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Electronic document management — Design and operation of an information system for the preservation of electronic documents — Specifications

*Archivage électronique — Conception et exploitation d'un
système informatique pour la conservation intégrée de documents
électroniques — Spécifications*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 171, *Document management applications*, Subcommittee SC 1, *Quality, preservation and integrity of information*.

This first edition cancels and replaces ISO 14641-1:2012, which has been technically revised.

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Introduction

Electronic documents are an essential part of everyday business, whether the sources are incoming communications or output from organizations. It is important that electronic documents be stored appropriately, either fully or in part, in secure information systems designed for operations and archiving, in order to meet business, legal or regulatory requirements.

The objectives of secure information systems are to resolve organizational issues such as:

- a) optimization of long-term electronic document preservation, archiving and integrity;
- b) provision of information search facilities;
- c) ensuring ease of access and use of electronic documents.

This document is intended to provide a reference framework for organizations. It describes the methods and techniques to be used for the implementation of an electronic information system for managing documents within an archive. In conjunction with related archival policies of organizations, it describes criteria for system design and specifications for operational processes.

These specifications are intended to ensure that all documents to be managed by the information system are captured, stored, retrieved and accessed in a way that guarantees that the archived document is an authentic rendition of the original document for the duration of preservation. An authentic rendition means that the rendered document corresponds to the source document as it was at the time of input in the information system in respect of criteria of fidelity and integrity, and that this state is maintained for the duration of preservation.

This document takes into account the use of three possible archiving media: physical WORM, logical WORM and rewritable media. Archival integrity is ensured on physical and logical WORM media by the inherent properties of WORM solutions. On rewritable media, integrity is ensured using encryption-like techniques, in particular with checksum calculation or hash function, date and time stamp or digital signature. In all cases, it is necessary to comply with related procedures.

Depending on the types of documents to be archived, other specialized standards can be relevant and used to complement the recommendations in this document.

This document provides a specific and complementary definition of issues addressed in other standards or specifications concerning the management of electronic information. Its content is intended to address execution issues raised in several other documents. These include ISO/TR 15801, ISO 15489-1 and MoReq2^[15], which detail specifications for organizing and controlling the lifecycle of archived information for purposes of evidence and operational history, and ISO 14721, which describes the characteristics of an open system for the preservation of digital data.

[Annexes A, B and C](#) are complementary.