INTERNATIONAL STANDARD

ISO/IEC 10180

First edition
1995-12-15

withdrawn

Information technology — Processing languages — Standard Page Description Language (SPDL)

Technologies de l'information — Langages de traitement — Langage de description de page normalisée (SPDL)

Reference number
ISO/IEC 10180:1995(E)

Contents

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Printed in Switzerland

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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.

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.

International Standard ISO/IEC 10180 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

Annexes A, B, C, D and E form an integral part of this International Standard. Annexes F and G are for information only.

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Introduction

The development of laser printers in the early 1970's provided the opportunity for the low cost printing of documents containing not only character text but also general graphical material. This has in turn resulted in increasing interest in a standard printer interface which would make the capabilities of these printers available to document creation systems. Initial efforts to provide such an interface have in general taken two directions: the enhancement of existing printer interfaces to take advantage of additional printer capabilities, and the development of new document description technologies which are more appropriate to the new printing technology's enhanced imaging capabilities. The most successful of these efforts involved a departure from techniques and standards existing at that time for printing text in favor of techniques based on the model of computer languages. These printer interfaces have come to be known as "Page Description Languages" or "PDLs".

This International Standard specifies a device-independent means of describing documents comprised of text and graphical material, for presentation on paper or other media. SPDL also allows processes other than the presentation process to select pages or portions of SPDL documents for their use.

This International Standard is organized as follows:

a) The general architecture of SPDL is specified.

b) The major components and semantics of SPDL structure are specified.

c) The interface between structure processing and content processing is specified

d) The major components and semantics of the SPDL content notation are specified.

e) Exception handling in both structure processing and content processing are specified.

f) Two interchange formats are specified.

g) Statements covering both document conformance and presentation process conformance are provided.

h) Normative annexes are provided which specify information objects which are defined by this International Standard and a font object format.

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i) An informative annex is provided to identify information objects defined by ISO/IEC 10175 which are included in this International Standard by reference.

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Information technology - Processing languages - Standard Page Description Language (SPDL)

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1 Scope

1.1 Scope

This International Standard defines a language for the specification of electronic documents, comprised of black and white, gray scale, or full color text, images, and geometric graphics, in a form suitable for presentation (printing or displaying on other suitable media).

This International Standard is intended to be extensible in order to accommodate future developments in imaging technology.

This International Standard is intended to be used in a variety of configurations meeting a variety of connectivity needs. It is specifically compatible with use over OSI networks.

In addition to specifying how document images are represented, this International Standard specifies how Document Production Instructions affect document presentation.

1.2 Field of Application

This International Standard is intended for use in a wide variety of printing and publishing environments, including:

— electronic publishing;

— office systems;

— information networks;

— demand printing.

Documents conforming to this International Standard are termed SPDL documents. SPDL documents may be:

— interchanged;

— processed by locally connected presentation devices;

— sent to presentation devices connected to OSI or non-OSI networks;

— stored for presentation at a later time.

1.3 Relationship to Other Standards

The encoding of the document structure of documents conforming to this International Standard conforms to ISO/IEC 8824 and ISO/IEC 8825 if the binary encoding is used or to ISO/IEC 8879 if the clear text encoding is used.

This International Standard provides a detailed specification of the effect produced when a font resource conforming to the architecture of ISO/IEC 9541 is used in the presentation of character text. Structured Names as used in this International Standard for glyph identification are as defined in ISO/IEC 9541-2 and ISO/IEC 9070.

This International Standard provides a straightforward and efficient way of representing documents which are generated for printing by ODA systems. It also provides a capability of representing documents generated by SGML applications whose formatting is described by ISO/IEC 10179.

This International Standard provides for the efficient implementation of Print Services conforming to ISO/IEC 10175 which incorporate an SPDL Presentation Process for document presentation. This International Standard also specifies the specific semantics of applicable Document Production Instructions.

2 Normative References

The following standards 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 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 indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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

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

ISO/IEC 8825:1990, *Information technology - Open Systems Interconnection - Specification of Basic Encoding Rules for Abstract Syntax Notation One (ASN.1).*

ISO 8879:1986, *Information processing - Text and office systems - Standard Generalized Markup Language (SGML).*

ISO/IEC 9070:1991, *Information technology - SGML support facilities - Registration procedures for public text owner identifiers.*

ISO/IEC 9541-1:1991, *Information technology - Font information interchange - Part 1: Architecture.*

ISO/IEC 9541-2:1991, *Information technology - Font information interchange - Part 2: Interchange Format.*

ISO/IEC 9541-3:1994, *Information technology - Font information interchange - Part 3: Glyph shape representation.*

ISO/IEC 10175-1[1], *Information technology - Text and office systems - Document printing application - Part 1: Abstract service definition and procedures.*

ISO/IEC 10175-2[2], *Information technology - Text and office systems - Document printing application - Part 2: Protocol specification.*

IEEE 754:1985, *IEEE Standard for Binary Floating-Point Arithmetic.*

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2) To be published

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