
**Information and documentation —
Records management in enterprise
architecture**

*Information et documentation — Gestion des documents d'activité
dans les architectures (des systèmes d'information) 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 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 of 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 www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 11, *Archives/records management*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

General

A record is information created, received and maintained as evidence and as an asset by an organization or person, in pursuit of legal obligations or in the transaction of business. Records management is the field of management responsible for the efficient and systematic control of records, and thus the primary source for the definition of the main principles and requirements for the records management capability.

Enterprise architects work with stakeholders, both leaders and subject matter experts, to develop and maintain a holistic view of the organization's strategy, processes, information assets, and information technology. The role of the enterprise architect is to take this knowledge and ensure that the business and IT are in alignment. The enterprise architect links the business mission, strategy and processes of an organization to its information and technology strategy. Enterprise architects document this using multiple architectural models or views that show how the current and future needs of an organization will be met in an efficient, sustainable, agile, and adaptable manner.

The concept of **records** as **information assets** is consistent with the definition in ISO 15489-1:2016 of “information created, received and maintained as evidence and as an asset by an organization or person, in pursuit of legal obligations or in the transaction of business”. Consistent good practice in the management of the information assets of a business is most important, regardless of the broader or narrower interpretation of the terms “record” and “records management”, and concepts of “business record”, “evidence”, “information asset”, “legal obligations”, and “transaction” in an organization or business.

The purpose of this document is to provide a common reference for records managers (or information managers in general) and enterprise architects about requirements for records processes and systems. The goal is to establish the records manager as a key stakeholder in enterprise architecture, which supports embedding records management:

- into the strategic goals, enabling it as an organizational capability for consideration for governance, risk and compliance;
- into the enterprise architecture requirements, to influence systems analysis, design, planning, and change management.

Enterprise architects are highly influential in the creation of organization-wide business requirements and in solution architectures. Enterprise architects create and maintain enterprise architecture representations, usually comprised of multiple models or views that show how the current and future needs of an organization will be met in an efficient, sustainable, agile, and adaptable manner. Records requirements, principles and models can be stated in ways that can be readily incorporated into these enterprise architecture representations to embed records processes and systems into normal business practice and into solutions to be designed. Incorporating recordkeeping requirements into system analysis and design will help enterprise architects link systems to recordkeeping control tools, and thus resolve issues such as the efficient and systematic control of the creation, receipt, maintenance, use and disposition of records. In that sense, this document has the following objectives:

- a) Explaining the core concepts and records management principles to enterprise architects;
- b) Explaining the core concerns of records management as an enterprise architecture viewpoint;
- c) Explaining the alignment of the records management viewpoint and enterprise architecture methods.

The records management viewpoint expressed here makes use of the concepts of “concerns” and “system of concerns” defined in ISO/IEC/IEEE 42010, and of the concepts of “stakeholders”, “viewpoint”, “view” and “model” as also defined coherently in that standard and in the main enterprise architecture references of The Open Group Architecture Framework (TOGAF) and ArchiMate. With reference to ArchiMate, the main scope of this viewpoint is the motivational aspect and the layers strategy and business, with

minor considerations for the layers of application and implementation. TOGAF is used to inform how this records management viewpoint relates to the Architecture Development Method (ADM).

NOTE For an explanation of ArchiMate diagram conventions, see [Annex A](#).

Motivation

Since enterprise architecture often drives decisions about investment in information systems, it is important that records management requirements can be aligned with enterprise architecture. This ensures that enterprise architects can understand the business value realized through managed records.

System designers can then consider building in records management capabilities by design. This requires the expression of records management concerns in a way that is useful for representation in architecture descriptions.

Motivations for the development of this document include the need to improve the following situations:

- Lack of understanding in many organizations that the information created and received as part of their business activities are in fact records and therefore should be managed not only as records but also as enterprise assets,
- Information is of growing importance as an organisational asset on its own right. New sensor technology, big data phenomena, open data and linked data practices, etc., require efficient control over derived information and its uses (e.g. machine learning applications, decision aid processes, etc.), and therefore demand adequate Records Management,
- Lack of managing records not only as records but also as enterprise assets results in records management often being de-scoped or “deferred” during systems analysis and design, shifting architectural debt to the end of life of system’s decommissioning (end of life of a system), This deferment can result in uncertainty and lack of fundamental knowledge in the moment of the decommissioning, implying high risks for the business and costly corrective efforts,
- Lack of embedding records management capability in the design of systems that create and receive records, resulting in: unmanageable records; needed authoritative information not available to the organization; increased risk of exposure of the organization to risks (such as compliance risks) and a loss of efficiency (such as for discovery tasks),
- Cost of re-engineering an enterprise solution designs due to compliance risks.

Understanding records management concerns within an enterprise architecture context can minimize some of the following typical challenges:

- Reliance on manual interventions in the management of records, described:
 - By Enterprise Architects as “create, describe, store, maintain and dispose of records”,
 - By Records Managers as “creation, capture and management of records”.
- Records not created within, or persistently linked to, the business context (see [Figure 1](#)),
- Exposure to risks and compliance issues due to:
 - Systems not designed to preserve the integrity of records, for example, not preventing unauthorized changes to content and metadata, or with inadequate activity monitoring,
 - Systems not able to destroy records when those records are due for destruction,
 - Systems not designed to prevent the destruction of records that are scheduled for retention,
 - Systems not recording the disposition of records,

- Systems with limitations for decommissioning properly, because it isn't possible to apply disposition rules to poorly described content or because the system lacks disposition capabilities,
 - Migrations that damage the integrity of records (content, context, rendering), are compromised through poorly designed migration processes,
 - Systems unable to appropriately discover or view or retrieve records,
 - Systems unable to prevent inappropriate disclosure of records, nor to publish appropriate as open data due to inadequate metadata,
 - Inability to transfer control of archival records to archival authorities.
- Overhead cost of maintaining unmanaged records indefinitely,
 - Loss of reputation and legal risks associated with lack of evidence or lack of integrity of evidence.

Structure of this document

This document is organized into four main groupings:

- [Clauses 1 to 3](#) provide the context overview, including Introduction, Scope, Normative references, and Terms and definitions.
- [Clauses 4 to 11](#) set out the Records Management Viewpoint in the scenarios of “*Business*”, “*Motivation*”, “*Information*”, “*Strategy*”, “*Implementation*” and “*Reference Application*”.
- [Clause 12](#) — *Records Management and the Architecture Development Method* — provides guidelines for the consideration of Records Management concerns during an Enterprise Architecture process, considering the ADM, as proposed by TOGAF 9[1].
- Annexes supporting [Clauses 4 to 12](#).

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Information and documentation — Records management in enterprise architecture

1 Scope

The document creates a common language that embeds records management concerns and requirements into enterprise architecture with the twin goals of building consensus

- among records managers, enterprise architects and solution architects, and
- across the domains of records management, enterprise architecture and solution architecture.

NOTE This common understanding of Records Management enables Enterprise Architects to understand the motivations, concerns and goals of Records Managers, recognize them as influential key business stakeholders during organizational transformation, and use this understanding to influence systems planning and design. As a result, Records Management becomes an organizational capability at governance, strategic and operational levels.

This document provides a records management viewpoint, with architecture principles and corresponding architectural views of records. It explains records management for enterprise architects and other related professionals, so that they can achieve the competency needed to support collaborative initiatives.

This document provides support to enterprise architects in areas including:

- understanding and identifying records management principles, goals and requirements significant for the architectural representation,
- facilitating consultations with records managers during the project lifecycle,
- identifying opportunities to reuse existing records management analyses and tools.

This document provides scenarios and models for solution architects and those who have responsibility for infrastructure overview.

This document also provides a common language to records managers for collaboration with enterprise architects to position records management requirements in the architecture development process.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

3.1 General

3.1.1

access

right, opportunity, means of finding, using or retrieving information

[SOURCE: ISO 15489-1:2016, 3.1]

3.1.2

activity

major task performed by a business entity as part of a function

[SOURCE: ISO 15489-1:2016, 3.2]

3.1.3

appraisal

evaluation of business activities to determine which records need to be created and captured, and how, and how long, the records need to be kept

Note 1 to entry: In some records and archives management traditions, appraisal is solely used as an instrument to identify retention requirements or to create a disposition authority. The concept of appraisal as defined here is meant to be used in a broader way.

[SOURCE: ISO TR 21946: 2018, Introduction]

3.1.4

architecture

<system>fundamental concepts or properties of a system in its environment embodied in its elements, relationships, and in the principles of its design and evolution

[SOURCE: ISO/IEC/IEEE 42010:2011, 3.2]

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3.1.5

asset

anything that has value to the organization

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Note 1 to entry: There can be many types of assets, including:

- a) information (such as documents and databases);
- b) software, such as a computer program;
- c) physical, such as a computer;
- d) services (meaning capabilities to deliver something);
- e) people, and their qualifications, skills, and experience; and
- f) intangibles, such as reputation and image.

[SOURCE: ISO/IEC 27000:2009, 2.3]

3.1.6

authoritative record

records, regardless of form or structure, are authoritative evidence of business when they possess the characteristics of authenticity, reliability, integrity and usability

[SOURCE: ISO 15489-1:2016, 5.2.2.]

3.1.7**classification**

systematic identification and/or arrangement of business activities and/or records into categories according to logically structured conventions, methods, and procedural rules

[SOURCE: ISO 15489-1:2016, 3.5]

3.1.8**system of concern**

interest in a system relevant to one or more of its *stakeholders* ([3.1.22](#))

Note 1 to entry: A concern pertains to any influence on a system in its environment, including developmental, technological, business, operational, organizational, political, economic, legal, regulatory, ecological and social influences.

[SOURCE: ISO 42010:2011, 3.7]

3.1.9**context of the organization**

combination of internal and external issues that can have an effect on an organization's approach to developing and achieving its objectives

Note 1 to entry: The organization's objectives can be related to its products and services, investments and behaviour towards its interested parties.

Note 2 to entry: The concept of context of the organization is equally applicable to not-for-profit or public service organizations as it is to those seeking profits.

Note 3 to entry: In English, this concept is often referred to by other terms such as "business environment", "organizational environment" or "ecosystem of an organization".

Note 4 to entry: Understanding the infrastructure can help to define the context of the organization.

Note 5 to entry: An encapsulation of data that is recognized by a business domain expert as representing a conceptual thing relevant for the domain model of that business (instances of information entities can become information assets).

[SOURCE: ISO 9000:2015, 3.2.2, modified — Notes 1 to 5 to entry have been added.]

3.1.10**disposition**

<records>range of processes associated with implementing records retention, destruction or transfer decisions, which are documented in disposition authorities or other instruments

[SOURCE: ISO 15489-1:2016, 3.8]

3.1.11**evidence**

documentation of a transaction

Note 1 to entry: Proof of a business transaction which can be shown to have been created in the normal course of business activity and which is inviolate and complete. Not limited to the legal sense of the term.

[SOURCE: ISO 15489-1:2016, 3.10, modified]

3.1.12**function**

group of activities that fulfils the major responsibilities for achieving the strategic goals of a business entity

[SOURCE: ISO 15489-1:2016, 3.11]

**3.1.13
management system**

set of interrelated or interacting elements of an organization to establish policies and objectives, and processes to achieve those objectives

Note 1 to entry: A management system can address a single discipline or several disciplines, e.g. quality management, financial management or environmental management.

Note 2 to entry: The management system elements establish the organization's structure, roles and responsibilities, planning, operation, policies, practices, rules, beliefs, objectives and processes to achieve those objectives.

Note 3 to entry: The scope of a management system can include the whole of the organization, specific and identified functions of the organization, specific and identified sections of the organization, or one or more functions across a group of organizations.

Note 4 to entry: This constitutes one of the common terms and core definitions for ISO management system standards given in Annex SL of the Consolidated ISO Supplement to the ISO/IEC Directives, Part 1. The original definition has been modified by modifying Notes 1 to 3 to entry.

[SOURCE: ISO 9000:2015, 3.5.3]

**3.1.14
metadata for records**

structured or semi-structured information, which enables the creation, management, and use of records through time and within and across domains

[SOURCE: ISO 15489-1:2016, 3.12]

**3.1.15
metadata schema**

logical plan showing the relationships between metadata elements, normally through establishing rules for the use and management of metadata specifically about the semantics, the syntax and the optionality (obligation level) of values

[SOURCE: ISO 23081-1:2017, 3.10]

**3.1.16
migration**

<records>process of moving records from one Records Management service to another service maintaining all the characteristics of these records

Note 1 to entry: See also definitions of this concept in ISO 30300:2011, 3.3.8 and ISO 15489-1:2016, 3.13.

**3.1.17
model kind**

conventions for a type of modelling

Note 1 to entry: Examples of model kinds include data flow diagrams, class diagrams, Petri nets, balance sheets, organization charts and state transition models.

[SOURCE: ISO 42010:2011, 3.9]

**3.1.18
record(s)**

information created, received and maintained as evidence and as an *asset* (3.1.5) by an organization or person, in pursuit of legal obligations or in the transaction of business

Note 1 to entry: The viewpoint defined in this document is intended to be useful in any enterprise architecture scenario, and intended to prevent conflicting meanings in multiple viewpoints. The term used in the ArchiMate modelling of this viewpoint is "business record". In this document the term "business record" has the same definition as the established definition for "record" in the records management domain.

[SOURCE: ISO 15489-1:2016, 3.14]

3.1.19 records management

field of management responsible for the efficient and systematic control of the creation, receipt, maintenance, use and *disposition* (3.1.10) of records, including processes for capturing and maintaining evidence of and information about business activities and transactions in the form of records

[SOURCE: ISO 15489-1:2016, 3.15]

3.1.20 records management capability

capability of realizing the *records management* (3.1.19) goals

3.1.21 records system

information system which captures, manages and provides *access* (3.1.1) to *records* (3.1.18) through time

Note 1 to entry: In the context of records management, “system” means a business system that is responsible for automating business activities and transactions.

[SOURCE: ISO 15489-1:2016, 3.16, modified —In the definition, the word “over” has been replaced by “through” and Note 1 to entry has been replaced.]

3.1.22 stakeholder

individual, team, organization, or classes thereof, having an interest in a system

Note 1 to entry: Different stakeholders with different roles will have different concerns

[SOURCE: ISO 42010:2011 3.10]

3.1.23 transaction

smallest unit of a work process consisting of an exchange between two or more participants or systems

[SOURCE: ISO 15489-1:2016, 3.18]

3.1.24 work process

one or more sequences of activities required to produce an outcome that complies with governing rules

Note 1 to entry: The definition above corrects here the definition “one or more sequences of actions required to produce an outcome that complies with governing rules”.

[SOURCE: ISO 15489-1:2015, 3.19]

3.2 Terms relating to TOGAF

NOTE TOGAF 9.2 terminology is available at <http://pubs.opengroup.org/architecture/togaf9-doc/arch/chap03.htm>.

3.2.1 actor

person, organization, or system that has one or more roles that initiates or interacts with activities

EXAMPLE A sales representative who travels to visit customers.

Note 1 to entry: Actors may be internal or external to an organization. In the automotive industry, an original equipment manufacturer would be considered an actor by an automotive dealership that interacts with its supply chain activities.

[SOURCE: TOGAF 9.2, 3.2, modified]

3.2.2

architecture principles

qualitative statement of intent that is intended to be met by the architecture

Note 1 to entry: Architecture principles are a set of principles that relate to architecture work. They reflect a level of consensus across the enterprise and embody the spirit and thinking of existing enterprise principles. Architecture principles govern the architecture process, affecting the development, maintenance, and use of the enterprise architecture.

[SOURCE: TOGAF 9.1, 3.16]

3.2.3

architecture view

representation of a related set of concerns.

Note 1 to entry: The term view is used as a synonym for architecture view.

[SOURCE: TOGAF 9.2, 3.17]

3.2.4

architecture viewpoint

specification of the conventions for a particular kind of *architecture view* ([3.2.3](#))

Note 1 to entry: An architecture viewpoint can also be seen as the definition or schema for that kind of architecture view. It establishes the conventions for constructing, interpreting, and using an architecture view to address a specific concern (or set of concerns) about a system-of-interest.

Note 2 to entry: The term viewpoint is used as a synonym for architecture viewpoint.

[SOURCE: TOGAF 9.2, 3.18]

3.2.5

capability

ability that an organization, person, or system possesses

EXAMPLE Marketing, customer contact, or outbound telemarketing.

[SOURCE: TOGAF 9.2, 3.30]

3.2.6

data architecture

description of the structure and interaction of the enterprise's major types and sources of data, logical data assets, physical data assets, and data management resources

Note 1 to entry: Logical data entities can be tied to applications, repositories, and services and may be structured according to implementation considerations.

Note 2 to entry: The concept of "data" is intentionally not defined here, as it is part of the data architecture definition for each application scenario. It is according to the specific requirements of that scenario.

[SOURCE: TOGAF 9.2, 3.36]

3.2.7

metamodel

model that describes how and with what the architecture will be described in a structured way

[SOURCE: TOGAF 9.2, 3.50]

3.2.8**role**

usual or expected function of an *actor* (3.2.1), or the part somebody or something plays in an action or event

Note 1 to entry: It is also defined as a part an individual plays in an organization and the contribution they make through the application of their skills, knowledge, experience, and abilities.

Note 2 to entry: An Actor may have several roles.

[SOURCE: TOGAF 9.2, 3.31]

3.2.9**solution architecture**

description of a discrete and focused business operation or *activity* (3.1.2) and how information service (IS)/information technology (IT) supports that operation

Note 1 to entry: A solution architecture typically applies to a single project or project release, assisting in the translation of requirements into a solution vision, high-level business and/or IT system specifications, and a portfolio of implementation tasks.

[SOURCE: TOGAF 9.2, 3.69]

4 Records management viewpoint purpose and content overview**4.1 Records management viewpoint purpose**

The main scope of this viewpoint is the motivational aspect with the layers of strategy and MODE business, but with considerations for the layers of application and implementation.

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 Table 1 summarizes this viewpoint, which is defined below with the following model artefacts:

- [Table 2](#): Core records management stakeholder map matrix;
- [Figure 3](#): Records management information view (ArchiMate diagram);
- [Figure 4](#): Records management information view (UML class diagram);
- [Figure 5](#): Records management business motivation view — Goals (ArchiMate diagram);
- [Figure 6](#): Records management business motivation view — Capability (ArchiMate diagram);
- [Figure 8](#): Records management motivation view — Architecture principles (ArchiMate diagram);
- [Figure 9](#): Records management reference application scenarios (ArchiMate diagrams);
- [Figure 10](#): Records management strategy and implementation view (ArchiMate diagram).