INTERNATIONAL STANDARD

ISO/IEC 8882-1

Second edition
1996-09-15

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

Part 1: General principles

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

Partie 1: Principes généraux

Reference number
ISO/IEC 8882-1:1996(E)

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 mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

In the field of information technology, ISO and IEC have established a joint technical committee ISO/IEC JTC 1, *Information technology*. 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.

International Standard ISO/IEC 8882-1 was prepared by ISO/IEC JTC 1, Subcommittee 6, *Telecommunications and information exchange between systems*.

This second edition cancels and replaces the first edition (ISO/IEC 8882-1:1993) of which it constitutes a technical revision.

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*

Introduction

ISO/IEC 8882 specifies a set of tests to evaluate Data Terminal Equipment (DTE) conformance to International Standards ISO/IEC 7776 or ISO/IEC 8208, or both. ISO/IEC 7776 and ISO/IEC 8208 allow for a DTE to interface with a Data Circuit-Terminating Equipment (DCE) conforming to CCITT Recommendation X.25 (1980, 1984, 1988) or to another DTE conforming to ISO/IEC 7776 or ISO/IEC 8208 or both. The implementations of ISO/IEC 7776 and ISO/IEC 8208 are tested independently.

CCITT Recommendations X.25(1980), X.25(1984) and X.25(1988) 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 ISO/IEC 8882–2 and ISO/IEC 8882–3 pertaining to X.25 (1980, 1984) are based on the DTE operational characteristics implied by CCITT X.25. There are no test cases within ISO/IEC 8882–2 and ISO/IEC 8882–3 for the extra functions and facilities added in X.25(1988).

This part of ISO/IEC 8882 specifies the framework in which the other parts of ISO/IEC 8882 may be understood and the principles to be applied. The notation used in ISO/IEC 8882–2 and ISO/IEC 8882–3 is TTCN as defined in ISO/IEC 9646–3.

ISO/IEC 8882–2 presents the Data Link Layer aspects for evaluating conformance to ISO/IEC 7776 while ISO/IEC 8882–3 presents the Packet Layer aspects for evaluating conformance to ISO/IEC 8208

The conformance tests are designed for use by

— test evaluators (responsible for analysing results and determining whether conformance has been achieved);

— test suite designers or implementors (for determining what tests are required and what results can and should be anticipated by the test device); and

— users implementing ISO/IEC 7776 or ISO/IEC 8208 or DTEs interfacing to DCEs that implement CCITT X.25 (1980, 1984 or 1988) (for determining the functionality required of their implementations to be considered in conformance).

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

Part 1:
General principles

1 Scope

ISO/IEC 8882 defines the testing of a DTE operating at the Data Link Layer and at the Packet Layer when accessing, by means of a dedicated path connection, switched or permanent, a public or private packet-switched network conforming to CCITT Recommendation X.25 or another DTE conforming to ISO/IEC 7776 and ISO/IEC 8208.

The tests will test the conformance of an implementation by observing its external behaviour. The conformance tests will not test the DTE performance characteristics, the diagnostic and maintenance functions, the correctness of the protocol itself, or DTE internal implementation, or the full capabilities as stated in the PICS.

This part of ISO/IEC 8882

- provides a general introduction;
- refers to those applicable International Standards;
- defines terms applicable to X.25–DTE conformance testing;
- states the test case derivation and description; and
- states the test methodology.

ISO/IEC 8882–1 contains no statement of conformance. Specific statements of conformance are given in ISO/IEC 8882–2 and ISO/IEC 8882–3.

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.*

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 : 1995, *Information technology — Data communications — X.25 Packet Layer Protocol for Data Terminal Equipment.*

NOTE — ISO/IEC 8208 : 1995 supersedes ISO/IEC 8208 : 1990. However, when this part of ISO/IEC 8882 was under development, the previous edition was valid and this part of ISO/IEC 8882 is therefore based on that edition, which is listed below.

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

ISO/IEC 8882–2 : 1995, *Information technology — Telecommunications and information exchange between systems — X.25 DTE conformance testing — Part 2: Data link layer conformance test suite.*

ISO/IEC 8882–3 : 1995, *Information technology — Telecommunications and information exchange between systems — X.25 DTE conformance testing — Part 3: Packet layer conformance test suite.*

ISO/IEC 9646–1 : 1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 1: General concepts. (See also CCITT Recommendation X.290 (1992)).*

ISO/IEC 9646–2 : 1994, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 2: Abstract Test Suite specification. (See also CCITT Recommendation X.291 (1992)).*

ISO/IEC 9646–3 : 1992, *Information technology — Open Systems Interconnection — Conformance testing methodology and framework — Part 3: The Tree and Tabular Combined Notation (TTCN).*

CCITT Recommendation X.25 (1980), *Interface between Data Terminal Equipment (DTE) and Data Circuit-Terminating Equipment (DCE) for Terminals Operating in the Packet Mode on Public Data Networks.*

CCITT Recommendation X.25 (1984), *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.*

CCITT Recommendation X.25 (1988), *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.*