

TECH TRENDS



Enterprise Content Management as an Information Governance Enabler

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Part 3 of the newest ARMA International book, *Information Governance Concepts, Requirements, Technologies*, describes four categories of technologies that enable information governance (IG):

1. Technologies that organize, analyze, and categorize information.
2. Technologies that manage the information lifecycle
3. Technologies that retrieve information
4. Technologies that address risk management and information security requirements

The book describes a variety of technologies under each of these categories. This excerpt focuses on enterprise content management (ECM), one of the technologies in the first category: those that organize, analyze and categorize information.

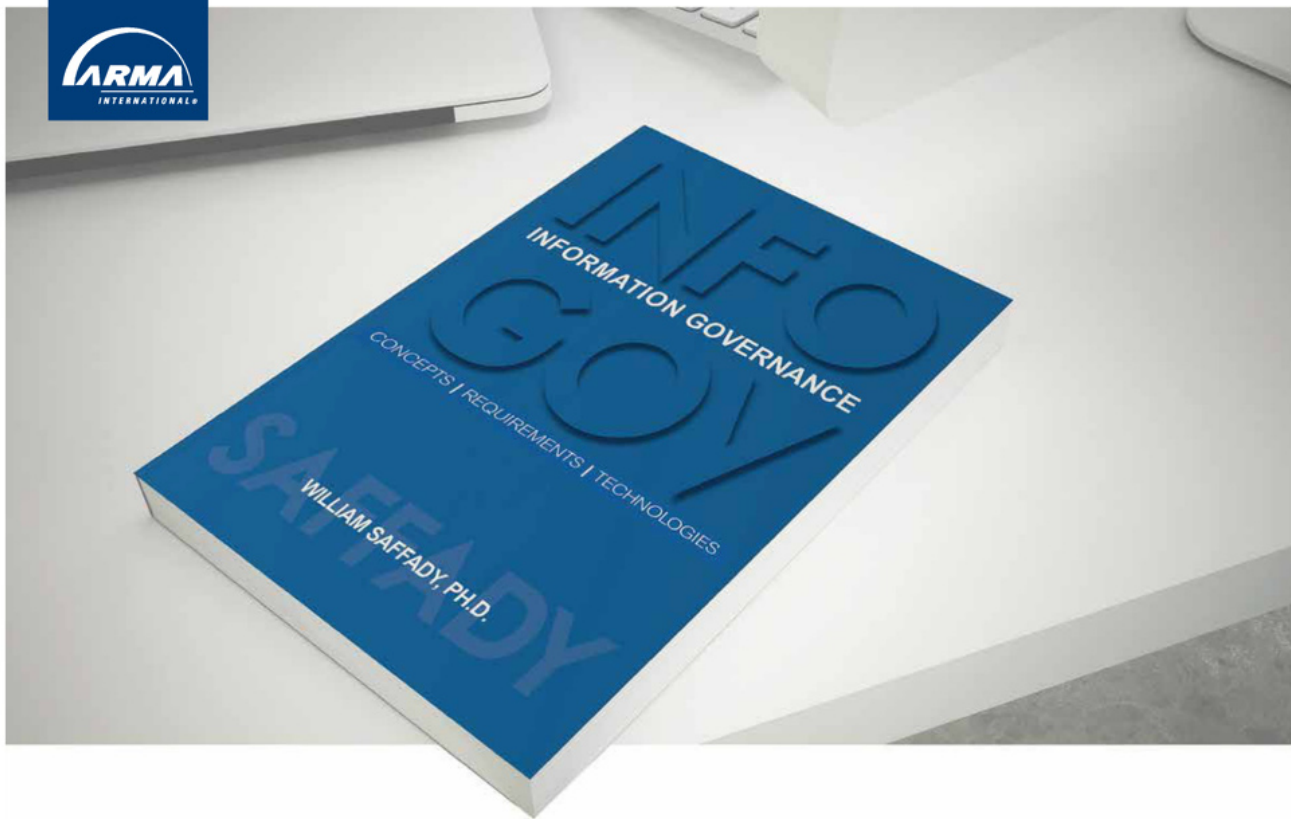
ECM

ECM software creates and maintains an organized, searchable repository of digital documents and other unstructured digital content. Examples include word processing files, spreadsheets, e-mail messages, digital images generated by document scan-

ners or digital cameras, presentation aids, web pages, computer-aided design files, graphic arts files, blogs, audio recordings, and video recordings.

Digital content of different types from a variety of sources can be comingled within a given repository, and multiple repositories can be established for specific organizational units, business processes, or content types.

ECM is a well-established, widely implemented technology that has been commercially available for more than three decades. ECM software is available for in-house installation on



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servers operated by an organization's information technology unit or as a cloud-based offering.

ECM systems are sometimes characterized as electronic document management systems, but ECM functionality is not limited to document organization and retrieval. Subject to product-specific variations, ECM systems also support:

- The incorporation of digital content into web pages
- Version control for website content
- Preparation of presentation aids with media content
- Management of rights and permissions for video presentations, conference call recordings, artworks, and audio-visual media.

Some of these capabilities are also supported by other information governance technologies discussed in subsequent sections.

ECM Characteristics

ECM software creates and maintains repositories that combine topical folders with in-depth indexing for organization and retrieval of digital content:

Authorized users can define hierarchically structured file plans (taxonomies) with labeled folders and subfolders nested to multiple levels. Digital content can be imported into a designated repository by dragging and dropping it into specified folders or subfolders, by batch transfers from directories or subdirectories on network servers, or by saving it within its originating applications – a word processing document or presentation can be saved to a designated repository when it is created or edited, for example.

Some ECM developers offer prebuilt file taxonomies for specific industries or widely encountered business functions to simplify implementation. Industry examples include banking and insurance, and human resources, project management, and contract management are some busi-

ness functions for which prebuilt file taxonomies may be implemented. These prebuilt taxonomies can be customized for specific situations.

ECM applications support user-defined metadata at the folder, subfolder, and item level for indexing and descriptive purposes. Some metadata, such as the date a folder or document was created, can be derived automatically. Other information must be key-entered when

repositories. This capability, sometimes characterized as federated searching, is discussed more fully later in this part. Federated searching may be limited to repositories maintained by the ECM application or extended to other information sources such as online databases, websites, or shared files on network servers.

Security controls limit access to digital content on a need-to-

ECM in Summary

With its flexible retrieval functionality and ability to handle a broad range of digital content, ECM is an important technology for all information governance stakeholders with the possible exception of archival administration, which is responsible for permanent preservation of information of historical value. ECM is not an archiving technology. It is intended for digital content that is in the active phase of the information lifecycle. For records management, ECM is the principal technology for organization and online retrieval of digital content that is consulted regularly and frequently for business purposes. In companies, government agencies, and not-for-profit organizations, it is the technology of choice for actively referenced content with demanding retrieval requirements.

digital content enters a repository. All metadata is fully searchable. Full-text indexing can be applied to character-coded content.

Digital documents needed for a given purpose can be identified through a variety of browsing options. Users may browse through folders and subfolders; search metadata associated with specific folders, subfolders, and items; or search by words or phrases contained in documents, assuming that full-text indexing is utilized. Retrieval functionality includes exact matches of specified field values, relational expressions, Boolean operators, and phrase searching (where full-text indexing is utilized).

Some ECM applications permit simultaneous searching of multiple

know basis to prevent unauthorized retrieval of personally identifiable information, protected health information, or other confidential or sensitive information. An organization can define access privileges at the repository, folder, subfolder, and item levels. Search results are limited to digital content that a user is authorized to see, and searchers are not aware of the existence of unauthorized content.

An ECM application maintains an audit trail of document-related activity. It tracks all input, editing, deletion, retrieval requests, display, printing, or other actions performed by a specific user with a given digital document, including failed access attempts by unauthorized persons.

Retrieved content can be sent as

an e-mail attachment, uploaded to a shared workspace, or reviewed and edited by authorized persons within its originating application or a compatible equivalent. ECM applications also allow authorized users to append comments, instructions, or free-form annotations to folders, subfolders, or items, and they will track changes and conclusively identify the latest versions of digital content. These capabilities are particularly useful for legal briefs, contracts and agreements, engineering specifications, regulatory submissions, standard operating procedures, and other documents that are subject to multiple revisions and a prescribed approval process involving multiple stakeholders.

Some ECM applications provide a secure collaboration space. In this space, digital content can be saved for controlled access by approved external parties – litigation-related documents that an organization's legal department wants to share with outside counsel, for example, or technical drawings that an organization wants to share with engineering consultants.

Some ECM applications support workflow programming for business processes. These processes require routing of digital content among authorized persons in a prescribed sequence in order to complete transactions or other operations.

ECM and IG Stakeholders

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Standards Applicable to Enterprise Content Management

ISO 12651-1, Electronic document management—Vocabulary—Part 1: Electronic document imaging

ISO/TR 14105, Document management—Change management for successful electronic document management system (EDMS) implementation

ISO 16175-2, Information and documentation—Principles and functional requirements for records in electronic office environments—Part 2: Guidelines and functional requirements for digital records management systems

ISO 22957, Document management—Analysis, selection and implementation of electronic document management systems (EDMS)

BS PAS 89:2012, Enterprise content management: Code of practice

online retrieval of digital content that is consulted regularly and frequently for business purposes. In companies, government agencies, and not-for-profit organizations, it is the technology of choice for actively referenced content with demanding retrieval requirements.

To address compliance and risk management concerns, an organization can create an ECM repository of digital content associated with specific regulatory requirements. Similarly, ECM repositories can house digital content that is relevant for specific legal proceedings or, in the case of data science, for analytical projects.

As with other enabling technologies, information technology is responsible for the computing and networking infrastructure within which ECM operates. Information security must ensure that digital content is protected against unauthorized access, data breaches, and other adverse events, and it must take appropriate action when such events occur. Compared to organization of digital content in folders on network

drives or elsewhere, ECM repositories are much more secure. **E**



About the Author: William Saffady, Ph.D., FAI, is an independent records and information management consultant who provides training and analytical services to corporations, government agencies, and other organizations. A former professor at Long Island University and State University of New York at Albany, he is the author of numerous articles and more than three dozen books, including the new book from which this article was excerpted, *Information Governance Concepts, Requirements, Technology*, and the best-selling *Records and Information Management: Fundamentals of Professional Practice*, 3rd Ed. (Both are available for purchase at www.arma.org/bookstore.) Saffady can be contacted at wsaffady@aol.com.