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**Information and documentation —  
Principles and functional requirements  
for records in electronic office  
environments —**

Part 3:

**Guidelines and functional requirements  
for records in business systems**

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*Information et documentation — Principes et exigences fonctionnelles  
pour les enregistrements dans les environnements électroniques de  
bureau*

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*Partie 3: Lignes directrices et exigences fonctionnelles pour les  
enregistrements dans les systèmes d'entreprise*



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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 main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

ISO 16175-3 was prepared by the International Council on Archives (as International Council on Archives and the Australasian Digital Recordkeeping Initiative *Principles and Functional Requirements for Records in Electronic Office Environments — Module 1: Overview and Statement of Principles*) and was adopted, under a special “fast-track procedure”, by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 11, *Archives/records management*, in parallel with its approval by the ISO member bodies.

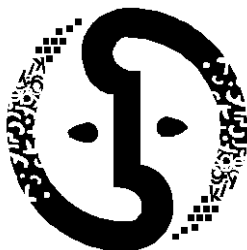
ISO 16175 consists of the following parts, under the general title *Information and documentation — Principles and functional requirements for records in electronic office environments*:

- Part 1: Overview and statement of principles
- Part 2: Guidelines and functional requirements for records in electronic office environments
- Part 3: Guidelines and functional requirements for records in business systems

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International Council on Archives

Principles and functional requirements for  
records in digital office environments

### Module 3

**Guidelines and functional  
requirements for records in  
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## 1 INTRODUCTION

Organisations implement business systems to automate business activities and transactions. As a result, the digital information generated by a business system increasingly serves as the only evidence or record of the process, despite the system not being designed for this purpose. Without evidence of these activities, organisations are exposed to risk and may be unable to meet legislative, accountability, business and community expectations.

Because of the dynamic and manipulable nature of business systems, the capture of fixed records and the ongoing management of their authenticity, reliability, usability and integrity can be challenging. Organisations are therefore faced with a significant risk of mismanagement, inefficiency and unnecessary expenditure.

While these same organisations may have an electronic records management system (ERMS),<sup>1</sup> it may not capture all records of the organisation. This document is designed to address the records management gap caused by the increasing use of business systems.

It provides guidelines on identifying and addressing the needs for records, and a set of generic requirements for records management functionality within business systems software. It aims to:

- help organizations understand digital records management requirements;
- assist organisations to improve digital records management practices;
- reduce the duplication of effort and associated costs in identifying a minimum level of functionality for records in business systems; and
- establish greater standardisation of records management requirements for software vendors.

The document does not prescribe a specific implementation approach. The intent of these specifications can be realised through interfacing or integrating the business system with an electronic records management system or by building the functionality into the business system.

### 1.1 Scope and purpose

This document will help organisations to ensure that evidence (records) of business activities transacted through business systems are appropriately identified and managed. Specifically, it will assist organisations to:

- understand processes and requirements for identifying and managing records in business systems;

<sup>1</sup> An electronic records management system is a type of business system specifically designed to manage records. However, in the interests of clarity and brevity, for the purpose of this document, 'business system' should be taken as excluding an electronic records management system.

- develop requirements for functionality for records to be included in a design specification when building, upgrading or purchasing business system software;
- evaluate the records management capability of proposed customised or commercial off-the-shelf business system software; and
- review the functionality for records or assess compliance of existing business systems.

It does not provide a complete specification but rather outlines a number of key records management requirements, with recommended levels of obligation, which can be used as a starting point for further development. As outlined in the document, organisations will still need to assess, amend and select their requirements based on their business, technical and jurisdictional environments and constraints.

This Module only addresses records management requirements and does not include general system management. Design requirements such as usability, reporting, searching, system administration and performance are beyond the scope of this document. It also assumes a level of knowledge about developing design specifications, procurement and evaluation processes, therefore these related issues are not covered in any detail.

Requirements for the long-term preservation of digital records are not explicitly covered within this document. However, the inclusion of requirements for export supports preservation by allowing the export of records to a system that is capable of long-term preservation activities, or for the ongoing migration of records into new systems.

While the guidance presented in this Module should be applicable to records management in highly integrated software environments based on service-oriented architectures, such scenarios are not explicitly addressed. Similar principles and processes will apply in such environments, but additional analysis will be required to determine what processes and data constitute, across multiple systems, the required evidence or record of any particular transaction.

Use of the term 'system' in this document refers to a computer or IT system. This is in contrast to the records management understanding of the term that encompasses the broader aspects of people, policies, procedures and practices. Organisations will need to consider these wider aspects, and to ensure that fundamental records management supporting tools such as disposition authorities,<sup>2</sup> information security classifications and a records culture are in place, in order to ensure records from business systems can be appropriately managed.

## 1.2 Audience

The primary audience for this document is staff responsible for designing, reviewing and/or implementing business systems in organisations, such as business analysts

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<sup>2</sup> A formal instrument that defines the retention periods and consequent actions authorised for classes of records described in the authority.

and groups overseeing information and communications technologies procurement or investment decisions.

The audience also includes records professionals who are involved in advising or assisting in such processes and software vendors and developers who wish to incorporate records functionality within their products.

Given the target audience for this document, the use of specific records management terminology has been kept to a minimum. Where the use of such terminology is necessary, definitions can be found in the Glossary at Appendix A. Some key definitions are also provided in Section 1.4: Key definitions.

### 1.3 Related standards

Under its Electronic Records and Automation Priority Area, the International Council on Archives has developed a suite of guidelines and functional requirements as part of the Principles and Functional Requirements for Records in Digital Office Environments project:

- *Module 1: Overview and Statement of Principles;*
- *Module 2: Guidelines and Functional Requirements for Records in Digital Office Environments; and*
- *Module 3: Guidelines and Functional Requirements for Records in Business Systems.*

This document is Module 3 of the broader project. It has been developed with the support of the Australasian Digital Recordkeeping Initiative.

While this Module may be used as a stand-alone resource, for a broader understanding of the context and principles that have informed its development, readers should also refer to Module 1.

The functional requirements identified in Part 2 are based on the minimum requirements for records functionality as defined in the International Standard for Records Management, ISO 15489.

The reference metadata standard for these requirements is ISO 23081 – 1: 2006, Information and documentation – Records management processes – Metadata for records, Part 1 – Principles, and ISO 23081 – 2: 2009, Information and documentation – Records management processes – Metadata for records, Part 2 – Conceptual and implementation Issues.

### 1.4 Terminology

It is recognised that many of the terms used in this document have different meanings for different disciplines. It is therefore important that this document is read in conjunction with the Glossary at Appendix A. A number of the key concepts used in this document are also detailed below:

- **Records** are information created, received and maintained as evidence and information by an organisation or person, in pursuance of legal obligations or

in the transaction of business.<sup>3</sup> They provide evidence of business transactions and can exist in any format.

- **Business systems**, for the purposes of this document, are automated systems that create or manage data about an organisation's activities. They include applications whose primary purpose is to facilitate transactions between an organisational unit and its customers – for example, an e-commerce system, client-relationship management system, purpose-built or customised database, or finance or human resources systems. Business systems are typified by containing dynamic data that is commonly subject to constant updates (timely), able to be transformed (manipulable) and holds current data (non-redundant). For the purposes of this document, business systems exclude electronic records management systems.
- **Electronic records management systems (ERMS)** are specifically designed to manage the maintenance and disposition of records. They maintain the content, context, structure and links among records to enable their accessibility and support their value as evidence. Electronic records management systems are distinguished from business systems, for the purpose of this document, because their primary function is the management of records.

## 1.5 Structure

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This document is divided into four main parts:

- **Part 1: Introduction** – describes the scope, purpose, audience and structure of the overall document. [ISO 16175-3:2010](https://standards.iteh.ai/catalog/standards/sist/afe238ca-a243-40fe-8765-0616c813-4595/iso-16175-3-2010)
- **Part 2: Guidelines** – provides background information on the importance of records management, describes key terms and concepts, and outlines a process for determining an organisation's need for records and identifying records within business systems. It also outlines some of the issues and processes to be considered when reviewing, designing, purchasing or building business systems to incorporate functionality for records.
- **Part 3: Functional requirements** – provides an overview of the high-level functional requirements for records that may be incorporated into a business system, and outlines a recommended set of mandatory and optional records management functional requirements for business systems (referred to as the 'functional requirements').
- **Part 4: Appendices** – provides a glossary of key terms and a list of additional reading.

<sup>3</sup> International Standard on Records management, ISO 15489.

## 2 GUIDELINES

### 2.1 Why is it important to have evidence of business processes and activities?

A key way organisations account for their activities is through evidence of business transactions in the form of records. Records are valuable business assets that enable organisations to defend their actions, improve decision-making, prove ownership of physical and intellectual assets, and support all business processes.

Records are ‘information created, received, and maintained as evidence and information, by an organisation or person, in pursuance of legal obligations or in the transaction of business.’<sup>4</sup> They must be retained for a period of time that is in line with an authorised retention schedule or ‘disposition authority’.

Organisations with business systems that have insufficient functionality for managing records risk loss of this evidence, resulting in inefficiency, an inability to meet accountability and legislative requirements, and a lack of corporate memory.

A record is not just a collection of data, but is the consequence or product of an event.<sup>5</sup> A distinguishing feature of records is that their content must exist in a fixed form, that is, be a fixed representation of the business transaction. This can be particularly challenging in a business system that, by nature, contains data that is frequently updated and dynamic.

Records comprise not only content but also information about the context and structure of the record. This information can be captured through metadata. Metadata fixes the record in its business context and documents the record’s management and use over time. Records metadata therefore serves to identify, authenticate and contextualise the record, not only at the point of creation, but continues to document its management and use over time.<sup>6</sup> It allows records to be located, rendered and understood in a meaningful way. The International Standard on Information and documentation—Records management processes—Metadata for records, Part 2, ISO 23081, provides a generic statement of metadata elements. Organisations may also have jurisdictional-specific elements sets to which they must adhere.

An appropriately managed record will:

- aid transparent, informed and quality decision-making and planning;
- provide an information resource that can be used to demonstrate and account for organisational activities; and

<sup>4</sup> International Standard on Records Management, ISO 15489.

<sup>5</sup> Philip C Bantin, *Strategies for Managing Electronic Records: Lessons Learned from the Indiana University Electronic Records Project*, available at <http://www.indiana.edu/~libarch/ER/ecure2000.pdf>, 2003.

<sup>6</sup> International Standard on Information and documentation—Records management processes—Metadata for records, ISO 23081-1:2006.

- enable consistency, continuity and efficiency in administration and management, among other benefits.

The International Standard on Records management, ISO 15489, provides best-practice guidance on how records should be managed to ensure they are authentic, reliable, complete, unaltered and usable.

## 2.2 The business systems landscape and records

Business systems are normally mapped against some form of business process. Given that records are the product of transactions and transactions, collectively, form business processes (for example, the transactions involved in processing an application for a licence), it follows that the integration of records functionality in business systems should be undertaken from the perspective of the business process.

Business processes having the greatest potential for reflecting good records management are those that are highly structured with well-defined transactions where the identification of where in the business process records should be generated and even what they should look like (for example, forms) is relatively clear. Similarly it follows that records management has great potential for being integrated successfully in the business systems supporting such business processes because, by necessity, their design has to be mapped to the transactions supporting the business processes. Furthermore, the development of business systems supporting defined business processes normally proceeds through a series of structured steps based on the use of generally accepted systems development tools and techniques that address each phase of the systems development life cycle, from planning and design to implementation and review. In addition, in well-managed business systems development projects, accountability for the integrity of the design, development, and maintenance of the systems (including the integrity of the data generated by the systems) is clearly assigned across all of those communities in the organisation that have a responsibility for the systems (that is, from business users of the systems to the specialists responsible for developing the systems). All of these factors heighten the potential for records considerations to be integrated in the design of business systems supporting structured and well-defined business processes.

Records management integration is challenged significantly in an environment where business processes are poorly defined, where tools and techniques for systematically designing and developing systems are weak, and where accountability for the technologies supporting the environment (and especially the information generated in the environment) has not been assigned clearly. In such an environment individuals (often 'office workers' at all levels of the organisation) have a high level of autonomy in deciding what information they create and share, how they share it, where they put it, how they organise, describe and retain it, and how they dispose of it. Such an environment is often dominated by email messages and their attachments where there are few business rules to guide their creation, transmission and management. The integration of records management in such an environment is extremely difficult because the foundation of defined business processes (or workflow in the parlance of the modern office), structured approaches to systems

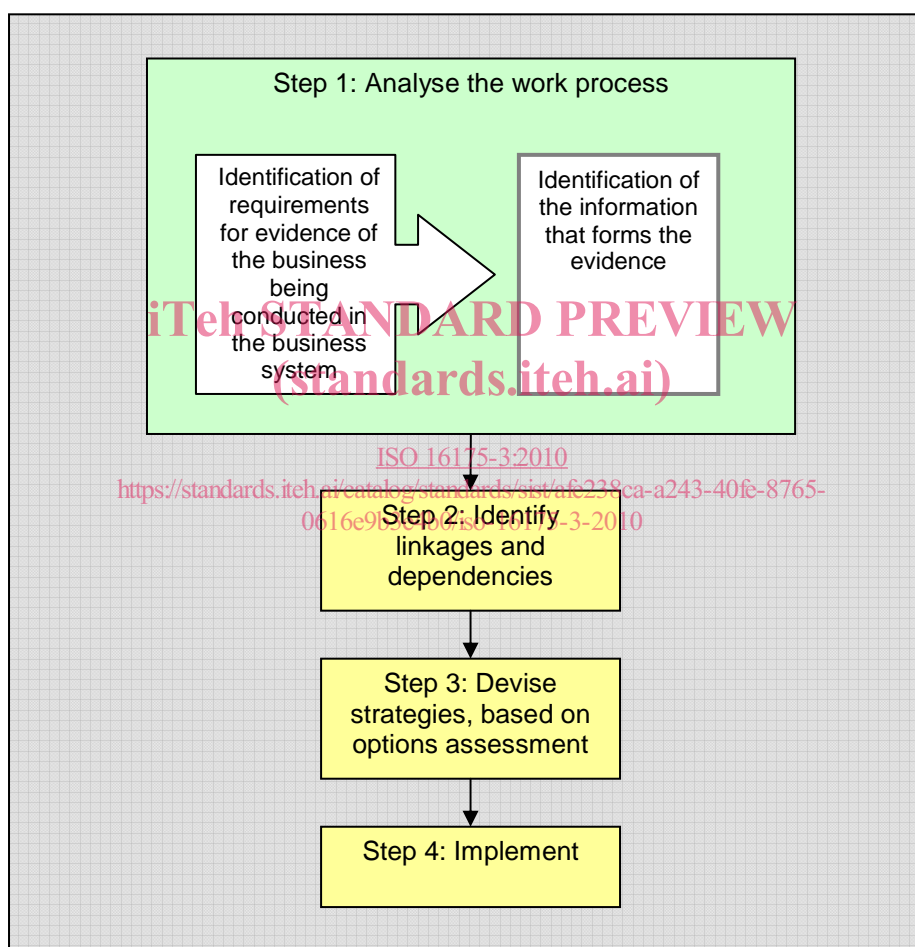


development and assigned accountability are not in place (for more information, see Appendix B).

## 2.3 Determining needs for evidence of events, transactions and decisions in business systems

Not all information contained in a business system will necessarily be required to be recorded as evidence. Prior to reviewing, designing, building or purchasing business systems software, it is necessary to determine an organisation's needs for records in order to develop and implement appropriate strategies. This process is outlined in Figure 1 and discussed in the following sections.

**Figure 1: Steps to determine requirements for records**



### 2.3.1 Analyse the work process

Business systems typically store large volumes of data that are frequently updated. Because of this, it can be difficult to know what information in the system needs to be managed as a record to provide evidence of the business process or transaction.