# INTERNATIONAL STANDARD

**ISO/IEC**
**12089**

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# Information technology — Computer graphics and image processing — Encoding for the Image Interchange Facility (IIF)

*Technologies de l'information — Infographie et traitement de l'image — Codage pour les accessoires pour l'échange de l'image (IIF)*

# 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 12089 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 24, *Computer graphics and image processing*.

# Information technology — Computer graphics and image processing — Encoding for the Image Interchange Facility (IIF)

## 1 Scope

This International Standard defines the encoding rules which shall apply to the representation of IPI-IIF image data. The IPI-IIF data format is defined in ISO/IEC 12087-3, called „Image Interchange Facility (IIF)". It is Part 3 of the Image Processing and Interchange International Standard, defined in ISO/IEC 12087. The IPI-IIF facilitates the interchange of digital images. It consists of two major parts:

(1) the IPI-IIF data format (IIF-DF) definition, whose syntax is described using ASN.1;

(2) the IPI-IIF gateway definition, whose functionality is described by an application programmers interface.

The IPI-IIF is based on the definition described in Part 1, *Common Architecture for Imaging* (CAI) of the ISO/IEC 12087.

Due to the fact that the syntax of the IIF-DF is expressed using the *Abstract Syntax Notation One* (ASN.1), defined by ISO/IEC 8824, this standard makes use of the *Basic Encoding Rules* (BER) for ASN.1, by referring to ISO/IEC 8825 for the definition of encoding rules.

> NOTE - A rationale for the introduction of new encoding rules in addition to those defined by the BER is given in clause 4.

Reference shall be made to this International Standard, and its definitions shall be employed, whenever images are interchanged, according to the IIF-DF, defined in ISO/IEC 12087-3.

## 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 8632:(all parts),  *Information technology - Computer graphics - Metafile for the storage and transfer of picture description information.*

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/IEC 8825-2:1996,  *Information technology - ASN.1 encoding rules: Specification of Packed Encoding Rules (PER).*

ISO/IEC 12087-1:1995,  *Information technology - Computer graphics and image processing - Image Processing and Interchange (IPI) - Functional specification - Part 1: Common architecture for imaging.*

ISO/IEC 12087-2:1994,  *Information technology - Computer graphics and image processing - Image Processing and Interchange (IPI) - Functional specification - Part 2: Programmer's imaging kernel system application programme interface.*

ISO/IEC 12087-3:1995,  *Information technology - Computer graphics and image processing - Image Processing and Interchange (IPI) - Functional specification - Part 3: Image Interchange Facility (IIF).*

NOTE - Some ISO Standards are technically aligned with CCITT Recommendations, in particular the ASN.1 Standard (ISO Standards 8824/8825 and CCITT Recs. X.208/X.209). The differences between the International Standard definitions and the CCITT definitions are quite small, and should not affect interoperability between implementations written against either document. Within this part of ISO/IEC 12087, the ISO Standards are referenced whenever possible.