.* (See also ITU-T Recommendation X.290)

ISO/IEC 9646-2:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 2: Abstract Test suite Specification*. (See also ITU-T Recommendation X.291)

ISO/IEC 9646-3:1998, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 3: The Tree and Tabular Combined Notation (TTCN)*.

ISO/IEC 9646-4:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 4: Test realization*. (See also ITU-T Recommendation X.293)

ISO/IEC 9646-5:1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 5: Requirements on test laboratories and clients for the conformance assessment process*. (See also ITU-T Recommendation X.294)

CCITT Recommendation X.25 (1980), X.25 (1984), and X.25 (1988), *Interface between Data Terminating Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode on the public data networks*.

ITU-T Recommendation X.25 (1993), *Interface between Data Terminating Equipment (DTE) and Data Circuit-terminating Equipment (DCE) for terminals operating in the packet mode and connected to the public data networks by dedicated circuit*.