Digital Records Conversion/Migration

FOIP and Information Management, Enterprise Information Management

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Alberta

Contents

Standard Statement

This standard outlines recordkeeping requirements that must be met when converting digital records from one format to another, and when migrating digital records from one hardware or software configuration to another.

Authority

- *Government Organization Act*
- Records Management Regulation

Scope

This standard applies to all departments defined under section 14 of Schedule 11 of the *Government Organization Act* and agencies, boards, and commissions as defined in Schedule 1 of the Freedom of Information and Protection of Privacy Regulation.

Agencies, boards, and commissions that are not contained within Schedule 1 of the Freedom of Information and Protection of Privacy Regulation are encouraged to align with this standard.

Departments requiring an exception must follow the Cybersecurity Services exception process. Please contact your Sector Information Security Officer (SISO) to discuss the exceptions process; if your department is not part of a sector, please contact Service Alberta, Enterprise Information Management.

Standard Description

This standard:

- ensures a consistent approach to the migration and conversion of digital records;
- ensures the integrity and authenticity of digital records by providing evidence of business activities, decisions or transactions; and
- enables a consistent approach to the long-term preservation of digital records.

Standard Specification

This standard is specified by:

- ISO 13008:2012 (E): Information and documentation – Records management – Concepts and principles

ISO 13008:2012 (E) is to be applied when converting and/or migrating digital records to another digital format or digital environment, not to the digitization of physical records. The authoritative Government of Alberta standard for digitizing records is the Digitization Standard.

ISO 13008:2012 (E) is published by the International Organizations for Standardization. Outlined below are the foundational principles for digital records conversation and migration.

For additional information, please consult ISO 13008:2012 (E).

Recordkeeping requirements:

The following activities shall be completed for a successful digital conversion or migration process, to ensure that recordkeeping requirements outlined in this clause can be met.

- Perform all conversion and migration process testing on a sample copy of the records. In case problems arise, do not undertake any irreversible activities. When performing conversion or migration activities, make sure the originating file is not

deleted until the result is verified, and any jurisdictional legislative and policy requirements are met.

- Establish a methodology for comparing the content, context and structure of the converted/migrated records with those of the source records so that problems can be identified, corrected and validated. The source records may be disposed of once the validation is complete and all problems are fixed, and such decisions are documented and validated. In addition, ensure that all jurisdictional legislative and policy requirements are met before any source records are destroyed.

- Document all conversion and migration activities to ensure that the organization continues to possess complete, accessible and authentic records throughout their full retention period. This documentation shall demonstrate that all records, including those created while the conversion/migration activities were in progress, have been converted/migrated.

- Ensure that processes applied to the new format will yield consistent results compared to the same or similar processes applied in the originating format.

- It is possible that some of the digital information may be lost or corrupted prior to the conversion or migration. If this happens, document the damage. A conversion and migration plan should aim to reduce the risk of further degradation of the content, context and structure of the records to an absolute minimum.

- Consider physical and logical security when conversion or migration is undertaken. Physical security means access control to IT suites; logical security means access control to the platform in which the conversion or migration is being undertaken. The conversion and migration process shall not affect existing access rights to the data.

- Define what metadata and data are needed to retain the ability to reproduce a complete and authentic record so that this data can be protected during the conversion or migration.

- Define what metadata are needed in order to identify and use the record so that the record can be searched for and accessed after the conversion or migration.

- Document any attributes of the record that should not be converted to the new format, or migrated to the new system, and state the reason.

- The conversion or migration of digital records from one technology environment to another can alter the content, context or structure of the records. If this occurs, the organization might risk non-compliance with recordkeeping requirements through loss of the records' reliability and authenticity. An effective digital conversion and migration plan can be used to identify all of the characteristics of the records that shall be preserved after the records have been converted or migrated.

- Consult a records retention and disposition schedule prior to initiating a digital conversion or migration project in order to ensure that resources are not wasted on converting or migrating digital records that are to be destroyed.

- Identify records that are relational or linked and establish whether existing relationships or links could be compromised by the conversion or migration. Establish safeguards to protect these links during the conversion or migration.

- Determine whether the appearance of the record contributes to its meaning as a digital record (considering such things as formatting, colours, fonts, etc.). If appearance is integral to the meaning, the plan shall address how to maintain it. Once conversion or migration is complete, document any changes to the appearance of the record.

- Digital records (e.g. text documents, e-mail messages, databases, spreadsheets, web pages) are created using the technology (hardware and software) that is available at the time of their creation. The targeted format of the records shall be defined, and

conversion or migration shall occur as quickly as possible before the current format of the digital information becomes obsolete so that new technology can be used for the conversion or migration procedures.

- Recordkeeping process metadata are essential to prove authenticity and reliability. A formal evaluation of the extent of the process metadata is required prior to deciding whether some or all of this metadata should be converted or migrated.

Metadata Requirements

Metadata documenting the conversion and/or migration process provides the information that allows one to demonstrate that a record, having gone through the conversion or migration process, continues to be authentic and reliable. The creation, maintenance, and preservation of this information is extremely important.

For the purposes of documenting the processes of conversion and migration, the event history metadata are crucial. During conversion/migration, the existing event history metadata shall be migrated with the record in order to ensure the ability to make assertions on the authenticity of the record. Every conversion or migration process shall create event history metadata for every individual record converted or migrated.

Relationships documented in metadata shall be maintained during conversion/migration. Relationships of particular concern may be:

- Internal relationships, i.e. within the document, such as a document containing a linked spreadsheet or images;
- Functional relationships, for example between records documenting related aspects of the business;
- Aggregational relationships, for example documents aggregated to files/folders;
- Structural relationships, for example between records and creating agents, or business;
- Systematic relationships between records and control tools, such as business classification schemes, disposition authorities, access and security controls, and mandates (these control tools contain contextual information which informs the meaning of the record).

For additional guidance on Government of Alberta metadata, please refer to the [IMT Metadata – Core Content Standard and supporting documents](#).

Definitions

NOTE: Unless otherwise specified, these definitions are from ISO 13008:2012 (E): Information and documentation – Records management – Concepts and principles.

Authenticity: An authentic record is one that can be proven to:
- be what it purports to be;
- have been created or sent by the agent purported to have created or sent it; and
- have been created or sent when purported.

Conversion: process of changing records from one format to another while maintaining the characteristics of the records.

Integrity: quality of being complete and unaltered.

Migration: process of moving records, including their existing characteristics, from one hardware or software configuration to another without changing the format.

Record(s): "Records" means a record of information in any form and includes notes, images, audiovisual recordings, x-rays, books, documents, maps, drawings, photographs, letters, vouchers and papers and any other information that is written, photographed, recorded or stored in any manner, but does not include software or any mechanism that produces records.
Source: *Freedom of Information and Protection of Privacy Act*

Compliance

Consequences of non-compliance with this standard could result in the loss of information, damage to Government of Alberta's reputation, exposure of Albertans to harm and/or incurrence of unnecessary costs. Depending on the severity of non-compliance:

- either informal or formal requests and/or follow-ups may be made by Enterprise Information Management, Corporate Internal Audit Services, Corporate Information Security Office, Office of the Information Privacy Commissioner, and/or Public Service Commission, and
- legislated disciplinary action (i.e., *Public Service Act*) may be taken.

References and Supporting Resources

- Digital Records Conversion Migration Checklist
- 13008:2012(E) Digital Records Conversion and Migration Process

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