SLOVENSKI STANDARD
SIST EN 28632-1:1997

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Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 1: Functional specification (ISO/IEC 8632-1:1992)

Information technology - Computer graphics - Metafile for the storage and transfer of picture description information -

Informationstechnik - Graphische Datenverarbeitung - Datei für die Speicherung und die Übertragung von Bildinformation

Technologies de l'information - Infographie - Métafichier de stockage et de transfert des informations de description d'

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English version

Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 1: Functional specification (ISO/IEC 8632-1:1992)

Technologies de l'information - Infographie - Métafichier de stockage et de transfert des informations de description d'images - Partie 1: Description fonctionnelle (ISO/IEC 8632-1:1992)

Informationstechnik - Graphische Datenverarbeitung Datei für die Speicherung und Übertragung von Bildinformationen - Teil 1: Funktionsbeschreibung (ISO/IEC 8632-1:1992)

This European Standard was approved by CEN on 1994-01-14. CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

The European Standards exist in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue de Stassart,36 B-1050 Brussels

Foreword

On the proposal of the CEN Central Secretariat, the Technical Board decided to submit the International Standard:

"Information technology - Computer graphics - Metafile for the storage and transfer of picture description information - Part 1: Functional specification (ISO/IEC 8632-1:1992)"

to the formal vote.

The result of the formal vote was positive.

For the time being, this document exists only in English and French.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by July 1994, and conflicting national standards shall be withdrawn at the latest by July 1994.

In accordance with the CEN/CENELEC Internal Regulations, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of the International Standard ISO/IEC 8632-1:1992 was approved by CEN as a European Standard without any modification.

INTERNATIONAL STANDARD

ISO/IEC 8632-1

Second edition
1992-10-01

Information technology — Computer graphics — Metafile for the storage and transfer of picture description information —

Part 1: Functional specification

Technologies de l'information — Infographie — Métafichier de stockage et de transfert des informations de description d'images —

Partie 1: Description fonctionnelle

Reference number
ISO/IEC 8632-1:1992(E)

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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 8632-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*.

This second edition cancels and replaces the first edition (ISO 8632-1:1987), which has been technically revised.

ISO/IEC 8632 consists of the following parts, under the general title *Information technology – Computer graphics – Metafile for the storage and transfer of picture description information* :

Part 1: Functional specification

Part 2: Character encoding

Part 3: Binary encoding

Part 4: Clear text encoding

Annexes A, B, and C form an integral part of this part of ISO/IEC 8632. Annexes D, E, F and G are for information only

Introduction

0.1 Purpose

The Computer Graphics Metafile provides a file format suitable for the storage and retrieval of picture information. The file format consists of a set of elements that can be used to describe pictures in a way that is compatible between systems of different architectures and devices of differing capabilities and design. This picture description includes the capability for describing static pictures. Static pictures are those where elements which may lead to dynamic effects (for example those leading to regeneration) are prohibited within the picture body.

0.2 Reasons for this International Standard

The main reasons for producing a standard computer graphics metafile are

a) to allow picture information to be stored in an organized way on a graphical software system;

b) to facilitate transfer of picture information between different graphical software systems;

c) to enable picture information to be transferred between graphical devices;

d) to enable picture information to be transferred between different computer graphics installations.

0.3 Design requirements

To reach these objectives, a number of design principles were adopted:

a) The metafile should provide a suitable set of elements for the transfer of a wide range of pictorial information.

b) The metafile should address the more usual and essential features found on graphical devices directly and should provide access to less common facilities via an escape mechanism.

c) The design of the metafile should not preclude extension of ISO/IEC 8632 at a later stage to cover facilities beyond those included in this version of the Standard. It should also not preclude further extensions to support future standards.

d) The metafile should be usable from GKS (Graphical Kernel System — ISO 7942) with both metafile input and metafile output functions. It should include the capability to support ISO 7942 (GKS) static picture capture.

e) ISO/IEC 8632 should address the needs of different applications that have conflicting requirements for size of metafile, speed of generation and interpretation, readability, editability and ease of transfer through different transport mechanisms.

0.4 Design criteria

The requirements of 0.3 were used to formulate the following criteria which were used to decide between different design possibilities.

a) Completeness: In any area of ISO/IEC 8632, the functionality specified by ISO/IEC 8632 should be complete in itself.

b) Conciseness: Redundant elements or parameters should be avoided.

c) Consistency: Contradictory elements should be avoided.

d) Extensibility: The ability to add new elements and generality to ISO/IEC 8632 should not be precluded.

e) Fidelity: The minimal results and characteristics of elements should be well defined.

f) Implementability: An element should be able to be supported efficiently on most host systems and/or graphics hardware.

g) Orthogonality: The elements of the metafile should be independent of each other, or any dependencies should be structured and well defined.

h) Predictability: ISO/IEC 8632 should be such that the recommended or proper use of standard elements guarantees the results of using a particular element.

i) Standard practice: Only those elements that reflect existing practice, that are necessary to support existing practice, or that are necessary to support proposed standards should be standardized.

j) Usefulness: Functions should be powerful enough to perform useful tasks.

k) Well-structured: The assumptions that elements make about each other should be minimized. An element should have a well-defined interface and a simply stated unconditional purpose. Multipurpose elements and side effects should be avoided.

0.5 Access to a metafile

The metafile has been designed so that, although its main usage is anticipated as being with completely sequential access, non-sequential access is also possible. Once the basic environment of the metafile has been established, individual pictures may be accessible if the medium, the encoding and the implementation support this form of access.

0.6 Generation and interpretation of metafiles

The specific mechanisms of metafile generation and interpretation are not described by ISO/IEC 8632, although it does describe the intended result of such interpretation. The basic set of metafile elements includes a capability for the addition of application-dependent data, which do not have graphical meaning and for which no intended interpretation results are described.

0.7 Distinction between formal specification and encodings

The functionality provided by the metafile is separated from the specification of any particular encoding format. ISO/IEC 8632 provides for both standard and private encodings of the elements described in this