Analysis of MOSS 2007 and SharePoint 2010 against ICA ERMS Requirements

Document No:	**<1.0>**
Revision:	<2.0>
Author:	John Wise and Rhonwyn Colley
Effective Date:	27 April, 2010
Electronic File:	Analysis Of MOSS 2007 And SP 2010 Against ICA ERMS Requirements V2.0 27042010

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Document Control

Date	Version	Author List	Changes
9 March 2010	1.0	John Wise Rhonwyn Colley	Initial Version
20 April 2010	2.0	John Wise Rhonwyn Colley	Revised based on NAA and Microsoft feedback

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1. Executive Summary

1.1 Introduction

This document provides an analysis of the Microsoft SharePoint solution against the National Archives of Australia's (NAA) enhanced *Principles and Functional Requirements for Records in Electronic Office Environments*, now endorsed by the International Council on Archives (ICA). An Australasian Digital Records Initiative (ADRI) and ICA co-sponsored project developed these specifications under the ICA's Electronic Records and Automation Priority Area "to produce globally harmonised principles, functional requirements and generic guidelines for software which is used to create and manage electronic records in office environments".

The specifications comprise the following three modules:

- **Module 1: Overview and Statement of Principles**: background information, organisation, fundamental principles and additional context.
- **Module 2: Guidelines and Functional Requirements for Records in Electronic Offices**: a global high level statement of core and optional requirements, including application guidelines and a compliance checklist; and
- **Module 3: Guidelines and Functional Requirements for Records in Business Systems:** Guidelines and generic core and optional functional requirements for records in business systems.

This document provides an analysis against Modules 1 and 2. An example is also provided of compliant records management metadata configuration referencing the NAA *Australian Government Recordkeeping Metadata Standard* (version 2.0), a specification now widely adopted by other Australian jurisdictions, New Zealand and Spain.

For ease of understanding the assessment the document also includes a definition of SharePoint terminology and an overview of MOSS 2007 and SharePoint 2010 records management functionality.

1.2 Approach

The document assesses the principles and functional specifications in Module 1 and 2:

- Module 1 Section 3 Guiding Principles.
- Module 2 Section 3 Functional Requirements.

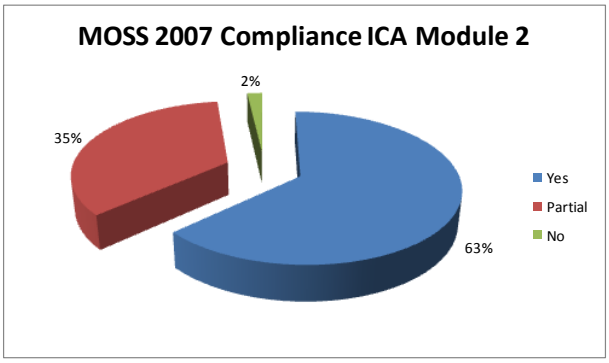
Each detailed requirement in the Functional Requirement document is assessed. Compliance results are shown for both MOSS 2007 and SharePoint 2010 where it:

- **Complies** - meets the functional specification either as a standard feature or with configuration either directly or with the use of simple add-on tools either via third party software vendors or available via Microsoft's open source software CodePlex site.
- **Partial** - meets the requirements with more complex configuration, separate third party software, or some development is required for full functionality.
- **Non compliance** - where it does not meet the requirements without additional development.

Comments describe how MOSS 2007 and SharePoint 2010 might be configured to meet the requirements or where it falls short of the requirements.

1.3 Analysis Results

The overall results of the compliance assessment against the Module 2 Section 3 Functional Requirements for both MOSS 2007 and SharePoint 2010 are shown below.



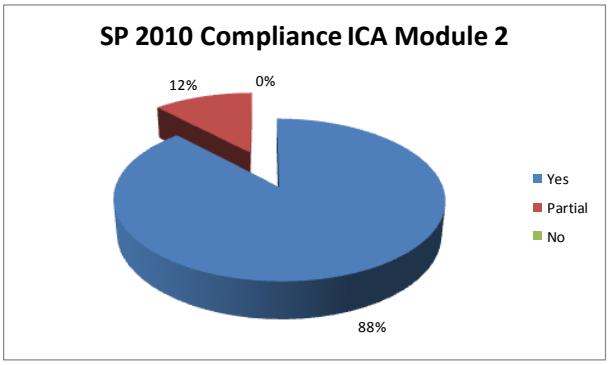


Figure 1 Overall MOSS 2007 and SP 2010 Compliance Results

As the graphs show, with a 63% compliance result, MOSS 2007 Enterprise version is found to be a partially compliant solution out of the box. It is difficult to achieve required compliance levels with MOSS 2007 without complex configuration and add ons. While MOSS 2007 can be considered as a user friendly, collaboration front end, it needs to be integrated with a compliant ERMS back end or a pre-configured third party records management add-on to achieve substantial compliance.

With an 88% compliance result, SharePoint 2010 is shown to be largely compliant, albeit with configuration still required to address specific records management functions, and some add-ons for requirements such as security classifications and physical records. Key improvements reduce the complexity of configuration significantly compared with MOSS 2007, such as records declaration, improved audit trails, content organiser, document sets, file plan and location based policies, and managed metadata terms. There is a relatively small gap to be filled by add-on software or complex configuration. In addition SharePoint 2010 has the advantages of improved ease of use, automated metadata capture, improved search and retrieval using this improved metadata, and coverage of Web 2.0 and other rich media formats. Properly configured SharePoint 2010 appears to be able to deliver on the promise of providing business focused information and processes while at the same time supporting transparent compliance and records management. SharePoint 2010 addresses the scaling limitations of MOSS 2007 and may evolve into a viable ERMS alternative.

We believe it is also important to consider the *Module 1 Overview and Statement of Principles* in evaluating these solutions. The module sets out Record and System-Related principles that should be considered in designing and implementing ERMS systems. Both MOSS 2007 and SharePoint 2010 can be configured to meet the key System-Related ease of creation/capture and default metadata principles, essential for end user acceptance and quality of information capture. Third party tools are required to meet some of the other System-Related principles including bulk import, export and security. While both address the Records-Related principles, SharePoint 2010 has the advantage of a defined records declaration capability, and its content organiser allowing business information to be managed as an asset transparently to the end user.

In terms of the NAA Recordkeeping Metadata standards, our analysis shows that both MOSS 2007 and SharePoint 2010 can be configured to capture the majority of required metadata and event history. Both require the use of a combined Record, Agent, Business and Mandate model to simplify configuration using Content Types. SharePoint 2010 has the advantage of a term store and managed metadata columns to provide the required hierarchical metadata schemes, as well as additional recordkeeping metadata as standard, improved auditing of events and improved retention policy functionality.

A full list of key gaps and required third party add-on tools is set out in section 8.3 Summary of Key Gaps and Add-on Requirements.

Based on this gap analysis, we believe organisations reviewing MOSS 2007 as an ERMS solution need to consider the complexity of configuration and number of add-on functions and tools that may be necessary to achieve a reasonable level of compliance. Where an organisation already has a compliant ERMS we believe MOSS 2007 (together with Office 2007) is best considered as a user friendly front end for collaboration and related business needs, but the organisation should continue to rely on its ERMS as the compliant corporate repository. This assumes of course that the ERMS supports automated item level integration with MOSS 2007.

In the case of SharePoint 2010, we believe SharePoint can be a viable solution, particularly where the majority of information is in an electronic form. Out of the box, SharePoint 2010 does not possess some key functionality needed for full compliance, particularly the gaps with:

- **Native security classification and access control** – despite having item level security SharePoint 2010 is unable to impose classifications on information, or to control access effectively.
- **Physical and hybrid information management tools –** SharePoint 2010 is focussed on electronic records and is unable to manage paper and other physical format information effectively**.**
- **Ease of email capture –** despite SharePoint supporting email enabled lists and libraries, third party Outlook add ins are still required to simplify user capture of email and required metadata

SharePoint 2010 when combined with effective third-party providers for the above gaps is able to provide significant potential improvements to the implementation of organisational information architectures.

1.4 Conclusion

Our conclusions in this analysis are as follows:

- **Significant progress has been made** through both later releases and the availability of add-on software from Microsoft software partners expanding the feature set to meet records management business requirements, while retaining ease of use and improved metadata capture promised with MOSS 2007.
- **Usability, ease of use, collaboration support and features such as default or automated metadata and records classification,** provided by MOSS 2007 and extended by SharePoint and Office 2010, means these tools are likely to become accepted solutions in many business situations.
- The recent **SharePoint 2010 release significantly improves records management functionality and overcomes limitations in sizing and scale that limited MOSS 2007's use** as the central corporate information management repository.
- These improvements and the forward direction provided by Microsoft mean that **MOSS 2007 / SharePoint 2010 can now be considered as an option for some less complex corporate records management functions**, particularly where much of the content is digital, generated via Office, collaborative sites or directly using web sources. The main downside is the need for supplementary tools or third party add-ons to meet varying needs.
- The **main areas of non compliance** in the improved SharePoint 2010 **are with security classifications**, **simple email and related metadata capture** and **the management of physical or hybrid records**

While MOSS 2007 Service Pack 2 and SharePoint 2010 offer improved records management compliance we note that the achievement of these results is reliant on appropriate design and governance of implementation, configuration and set up to ensure consistency with desired records management outcomes

2. Overview

2.1 Introduction

This document provides an analysis of the Microsoft SharePoint solution against defined Records Management requirements. The assessment uses the International Council on Archives (ICA) *Principles and Functional Requirements for Records in Electronic Office Environments* referred to in this document as ICA Functional Specification.

The objective of this document is to provide a detailed analysis of the "out of the box" features of MOSS 2007 and SharePoint 2010 and how these compare to these records management requirements. This is done with the aim of working together with National Archives Australia and other relevant stakeholders to:

- Clarify and subsequently apply the standards in the correct manner to identify accurately the functional gaps that may exist within MOSS 2007 and SharePoint 2010 and their ability to meet the requirements.
- Define a future strategy and road map to address the identified feature gaps including comments on enhanced SharePoint 2010 functionality and established third party add-ons that now are available to close some of these gaps.
- Develop the required functionality and / or packages within MOSS 2007 and SharePoint 2010 which confirm to the nominated standards.
- Continue utilisation of this framework to assess other record keeping standards (e.g. VERS).

2.2 Relevant Records Management Standards

In addition to the *ICA Functional Specification*, a separate document is available that assesses MOSS 2007 and SharePoint 2010 against the National Archives of Australia Electronic Records Management Specification also referencing the Records Management ISO 15489 Standard.

International Council on Archives (ICA) and Australasian Digital Records Initiative (ADRI)

The Australasian Digital Records Initiative (ADRI) is an undertaking of the Council of Australasian Archives and Records Authorities, the peak body of government archives and records institutions in Australia and New Zealand. ADRI has co-sponsored with the International Council on Archives (ICA) a project under the ICA's Electronic Records and Automation Priority Area to produce globally harmonised principles, functional requirements and generic guidelines for software which is used to create and manage electronic records in office environments.

This project, which was led by NAA and featured participation from twelve other archival institutions from around the world, has published three separate but inter-related modules:

- Overview and Statement of Principles
- Guidelines and Functional Requirements for Electronic Records Management Systems
- Guidelines and Functional Requirements for Records in Business Systems.

In addition to harmonising existing requirements for ERMS software, this project has also taken the important step of developing guidelines and requirements for managing records in business systems. The ICA functional specification for records in business systems has already entered into the ISO PAS process for ISO certification.

National Archives of Australia (NAA) Functional Specifications for Electronic Records Management Systems Software Specifications

In addition to the guidelines in the Records Management ISO 15489 standard, the National Archives of Australia (NAA) developed of a set of requirements for Electronic Records Management Systems Software[1]. This specification was

[1] National Archives of Australia, *Functional Specifications for Electronic Records Management Systems Software*, exposure draft, 2006, http://www.naa.gov.au/Images/ERMSspecifications_tcm2-1007.pdf

developed to provide Australian Government agencies with a set of generic requirements for ensuring adequate recordkeeping functionality within electronic records management systems (ERMS) software. This document provides mandatory, required and desirable aspects for an electronic records management system. An organisation that aims to be compliant to the *ICA/ADRI Functional Specification* will not necessarily be compliant with the Australian Records Management ISO 15489. Organisations should examine the Records Management ISO 15489 Standard in detail as well as investigating their local, state and national compliance requirements.

State Archive Institutions have developed additional specifications drawing on the NAA Specifications, ADRI functional specifications and local jurisdictional requirements. Organisations need to review state specifications against the NAA and ADRI requirements to determine other compliance needs.

National Archives of Australia (NAA) Australian Government Recordkeeping Metadata Standard (Version 2.0)

NAA has led the development of the Australian *Government Recordkeeping Metadata Standard* (version 2.0) a metadata specification now widely adopted by other Australian jurisdictions, New Zealand and Spain.

The standard is based on a multiple-entity model, allowing for the description of five separate entities: Record, Agent, Business, Mandate and Relationship. It defines a basic set of 26 metadata properties and an additional 44 sub-properties that may be used to describe these entities.

While this standard is designed primarily for use in electronic records management business systems, many of its concepts are also applicable to traditional paper-based or hybrid records management environments still in use by agencies. It should be regarded as a foundation on which agencies can build any of their additional specialised recordkeeping requirements.

2.3 Objective and Aim of the Report

Within Australia, both Public and Private organisations are embarking on initiatives to improve their compliance with State and Federal laws that dictate how corporate information should be captured and managed. An underpinning requirement is the need for a technology platform to deliver a number of must have functional features (requirements) that will assist these organisations in meeting their compliance obligations.

A MOSS 2007 GAP analysis report was completed in June 2007 by Desmond Russell and Alyssa Driver of Image Process Solutions to provide an illustration of how Microsoft technologies can support the implementation of a compliant record keeping system as defined by the Australian Standard for Records Management and an earlier NAA ERMS Functional Specification.

This document provides an assessment of compliance of the latest release of Microsoft Office SharePoint Server 2007 (MOSS 2007 Service Pack 2) Enterprise version document, relevant add-on software and experience from actual deployments of MOSS 2007 against the *ICA Functional Specification.* The document also assesses the latest release SharePoint 2010 version against this specification. SharePoint 2010 has several improvements to offer in the area of records and information management over its predecessor MOSS 2007, including:

- **Improved useability** – gives enhanced access to diverse sources of information, including "web 2.0" applications, line-of-business applications, and traditional document stores.
- **Improved search and retrieve** – able to find relevant information more easily due to the introduction of FAST search technologies.
- **Improved organisational tools** – facilitates organisation of information content in accordance with a variety of standardised or user-defined taxonomies; from metadata schema to user tagging.
- **Improved management tools** – provides management of data location and the information life cycle (i.e. disposal).

The *ICA Functional Specification* comprises three separate but interrelated modules:

- **Module 1: Overview and Statement of Principles**: background information, organisation, fundamental principles and additional context.

- **Module 2: Guidelines and Functional Requirements for Records in Electronic Offices**: a global high level statement of core and optional requirements, including application guidelines and a compliance checklist; and
- **Module 3: Guidelines and Functional Requirements for Records in Business Systems**: Guidelines and generic core and optional functional requirements for records in business systems.

This document provides an analysis against Modules 1 and 2.

An example is also provided of compliant records management metadata configuration referencing the Archives *Australian Government Recordkeeping Metadata Standard* (version 2.0) and specification now widely adopted by other Australian jurisdictions, New Zealand and Spain.

This document includes a definition of SharePoint terminology and an overview of MOSS 2007 and SharePoint 2010 records management functionality for ease of understanding the assessment.

2.4 Approach

This document provides an analysis of the compliance against the *ICA Functional Specification*. The document follows the principles and functional specifications in Module 1 and 2:

- Module 1 Section 3 Guiding Principles:
  - 3.1 Records-related principles
  - 3.2 Systems-related principles
- Module 2 Section 3 Functional Requirements
  - 3.1 Capture
  - 3.2 Identification
  - 3.3 Classification
  - 3.4 Managing authentic and reliable records
  - 3.5 Hybrid records management
  - 3.6 Retention and disposal
  - 3.7 Search, retrieve and render
  - 3.8 Administration

From each section, analysis results are shown in a table that contains the detailed requirement as listed in the functional specification. The MOSS 2007 and SharePoint 2010 Compliance columns detail where each product meets the functional specification and standard, where it partially meets the requirements and where it does not meet the requirements. Comments have been listed to describe how MOSS 2007 and SharePoint 2010 might further meet the requirements or where it falls short of the requirements.

As per the *ICA Functional Specification* the obligation levels are provided against each requirement:

The keywords 'must', 'should' and 'may' that appear in the requirements in Part 3 indicate the relative importance of each requirement. These keywords are to be interpreted as follows:

- *Must – requirements that use 'must' are necessary an absolute requirement for compliance with the requirement.*
- *Should – requirements that use 'should' may be ignored if a valid reason exists, but the full implications of this must be understood and carefully considered before choosing a different course.*
- *May – requirements that use 'may' are truly optional and may be incorporated or omitted as appropriate.*

The *ICA Functional Specification* also states that the specification *"reflects international consensus; the requirements and obligation levels are not jurisdictionally specific or legally binding. Users should asses their own legislative environmental issues, business requirements and risk assessments where appropriate."*

This document does not assess the features of the MOSS 2007 DoD 5015.2 optional pack as these features have been made redundant by enhancements to MOSS 2007, add-on software configurations provided via Microsoft's CodePlex service, www.codeplex.com, and the announced Records Centre features of SharePoint 2010.

2.5 Compliance Assessment Definitions

The following table provides the required information to interpret the report. Changes in definitions since the original assessment are highlighted in italics.

Compliance	Assessment	Explanation
Meets Requirement: **shown as YES in table**	**Standard Features**	Out of the box feature(s), that meet the requirement of the *ICA Functional Specification* with minimal configuration required.
	Configuration Required	This feature(s) is available within MOSS 2007 and / or SP 2010 however, it is recommended that organisations conduct additional planning/configuration around how this feature is implemented specific to their own needs. It is also noted where simple CodePlex or third party add-ons can satisfy this requirement with minimal impact to a standard SharePoint implementation
Partially meets requirement: shown as PARTIAL in table	**Additional Configuration Required**	The feature(s) is available within MOSS 2007 and / or SP 2010 however specialised, more complex configuration would be required to meet the requirements of the *ICA Functional Specification*. It is also noted where CodePlex or separate third party add-ons can satisfy this requirement with some impact to a standard SharePoint implementation
	Development	The feature(s) or tool is available in MOSS 2007, *and / or SP 2010* however organisations would need detailed design, development and /or configuration in order to implement according to their own requirements.
Does not meet requirement: shown as NO in table	**Additional Development**	MOSS 2007 *and / or SP 2010* cannot meet this requirement. Comprehensive customisation and subsequent testing would be required to achieve compliance.

3. Functional Analysis Summary Results

3.1 Overview

This section provides a summary of the results of the compliance assessment of MOSS 2007 and SharePoint 2010 against the individual requirements set out in Module 2 Part 3.

Functional requirements are grouped according to the clusters in the high-level model:

- Create
- Maintain
- Disseminate
- Administer

As defined in section 2.5 Compliance Assessment Definitions above each functional item is assessed:

- **Yes (Complies)** - meets the functional specification either as a standard feature or with configuration either directly or with the use of suitable add-on tools either via third party software vendors or available via Microsoft's open source software CodePlex site
- **Partial** - meets the requirements with more complex configuration, separate add-on software, or some development is required for full functionality
- **No (Non-compliance)** - where it does not meet the requirements without additional development.

Results are based on the total for all requirements, MUST, SHOULD and MAY.

3.2 Overall Analysis Results

The following graphs show the **overall compliance results** for MOSS 2007 and SharePoint 2010:

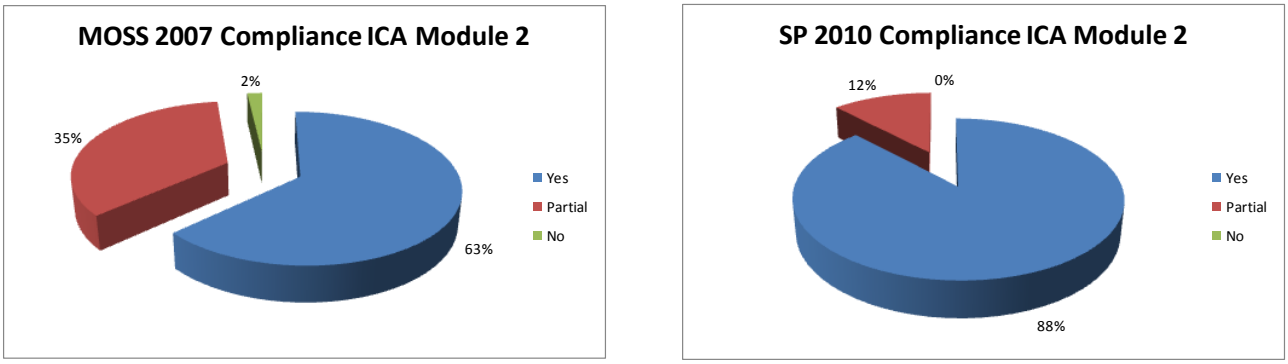


Figure 2 Overall MOSS 2007 and SP 2010 Compliance Results

As the graphs show, with a 63% compliance result, MOSS 2007 Enterprise version is found to be a partially compliant solution out of the box. It was found to be difficult to achieve required compliance levels with MOSS 2007 solely through configuration and simple add-ons. Significant add-ons, complex configuration and development are required to achieve a partially compliant solution. While MOSS 2007 can be considered as a user friendly, collaboration front end, it needs to be integrated with a compliant ERMS back end or a pre-configured third party records management add-on tool to achieve substantial compliance.

With an 88% compliance result, SharePoint 2010 is shown to be largely compliant, albeit with configuration still required to address specific records management functions, and some add-on tools for requirements such as security classifications. Key improvements reduce the complexity of configuration significantly compared with MOSS 2007, such as records declaration, improved audit trails, content organiser, document sets, file plan and location based

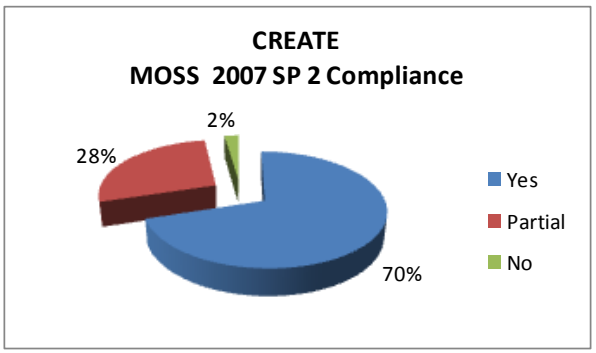
policies, and managed metadata terms. There is a relatively small gap to be filled by add-on software or complex configuration. In addition SharePoint 2010 has the advantages of improved ease of use, automated metadata capture, improved search and retrieval using this improved metadata, and coverage of Web 2.0 and other rich media formats. Properly configured SharePoint 2010 appears to be able to deliver on the promise of providing business focused information and processes while at the same time supporting transparent compliance and records management. SharePoint 2010 addresses the scaling limitations of MOSS 2007 and may evolve into a viable ERMS alternative.

3.3 Analysis Results for CREATE, MAINTAIN, DISSEMINATE and ADMINISTER

Evaluation results by process area are shown in the following table and graphs:

	Total	2007			2010		
	Requirements	Yes	Partial	No	Yes	Partial	No
CREATE	87	61	24	2	81	6	0
MAINTAIN	111	58	52	1	88	23	0
DISSEMINATE	51	37	12	2	49	2	0
ADMINISTER	26	18	8	0	24	2	0

There are 87 requirements under **CREATE**. Results for this process are shown below:



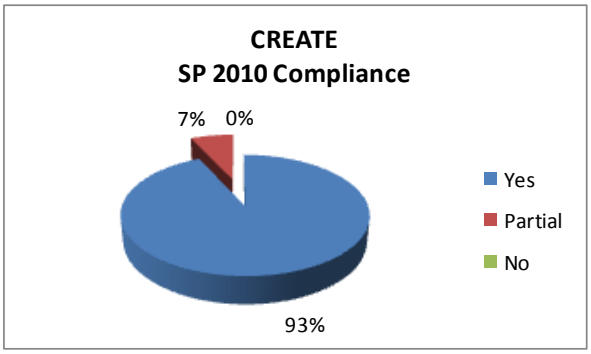
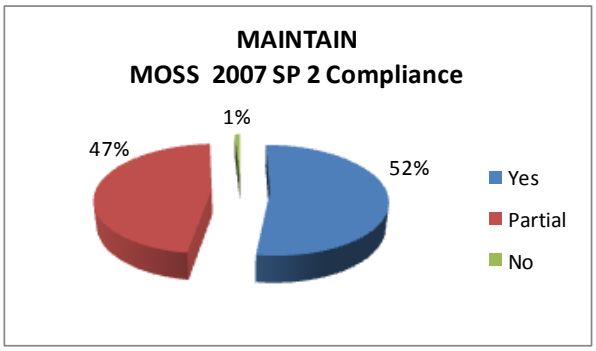


Figure 3 Part CREATE MOSS 2007 and SP 2010 Compliance Results

MOSS 2007 requires additional configuration or some development to meet many of the records management specific requirements including compound records, identification both of records and aggregation, thesauri and complex classification schemes and bulk import. SharePoint 2010 with its managed metadata, term store, file plan, content organiser and identification improvements largely meets these requirements with standard features or straight forward configuration. Additional third party tools are needed to easily manage and record physical records by volume.

We also note that both MOSS 2007 and SharePoint 2010 can be used with Office 2007 and Office 2010 to satisfy the key ease of use guiding principle, and that SharePoint 2010 supports capture and management of web and Gov 2.0 information sources.

There are 111 requirements under **MAINTAIN**. Results for this process are shown below:



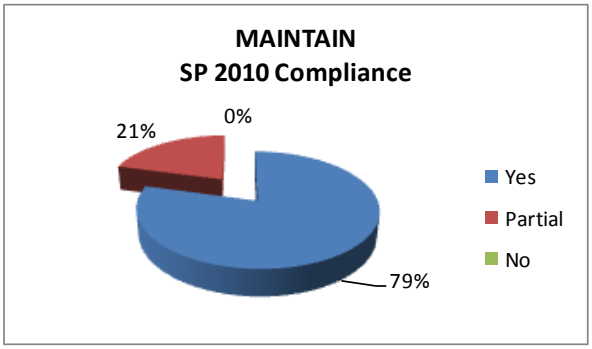
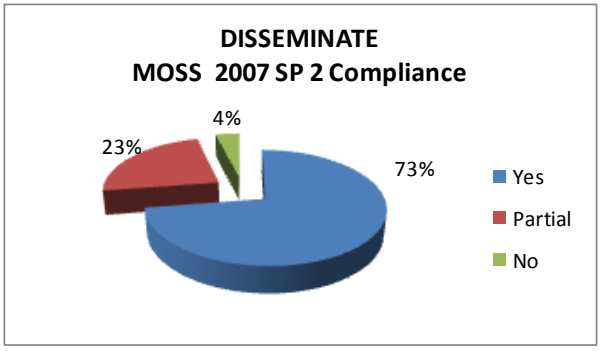


Figure 4 Part MAINTAIN MOSS 2007 and SP 2010 Compliance Results

MOSS 2007 requires significant additional configuration or development to meet many of the records management specific requirements including security controls, security classifications, records management process metadata and disposal authorities. SharePoint 2010 with its file plan, records declaration, location based records policies, improved information management policies and Content Organiser functionality can meet the majority of these requirements with standard features or straight forward configuration. While both MOSS 2007 and SharePoint 2010 provide item level permissions, third party add-ons such as those from Titus Labs and janusNET are required to meet security classification specific needs more easily, though a file plan workaround may suit some organisations. Both systems also require specific configuration to meet basic hybrid record needs with third party add ons required for complex physical record needs such as bar coding and transfer.

There are 51 requirements under **DISSEMINATE**. Results for this process are shown below:



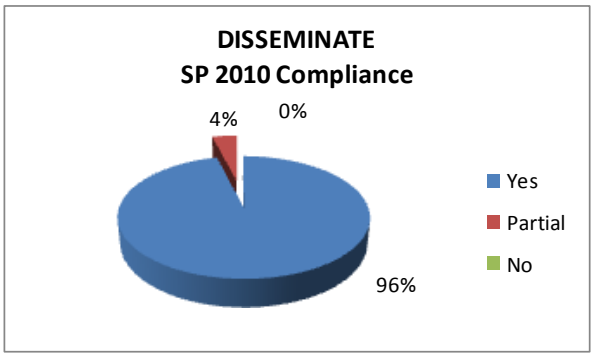
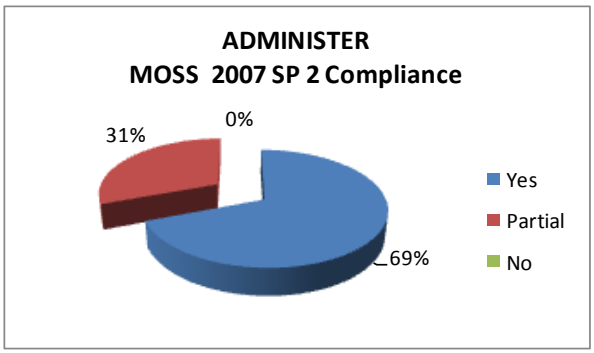


Figure 5 DESSIMINATE MOSS 2007 and SP 2010 Compliance Results

MOSS 2007 requires additional search functionality much of which is provided via Microsoft's CodePlex SharePoint Search Community Kit. SharePoint 2010 with its managed metadata, term store, large volume metadata filtering, and improved facetted search and results preview, largely meets these requirements with standard features or straight forward configuration.

There are 26 requirements under **ADMINISTER**. Results for this process are shown below



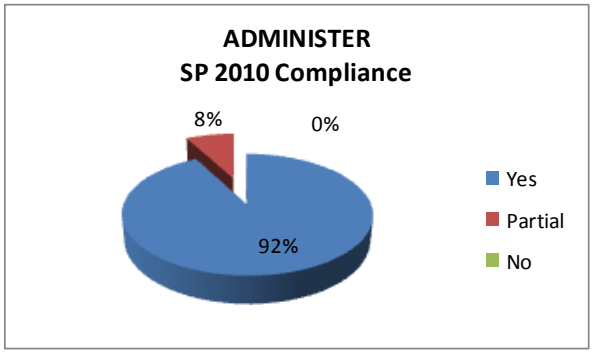


Figure 6 ADMINISTER MOSS 2007 and SP 2010 Compliance Results

MOSS 2007 requires additional configuration or some development to simplify some of the specific ADMINISTER requirements. SharePoint 2010 benefits from being a more mature product, better able to scale and easier to deploy than MOSS 2007. Content Organizer also meets specific requirements for bulk changes, though some third party tools should still be considered for item level backup and recovery.

4. Overview of Microsoft SharePoint Records Management Concepts and Design

This section provides an overview of key Microsoft SharePoint terms used in this analysis together with examples of how MOSS 2007 and SharePoint 2010 can be configured to address both business and records management requirements.

4.1 Definition of Microsoft Terms

To ensure an understanding of specific functional terms and concepts used this analysis, this section sets out a definition and explanation of key terms that are important in understanding how MOSS 2007 and SharePoint 2010 can be implemented to meet specific functional requirements. The definition focuses on key MOSS 2007 document and records management features with comments on new concepts in SharePoint 2010.

MOSS 2007 introduces a number of key terms relevant to recordkeeping requirements which are defined in a logical order as follows:

Term	MOSS 2007 Functionality	Additional SP 2010 Functionality
Sites and site collections	MOSS organises all information into a collection of web-based sites within a site collection. Each key business activity and project can have its own site, and where appropriate its own site collection (or series of sites and sub-sites). Sites can be structured hierarchically to reflect organisation and business process structures and linked to allow access to common sites for administration and other purposes. Content types and associated metadata are defined for each site collection and applied to sites, document libraries and lists as appropriate. This allows data always to be stored in a defined business context. Sites allow a range of objects to be treated as records, such as lists, discussions, wikis, web pages and blogs. Temporary sites called workspaces can also be created for meetings and other collaborative activities.	SharePoint 2010 extends this capability by removing sizing limits, allowing sites and contents to be scaled to 10's of millions of items. Improved search and metadata filtering are provided to ensure search and retrieval is easy to use and find specific records.
Document Libraries	Document libraries are created as required as part of each site. Based on the type of information being used and created on the site, one or more document libraries may be required. Multiple category specific document libraries may be created to simplify classification, particularly where there are a large number of content types in a subject area. Document libraries hold documents including emails, and are configured to have versioning and where relevant content approval requirements. For example a supplier contract could be set up with its own site, comprising two document	SharePoint 2010 extends the use of libraries to better handle digital media assets. It also adds a new Document Set capability for compound and other documents that need to be managed as a group and is the foundation for automated document assembly

Term	MOSS 2007 Functionality	Additional SP 2010 Functionality
	libraries; one for tender responses and evaluation, with its own security, and the other for general tender and contract documents (relevant to that contract). Content types are defined for each document library (based on inheritance from the parent site collection) so the user only has to select from a short list of content types relevant to the document library.	
Lists	SharePoint lists are used to record items typically tracked in a spreadsheet or database. It is assumed in this analysis that lists are used to manage physical record details. Users are encouraged to save data in lists where it can be properly backed up and managed rather than use spreadsheets or access databases. Lists have versioning, approvals, content type metadata and information management policies the same as documents. Lists are also used to record other business relevant content such as customer enquiries, drawing registers, transmittal registers, lists of tenders and projects and can be used to drive KPI reporting. Documents may require a mandatory cross reference to a list item to ensure the correct context and linking of related records. Where appropriate lists have versioning applied to ensure that a full record of all changes is maintained. List items can also be reviewed and approved in the same way as documents if required. Management of physical records including transmittal of records to and from Archives and remote storage can be managed using appropriately configured list functions on the relevant team sites. Views can be created over lists to show items due for action or other criteria.	SharePoint 2010 extends this capability by providing configurable metadata driven views and filters to simplify the finding of information.
Folders	Where relevant, folders within document libraries and lists can be used to group information into sets or common categories. Folders can also have folder metadata applied using folder content types. Financial year and period content types are examples.	SharePoint 2010 extends this capability allowing libraries and folders to be defined as a file plan. Location driven records management policies and automated metadata tagging and defaults based on location are provided for each folder.

Term	MOSS 2007 Functionality	Additional SP 2010 Functionality
Content types	SharePoint provides a core capability called content types for the definition and recording of metadata for folders, document libraries and lists. Content types can be configured to match every disposal schedule item in a disposal plan or Business Classification Scheme. Content types can be centrally controlled using an overall metadata management model that includes the overall file plan, business classification structure, and related business metadata definitions and rules. Content types will then be deployed from a central library as relevant to specific site document libraries and lists, based on the functions being performed on the site. Content types can be configured to default the Business Classification Scheme (BCS) function activity classification for each content type and to record mandatory and optional record keeping metadata. For example, finance sites have the range of Financial Management content types covering budgeting, financial management and auditing. This means users simply have to select the content type when saving or creating documents, rather than the Business Activity Classification. Classification of all documents using content types at time of creation means no additional step is required to capture data required for record keeping purposes. The content type then defines the Information Management policies, auditing, workflows and, where relevant, templates to be applied to that information.	SharePoint 2010 extends this capability by providing Content Type syndication services that allows a single point for content type maintenance. Information Management policies can be defined by location, not just by content type.
Site Columns	Site columns can be globally defined for metadata elements including choices, default values, and look up lists. Content types define the specific metadata elements or site columns to be applied to different record types and to capture business metadata. Some key metadata site columns such as author, title, version and keywords are system wide.	SharePoint 2010 extends this capability with a new site column type of “managed metadata” which references a hierarchical term store, and allows auto fill, filtering and sorting. Records declaration is added as a system wide column to control and protect records.

Term	MOSS 2007 Functionality	Additional SP 2010 Functionality
Information Management Policies	SharePoint provides a function called Information Management policies to allow auditing and retention / disposal schedules to be defined for each content type, as well as other site content such as web pages. Auditing can therefore be tailored to the type of information being stored. Workflows can also be created to handle more complex retention decisions, or obtain approvals for actions for each content type. In MOSS 2007 disposal actions are limited to one per policy without development of custom workflows.	SharePoint 2010 extends this capability by providing expanded disposal actions within a policy including workflows, reviews and multiple on condition repeating actions. Policies are at the item, document set or location level, and custom workflows are needed to archive complete sites as a single record series (such as a completed project or contract) or hybrid records in combined lists and sub sites or lists and related document libraries.
Records Centre	SharePoint 2007 provides a specific function called Records Centre to handle the long term retention of electronic and hard copy records. Records are extracted or copied from the active SharePoint sites based on content type defined information policies and Records Centre business rules. Without configuration and third party storage tools however Records Centre has limited ability to scale to handle enterprise wide volumes. Records are read only in Records Centre with validation of metadata completeness, and standard functions such as holds. Additional auditing of metadata changes (treating metadata as a record) is also provided. Permanent records should be moved immediately to the Records Centre to ensure they are captured in read only format. Records Centre can be configured to provide a series of list functions to manage simple hard copy and hybrid records. Depending on the disposal policy and timescale, some temporary records may be archived in read only format and disposed of in accordance with authorised schedules without being moved to the Records Centre.	SharePoint 2010 eliminates the scaling issues associated with SharePoint 2007. The records management centre capability is extended providing a file plan driven structure, with relevant information management policies. Records from active sites can be handled in a number of ways, with an option for “in place” records management, metadata driven policies to move or copy records, and stubbing to allow the end user to still view the record in its original context.. Records management metadata is extended including improved control of changes once an item is declared a record. Series or volume capabilities can also be provided using folder options to restrict the number of records recorded in a folder, or to automatically create new folders based on metadata changes. A new function called Content Organiser allows business rules to be applied to records as they are found and moved to the Records Centre, avoiding the need in many cases for an end user to declare a record. Performance improvements also allow Records Centre to scale to corporate wide repositories. Complex physical or hybrid records management functionality still requires additional third party tools.
Business Data Catalogue (BDC)	BDC is a function of SharePoint that allows business systems data to be used to validate or link to content type metadata fields in SharePoint. SharePoint’s search can also be configured to search defined business systems data, such as the historic records databases or line of business systems.	SharePoint 2010 extends this capability with Business Connection Services (BCS) adding write and update capabilities, and simplified definition of business system interfaces

Term	MOSS 2007 Functionality	Additional SP 2010 Functionality
Term Store	Supported by third party add-ons	SharePoint 2010 introduces a term store for taxonomies, controlled vocabularies, facetted list values, hierarchical term definitions (such as a Business Classification Scheme) and other hierarchical or term look ups. The term store can be syndicated, and is used with managed metadata columns types and key word terms, and is integrated with Office 2010 Back Stage function. Folksonomies, preferred terms, and synonyms are also supported, but complex hierarchies and related facets may still require use of 3rd party tools

4.2 MOSS 2007 and SharePoint 2010 Information Architecture Examples

This section illustrates the SharePoint concepts defined by showing typical configuration and specific features of records management focused MOSS 2007 and SharePoint 2010 information architectures.

The diagram below is a typical business driven MOSS 2007 configuration:

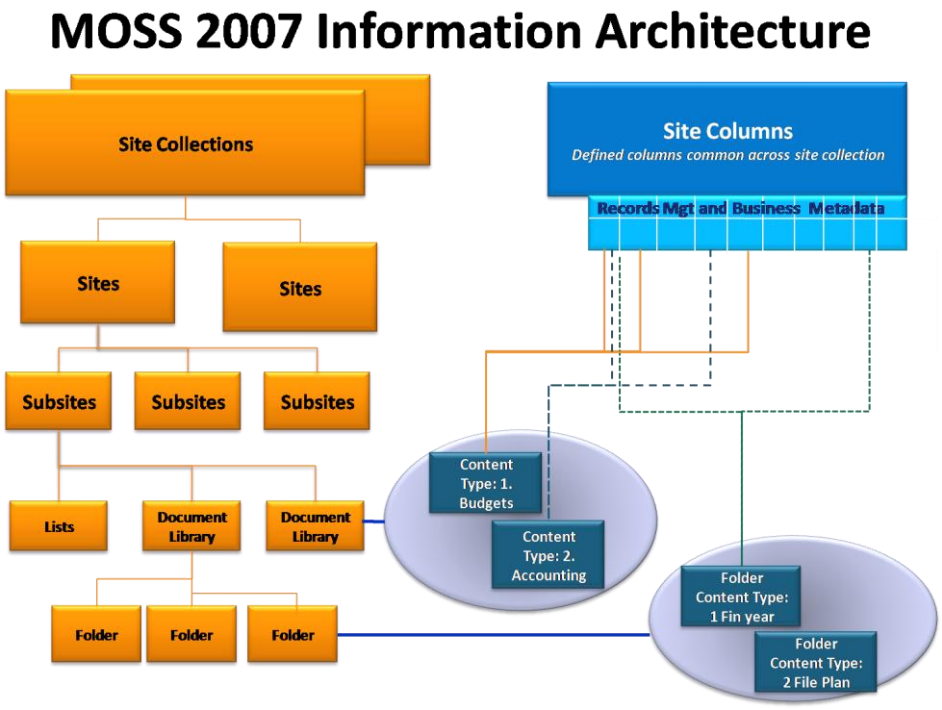


Figure 7 MOSS 2007 Information Architecture © Wise Technology Management

As this diagram shows how MOSS 2007 can be configured using site collections, sites, and subsites to match business or organisational structures. Libraries and lists can then be configured to store documents and record and track records based on the business area, process or specific activity. Sites also have the advantage that all the information on a specific transaction can be kept in context, with subsites created for specific projects, contracts or event employees.

Site collections are important in MOSS 2007 to allow it to easily scale to handle larger volumes and user numbers. Site collections also allow the definition of site wide Site Columns, which can be used with document, list or folder content

types to capture required records management metadata. Either specific site columns or folder content types can also with more complex configuration be used to represent the file plan.

MOSS 2007 provides a Records Centre for archiving and additional records management purposes, but third party external storage tools, or additional sites need to be configured to allow this to scale.

Content types are key to records management functionality, allowing the definition of information management policies, default data, workflows, and auditing requirements for specific disposal authority items. Security add-on tools can also be applied by content types. Content types are used to support simplified end user metadata capture using Office.

This business division illustration is a specific example where MOSS 2007 is configured to:

- Support specific business processes
- Capture and manage related information in context for example a site per project or contract.
- Provide collaborative capabilities within a managed corporate framework.

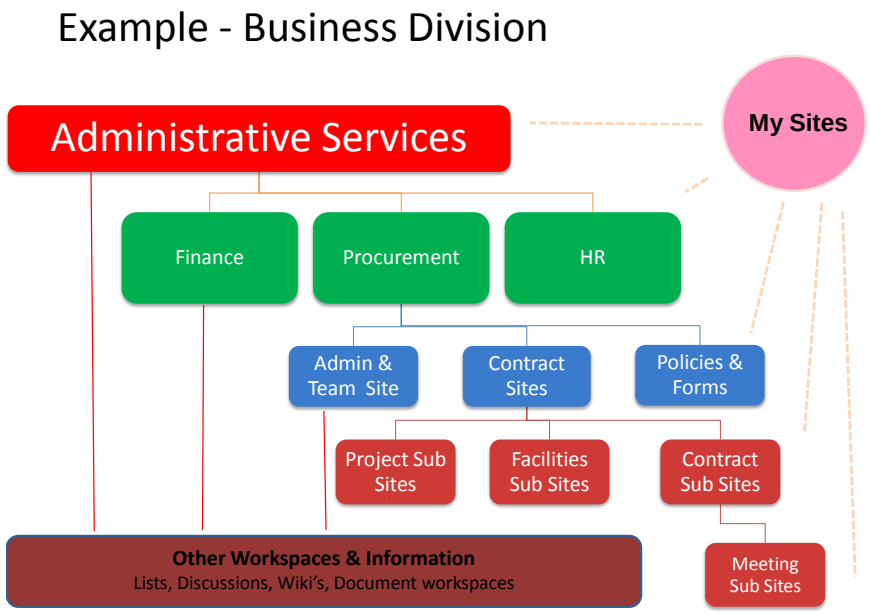


Figure 8 Business Driven Site Structure © Wise Technology Management

SharePoint 2010 expands on these capabilities with a number of records management and metadata improvements. The diagram below illustrates the functional improvements provided by SharePoint 2010:

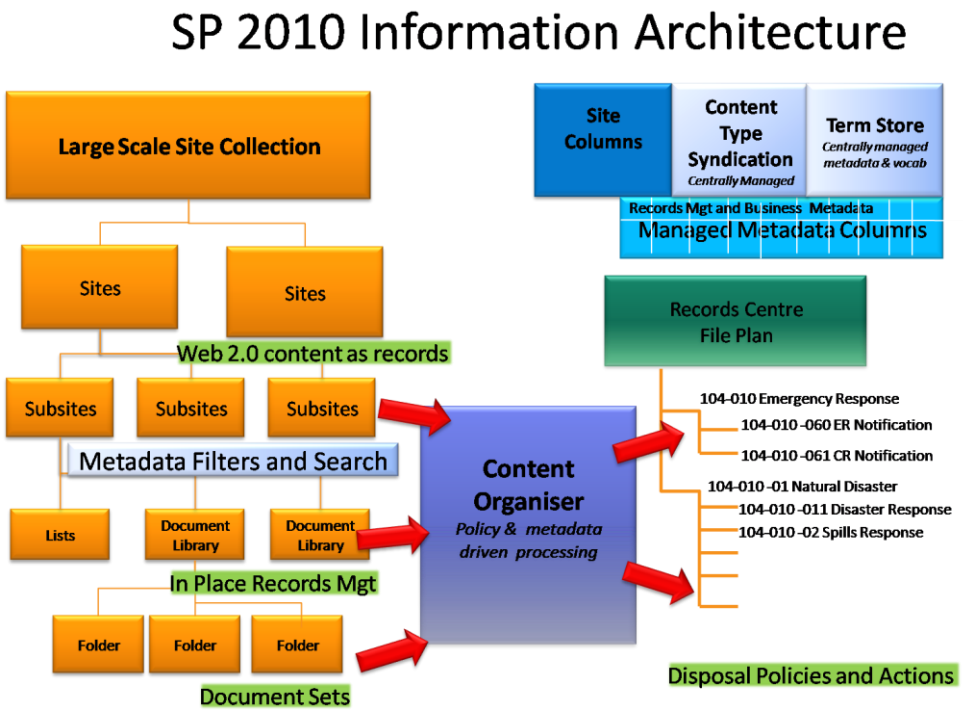


Figure 9 SharePoint 2010 Information Architecture © Wise Technology Management

As this diagram shows the same business structure is supported in SharePoint 2010, but without the need for multiple site collections to address scaling requirements.

In addition to site columns, SharePoint 2010 adds content type syndication, a term store and a new managed metadata column, to provide centrally controlled, metadata capabilities designed to meet hierarchical business classifications and taxonomy needs. Metadata driven filters are standard to simplify browsing and search through large volumes of information.

SharePoint 2010 has a number of significant records management improvements including allowing all web content to be treated as a record, document sets for compound records, in place, records declaration and location driven records metadata and processes, with significantly enhanced disposal policies.

SharePoint 2010 also supports a separate file plan driven structure with an automated Content Organiser tool to move and apply processes based on metadata and policies, helping to make the records management process transparent from an end user perspective.

5. Review against Module 1: Overview and Statement of Principles

This section covers **Section 3 Guiding Principles** of the *International Council on Archives Principles and Functional Requirements for Records in Electronic Office Environments – Module 1: Overview and Statement of Principles*.

The guiding principles are divided into the following two sections:

- Records-related principles
- Systems-related principles

This section reviews the positioning and support provided by the overall features of MOSS 2007 and SharePoint 2010 to the achievement of these overarching guiding principles.

5.1 Records-related principles

The following table sets out the approach taken in MOSS 2007 and SharePoint 2010 to the achievement of the four Records related guiding principles:

Ref	Principle	MOSS 2007	SharePoint 2010
1	**Electronic business information has to be actively managed and reliably maintained as authentic evidence of business activity.** As business processes become more completely automated, the electronic information generated by such activities may serve as the only evidence of specific transactions or decisions. Maintenance of this evidence in the form of fixed records is necessary for operational viability and accountability of the organisation. This involves identifying a set of electronic information that will serve as the evidential record.	SharePoint is designed to support an electronic business paradigm. MOSS 2007 introduces a feature called content types to simplify the capture of required records management and business metadata. MOSS 2007 supports compliance activities including legal holds using a Records Centre, however significant configuration is required to use Records Centre as a records repository	SharePoint 2010 is designed to improve MOSS 2007 records management and compliance capabilities. Key features include Record Declarations to apply records policies and protection to any information including web 2.0 content such as wikis and blogs, and a compliance function to track key events. Retention policies are expanded to cover reviews and other recordkeeping processes. A file plan based records repository can be used to apply disposal policies and security levels to aggregations. A content organiser function is provided to declare a record automatically based on specified metadata and document status, including moving the document to a

Ref	Principle	MOSS 2007	SharePoint 2010
			secure records management repository. Legal holds are expanded to cover all SharePoint content, not just the records centre. Standard metadata and audit trails are improved to ensure record integrity.
2	**Business information has to be linked to its business context through the use of metadata.** In order for information to have the capability of functioning as a record, it is necessary to augment that information with additional data (that is, metadata) that places it in the context of the business operations and computing environment in which it was created. In the case of line-of-business systems accomplishing uniform transactions, this context is derived from the system and its documentation. In other systems, however, such contextual information must be appended to the record as it is necessary to provide the record with sufficient longevity for interpretation and to maximise its value and utility as evidence of business activity.	We recommend MOSS 2007 be configured to use content types to enforce the collection of metadata (much of it system generated) on all information. MOSS 2007 content type metadata can be configured to meet the Australian Government Recordkeeping Metadata standard in terms of Agent, Business and Mandate, required to define an item's business context. MOSS 2007 content types support metadata elements that are linked to relevant other business systems. Metadata integrity can be maintained using these links to ensure referential integrity of metadata. MOSS 2007's Information Architecture can also be configured to store information in context, providing a complete set of records relating to long running transactions such as a Case, Contract, Project, or Employee. SharePoint can also be configured to save emails as part of this transaction record either directly or with third party add-on tools direct from Outlook.	SharePoint 2010 extends metadata and recordkeeping capabilities to a diverse range of formats, including Web 2.0 objects such as wikis and blogs. Metadata capabilities are enhanced using a term store and managed metadata column types to allow more meaningful metadata and business vocabularies to be used. Integration with Office is improved to simplify metadata capture in creating and the saving of Office documents. Document sets are also introduced to allow related documents and information to be managed as a single record.
3	**Business information has to be kept and must remain accessible to authorised users for as long as required.** Design and deployment of business information software must ensure that records can be searched for, retrieved and rendered in accessible formats and media for as long as is required for business and legal purposes. In this context,	MOSS 2007 introduced open XML format to ensure accessibility of Office files. These XML files allow metadata to be saved as part of the file, allowing this data to stay with the record indefinitely. Search is able to utilise this metadata saved within the actual file not just recorded in the systems metadata. This provides access to metadata independent of the ERMS system. Search respects security and access rights to maintain confidentially of data, without encrypting data.	SharePoint 2010 provides improved lifecycle policies to manage the retention of records both in user accessible or archive repositories. The Records Centre repository is improved in terms of scale and provides the ability to archive data to less expensive storage as required. Content organiser can be used to move documents automatically to the records repository based on metadata driven rules and policies. A document generation facility is provided that can be

Ref	Principle	MOSS 2007	SharePoint 2010
	organisations should avoid the misuse of digital rights management technology and encryption.		used to convert or export to long term Open XML or PDF formats.
4	**Business information has to be able to be disposed of in a managed, systematic and auditable way.** A hallmark of appropriate recordkeeping is the retention and appropriate disposition of records generated by business processes according to specified rules. Systems need to be able to dispose of records in a systematic, auditable and accountable way in line with operational and legal requirements.	Information Lifecycle policies are limited in 2007 and are a key area requiring development or third party tools. Audit trails are maintained, but configuration is needed to store these by record.	SharePoint 2010 provides significantly enhanced disposal policies allowing a diverse range of electronic records to be managed through their lifecycle. System generated metadata and improved audit trails allow the complete recording of events through the life of a record.

5.2 Systems-related principles

The following table sets out the approach taken in MOSS 2007 and SharePoint 2010 to the achievement of the eight Systems related guiding principles:

Ref	Principle	MOSS 2007	SharePoint 2010
5	**Systems should support good business information management as an organic part of the business process.** Although it is not necessarily appreciated as such, good recordkeeping practices are an integral part of any business process. When automating any business process, one should always evaluate the advisability of simultaneous integration of recordkeeping software.	MOSS 2007 allows the set up of team sites, project sites, business sites designed around how the business actually does its work. MOSS 2007 supports "treating everything as a record" using content types to automate metadata capture, improving search and retrieval.	SharePoint 2010 introduces a range of records management functions designed to allow recordkeeping processes to be completed as part of the normal business process. SharePoint 2010 allows a business view and records management to coexist, allowing the declaration or transfer of records to be automated with minimal user involvement. In place records management is also introduced so that where appropriate records can be declared and managed within a collaboration or web context, without the document or web page having to be transferred to the records repository.
6	**Systems for capturing and managing business information have to rely on standardised metadata as an active, dynamic and integral part of the recordkeeping process.** Automated recordkeeping solutions offer powerful capabilities to access and attach standardised contextual information, via standardised vocabularies and taxonomies, to record content at different times during the life of the record.	Content types and Office integration are designed to encourage the capture and use of metadata as an aid to business and recordkeeping processes. Content types and site columns ensure consistent definition and use of metadata items While much metadata can be defaulted, standardised vocabularies are supported by third party add-on tools. Taxonomies can be extended to the desktop with Office 2007 and third party tools	SharePoint 2010 and Office 2010 integration is improved to simplify the capture of metadata at creation, and key workflow enabled events. Controlled vocabularies and taxonomies are supported in a centralised term store and managed metadata fields. These are available for use via Office and can be applied to all content as required, and are standard filters and properties in Search.

Ref	Principle	MOSS 2007	SharePoint 2010
7	**Systems have to ensure interoperability across platforms and domains and over time.** Electronic evidence, in the form of records, often has operational or juridical requirements for persistence over periods of time that may exceed the lifespan of the hardware or software that created it. As such, record information must be able to be presented in a manner that is understood and able to be modified, if necessary, for migration to other technology platforms.	MOSS 2007 and Office 2007 introduced open XML formats for word, presentation and spreadsheet documents to ensure long term use and interoperation of these formats. These formats also incorporate metadata as part of the XML payload, allowing metadata to travel with a file regardless of repository. ISO Open XML standards are now supported and there are a range of third party tools to convert earlier versions to open formats or to archive formats such as PDF/A.	SharePoint 2010 and Office 2010 provide standard capabilities that support export to Open XML and pdf formats. Content Organiser and external storage capabilities provide enhanced export and transfer capabilities, and allow documents to be saved independent of the SharePoint database for long term archive. Third party tools are also available to bulk convert legacy files to open formats, and Office 2010's document assembly capability can be expected to support XML document generation standards such as DITA. SharePoint 2010 will also support CMIS interoperation standards allowing content to be transferred between alternate vendor ECM systems
8	**Systems should rely as far as possible on open standards and technological neutrality.** Many software products that create or manage records are developed using proprietary implementations. Hardware or software dependencies can have adverse effects on access and preservation of record material in the long term. Use of open standards ameliorates these technological dependencies.	As noted above, open standard formats are supported. Metadata can be stored both as part of the file and with third party tools used to bulk convert to archive formats.	As noted above open standards such as CMIS and DITA are to be supported with SharePoint 2010.

Ref	Principle	MOSS 2007	SharePoint 2010
9	**Systems should have the capacity for bulk import and export using open formats.** Electronic records resulting from a business process and managed by recordkeeping software may contain hardware or software dependencies. Recordkeeping software should ideally incorporate capabilities to remove these dependencies via support for bulk re-formatting as part of ingest or export capability or, at a minimum, via non-proprietary encoding of record metadata.	Import and export requires the use of third party add-on tools if metadata is to be reviewed and corrected in bulk as part of the import process. These tools provide a range of capabilities and handle multiple formats. Add-on tools support the export of records in a VERS compliant format.	SharePoint 2010 addresses some of the limitations of MOSS 2007, allowing the import and manipulation of bulk metadata in addition to files, and providing tools to bulk convert and export documents. Content Organiser can be used to apply rules to bulk imports and exports automatically adding metadata from sources such as share drives, and routing incoming information to correct locations based on metadata values and context. Links from the source to the stored record can also be maintained.
10	**Systems must maintain business information in a secure environment.** For security purposes, systems automating a business process often incorporate safeguards that limit which actions particular individuals can take with electronic information (for example, viewing, printing, editing, copying or transmitting). Systems must not allow unauthorised modifications to any records (including metadata), and where authorised modifications are performed, they must be fully documented.	Basic security requirements are addressed using permission and roles. Audit trails are provided for viewing, printing, editing and copying records. All changes to metadata and files are versioned and recorded as metadata. A records centre is designed to provide a read only capability to protect records, but permissions can also be used to provide this functionality. Some functions such as security classifications require third party tools.	SharePoint 2010 supports a records declaration function designed to protect and ensure no authorised changes or deletions of records. Records can also be declared automatically based on metadata, location and business rules.

Ref	Principle	MOSS 2007	SharePoint 2010
11	**As much metadata as possible should be system generated.** Users are typically unwilling to interrupt their workflow more than three times in the accomplishment of tasks ancillary to executing the primary activity. It may be impractical and/or unnecessary to expect end-users to supply much of the metadata. Systems should be designed and implemented in a manner that allows automatic population of record metadata fields.	Microsoft's research in developing Office 2007 showed that eliminating manual metadata recording at the time of saving was crucial to end user acceptance, as well as improved metadata quality. A key objective of the tight integration between Office 2007 and MOSS 2007 content types was the ability to expand the use of default and system generate metadata. Defaulting this data at time of creation also improves search. Using Office 2007 and content types, SharePoint 2007 can be configured to default much of the recordkeeping metadata and integrate with other systems for business related metadata. MOSS 2007 also system generate a range of the required recordkeeping event metadata.	Office 2010 and SharePoint 2010 improve the automated generation of metadata in a number of ways. Managed metadata and a term store are enabled on the desktop allowing users to record easily additional metadata such as keywords that cannot be defaulted without third party tools. This also overcomes the MOSS 2007 limitation of hierarchical terms. Metadata can also be defaulted based on save location in SharePoint 2010. System generated metadata and events are expanded including record declarations and event history.
12	**It should be as easy as possible for users to create/capture records of business activity.** It is necessary to design systems/software that automate recordkeeping in a way, ideally, that makes such recordkeeping largely 'invisible' to the end-users.	In addition to the above, Office 2007 also introduces a document information panel that allows metadata to be automatically completed based on data entered once into a document. Workflows are also supported to allow key events in the life of a record to be automatically tracked and recorded. Third party tools have been developed using Office 2007 capabilities that automatically search and apply keywords and other metadata elements, using a corporate taxonomy.	Content Organiser is designed to route documents to file plan locations ensuring complete metadata recording. In this way recordkeeping metadata can be recorded with little or no user input. Content Organiser should allow the Records Centre to be invisible to end users. Users can work in their business areas and normal processes and records can be recorded automatically based on defined policies and metadata driven rules.

5.3 Guiding Principle Conclusions

We believe it is important to consider the *Module 1 Overview and Statement of Principles* in evaluating these solutions. The module sets out Record and System-Related principles that should be considered in designing and implementing ERMS systems. Both MOSS 2007 and SharePoint 2010 can be configured to meet the key System-Related ease of creation/capture and default metadata principles, essential for end user acceptance and quality of information capture. Third party tools are required to meet some of the other System-Related principles including bulk import, export and security. While both address the Records-Related principles, SharePoint 2010 has the advantage of a defined records declaration capability, and its content organiser allowing business information to be managed as an asset transparently to the end user.

The tight integration between Office 2007 and SharePoint using the new Office XML file format is a key ease of use consideration making it easy to default SharePoint data into Office and vice versa, simplifying the creation of documents, and helping to eliminate the need for end users to have to enter metadata at time of saving.

Figure 10 SharePoint and Office XML Integration

The following diagrams illustrate how metadata can be defaulted based on the recommended configuration of setting up a specific content type for each disposal authority. In this MOSS 2007 example master control list content types are matched to disposal authorities, default business classifications and security caveats:

Shared Services > Information Management > Disposal Schedule and BACS Control

Disposal Schedule and BACS Control

Disposal schedules and BACS classifications control list

New ▾ Actions ▾ Settings ▾ View: IM Policies ▾

Title	Function	Activity	Transaction Descriptor	Retention Class	Archive type	Site Master List	Action Trigger	IM Policy Active Site	IM Policy Archive Site
RDS2007/06v0001:002.004.001 NEW	Asset Operations	Inspections	Asset Inspections	Temporary	Document with Link		Last Actioned Date	Capital Project Archive	
GDS15v0007:003.059.001 NEW	Equipment and Stores	Inventory	Asset Inventory	Temporary	Site	Employee Master	Termination Date	Personnel Archive	
RDS2007/06v0001:015.001.002 NEW	Procurement and Contracts Management	Contracts Management	Contract and Contracts Management (Non-Infrastructure Contracts)	Temporary	Document with Link		Last Actioned Date	Capital Project Archive	Personnel Archive

Figure 11 Sample MOSS 2007 Disposal Authority and BCS control list

This central control list maps content types to each unique Function / Activity / Transaction combination ("Transaction Descriptor" above). More than one content type can of course reference the same disposal authority allowing additional content type metadata to be recorded for physical versus digital records.

At time of creation, or saving of a file a user simply selects a content type. This will then default the relevant BCS and disposal authority values as standard metadata, without the user having to select the actual business classification or

security elements. In this diagram the user simply selects a relevant content type specific to the document library. In SharePoint 2010 this selection can also be done from Office directly.

Figure 12 Sample Content Type Selection

Based on the content type selected the required records management metadata is then defaulted without user entry based on the central look up table and system generated metadata items:

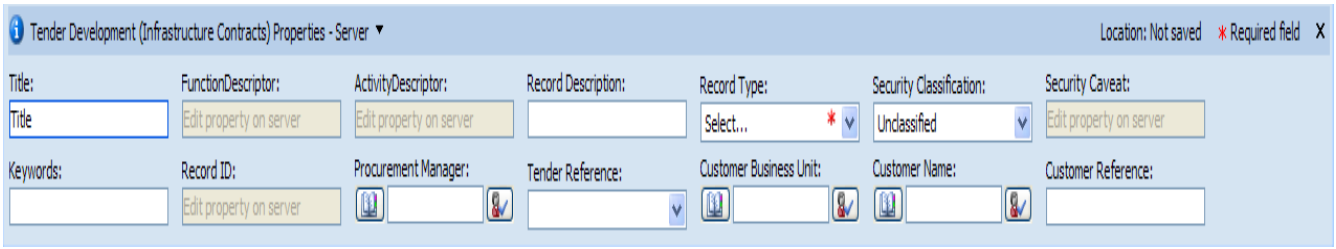


Figure 13 Example of default and system generated Records Management metadata

In this case Function, Activity, Record ID and Security Caveat are greyed out as they are already populated and not able to be user altered. Defaults can be extended to cover much the Record entity metadata properties, as well as relevant Agent, Business and key Relationship properties.

Standard system generated metadata items or defaults include:

- Record id (standard with SP 2010)
- Author (created by)
- Created date
- Modified by
- Modified Date
- Checked out date
- Checked in status and comments
- Registered date (standard with SP 2010 called declared date)
- Language
- Size
- File Type
- File name
- Retention policy (link to Information Management retention policy in SP 2010)
- Confidentiality Level (using audiences in SP 2010)

- Record status (standard with SP 2010)
- Hold status
- Workflow status
- Email metadata items (where email enabled)
- Version and version history
- Audit trail of all changes, access, search, disposal policy events

In SharePoint 2010 locations such as folders in a file plan can also be used to default metadata and retention policies and Content Organiser can automatically move and save documents to the correct file plan based on specified metadata values. Documents can inherit any default metadata on being saved or moved to this location including business classification, relevant disposal policies, and security classifications.

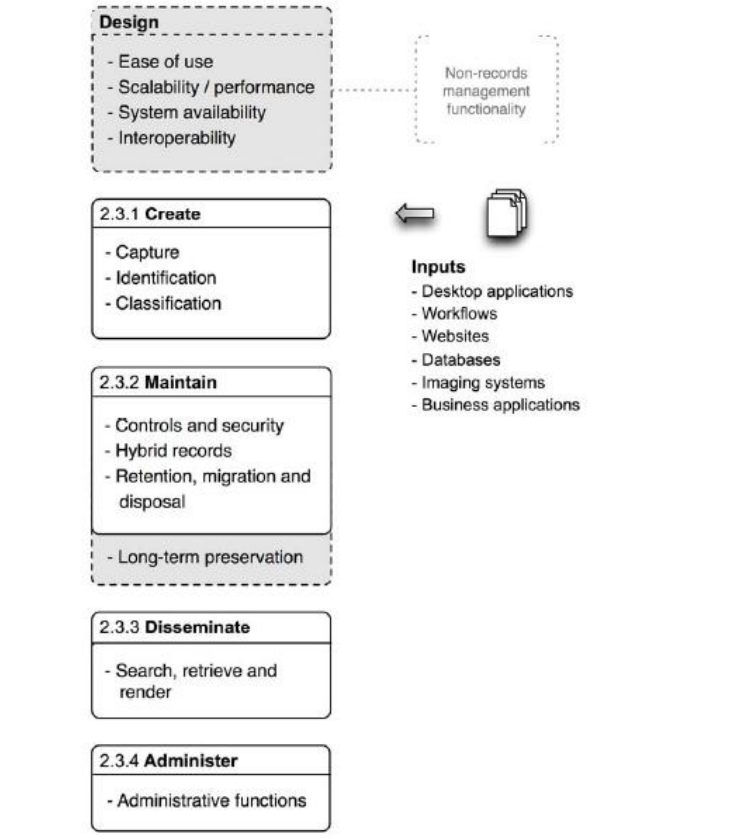
Office 2010 allows end users to access the term store to add key words and other metadata managed properties. Third party tools such as SchemaLogic's MetaPoint extend the automatic completion of metadata to site columns and key words based on defined schemes and site column choices, by automatically searching and matching terms and synonyms in the actual document or file content, without any effort on the part of the end user.

Properly configured SharePoint 2010 appears to be able to deliver on the promise of providing business focused information and processes while at the same time supporting transparent compliance and records management.

6. Review against Module 2: Guidelines and Functional Requirements for ERMS

This section covers **Section 3 Functional Requirements** of the *International Council on Archives Principles and Functional Requirements for Records in Electronic Office Environments – Module 2 Guidelines and Functional Requirements for Electronic Records Management Systems*. It analyses compliance for each of the detailed requirements against MOSS 2007 and SharePoint 2010.

The requirements are divided in to four sections according to key records management concepts and processes as illustrated in the diagram below:



[2]

Figure 14: Model of high-level functional requirements for electronic records management systems

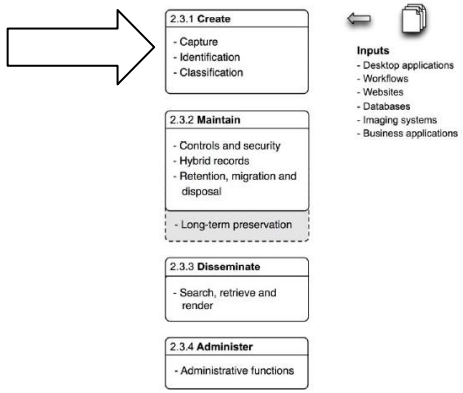
Each of the main processes is assessed in this section. Where relevant, comments are also provided on the explanatory principles, generally at the start of each section.

[2] ICA, Principles and Functional Requirements for Records in Electronic Office Environments – Module 2: Guidelines and Functional Requirements for Electronic Records Management Systems 2008.

6.1 CREATE

This section covers the functional requirements under the major heading CREATE:

- 3.1 Capture
- 3.2 Identification
- 3.3 Classification



Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.1	**Capture**					
	Records are created in a diverse range of formats, may comprise multiple individual objects (compound records), and are transmitted by a wide range of communication channels (workflows, email, postal mail). Electronic records management systems must capture the content, structure and context of records to ensure they are reliable and authentic representations of the business activities or transactions in which they were created or transmitted. This is known as 'point of capture' metadata and should in itself be captured as a record; it should not be possible to alter any of these metadata features without changes being tracked and auditable.	N/A	N/A	MOSS 2007 captures a diverse range of formats including web pages, workflows, emails, though postal mail needs to be configured. 'Point of capture' metadata is supported by mandatory specification of content types for all formats. Office uses content type integration to simplify metadata capture at the point of creation. Some third party tools are required to simplify this capture for example with emails Office is designed to use content type metadata as standard. Metadata changes are captured in version history allowing all changes to be tracked.	N/A	Extends capture of metadata to all web formats required to support Gov 2.0 Records management metadata and controls are also extended with "in place" records management and file plan capabilities.

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3.1.1	**Capture processes** The electronic records management system **must:**	**N/A**	**N/A**		**N/A**	
1	Enable integration with business applications so that transactional records created by those applications can be captured within the electronic records management system (including email, see Requirements 21–25).	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
2	Indicate when an individual record is captured within the electronic records management system.	Must	Yes	Standard Feature(s) Records are “checked in”.	Yes	Standard Feature(s) Declared records are highlighted.
3	Prevent the alteration of the content of any record by any user or administrator during the process of records capture. See also Requirements 88 and 89.	Must	Yes	Configuration Required While “everything is a record” automatic setting of records to read only requires configuration	Yes	Standard Feature(s) In place records management and records declaration supports this.
4	Prevent the destruction or deletion of any record by any user, including an administrator, with the exceptions of: • destruction in accordance with a disposition authority (see Section 3.6: Retention and disposal); and • authorised deletion by an administrator (see Section 3.8: Administration).	Must	Yes	Configuration Required Deletion can be prevented using standard features.	Yes	Standard Feature(s) In place records management and records declaration allows “records” to be protected without imposing similar restrictions on working and other information.
5	Support manual naming of electronic records, and allow this name to be different from the existing file name (including email subject lines used to construct record titles). If the existing	Must	Yes	Standard Feature(s) “Title” is the system supported naming.	Yes	Standard Feature(s)

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	filename is taken by default, the electronic records management system must allow this name to be amended at the time of capture.					
6	Allow an administrator to alter the metadata of a record within the system if required, to allow finalisation/correction of the record profile. Any such action must be captured in a records management metadata.	Must	Yes	Standard Feature(s) This will be captured in version history.	Yes	Standard Feature(s)
7	Any revision or alteration of the records management/capture metadata must be captured as additional records management metadata.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
8	Alert a user to any failure to successfully capture a record.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
9	Be able, where possible and appropriate, to provide a warning if an attempt is made to capture a record that is incomplete or inconsistent in a way which will compromise its future apparent authenticity.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.1.2	**Point of Capture Metadata** To be meaningful as evidence of a business process, records must be linked to the context of their creation and use. In order to do this, the record must be associated with metadata about the business context in which it was created and its point of capture into the system Much of this information can be automatically generated by the system. It is expected that each organisation will capture	**N/A**	**N/A**	MOSS 2007 can be configured to capture relevant business classification and other metadata. MOSS 2007 also supports an "electronic file" paradigm where records can be stored in context such as all the documents for a contract, employee or customer are treated as one by creating specific sites or document libraries to store information in one place.	**N/A**	SharePoint 2010 extends this capability by allowing the business classification scheme and a separate record management file plan to easily co-exist, with business data migrated automatically to the relevant file plan items. Document sets can also be used to manage related documents through a common lifecycle.

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	records management metadata in line with an identified records management metadata standard (compliant with ISO 23081), and organisational and/or jurisdictional requirements. The electronic records management system **must:**					
10	Support the use of persistent metadata for records.	Must	Yes	Standard Feature(s) Use content types and site columns	Yes	Standard Feature(s) Records management metadata is defined by default
11	Acquire metadata elements for each record and persistently link them to the record over time.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
12	Ensure that the values for metadata elements conform to specified encoding schemes.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s) Term Store can be used to reference specific schemas.
13	Allow the administrator to pre-define (and re-define) the metadata elements associated with each record, including whether each element is mandatory or optional.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
14	Allow all metadata for every record to be viewed by users, subject to access rights for individuals or groups of.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
15	Automatically capture the date and time of capture of each record as metadata elements linked to each record.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

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16	Support automatic extraction or migration of metadata from: • the software application that created the record; • an operating system or line of business system; • an electronic records management system; and • the file header, including file format metadata, of each record and its constituent components captured into the system.	Must	Yes	Configuration Required Third party tools are required for bulk import	Yes	Standard Feature(s) Content Organiser can be used for this purpose and metadata can be loaded separately to files.
17	Prevent the alteration of metadata captured in Requirement 16, unless authorised by the system administrator.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
18	Allow entry of additional metadata by users during record capture and/or a later stage of processing by the user.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
19	Ensure that only authorised users and administrators can change the content of records management metadata elements.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
20	Allocate an identifier, unique within the system, to each record at point of capture automatically.	Must	Yes	Configuration Required Third party add-on tools and CodePlex add-ons provide this capability.	Yes	Standard Feature(s)

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3.1.3	**Aggregation of electronic records** Aggregations of electronic records are accumulations of related electronic record entities that when combined may exist at a level above that of a singular electronic record object, for example, a file or series. These relationships are reflected in the metadata links and associations that exist between the related electronic records, and between the electronic records and the system. For example, an aggregation of electronic records may collectively constitute a narrative of events (that is, a series of connected business transactions), in which the records may have a sequential relationship. Any such sequential relationship between electronic records can be determined through the metadata elements associated with the records, such as titles, dates, author, container number (where applicable), and other attributes. Where these relationships exist between records controlled by the electronic records management system, the system should be capable of identifying, capturing, documenting and maintaining or systematically disposing of them. The electronic records management system **must**:	N/A	N/A	Records can be aggregated using folders, libraries or where relevant complete sites. This allows related events of multiple levels to be recorded in the aggregation	N/A	SharePoint 2010 provides document sets and location driven policies to support aggregation. This includes folders with limits (for example for series).
21	Ensure that all records captured within the electronic records management systems are associated with at least one aggregation.	Must	Yes	Configuration Required Functional aggregation has to be configured based on site structure metadata classification or folder structures.	Yes	Standard Feature(s) Includes file plan

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22	Manage the integrity of all markers or other reference tags to records (where used), ensuring that: • following a marker, whichever aggregation that the marker record is located in, will always result in correct retrieval of the record; and • any change in location of a record also redirects any marker that references that record.	Must	Partial	Additional Configuration Required Reference tags can be tracked as metadata elements that stay with the record.	Yes	Configuration Required Unique identifiers allow a record to be retrieved regardless of location. Content Organiser can update links to items moved.
23	Not impose any practical limit on the number of records that can be captured in an aggregation, or on the number of records that can be stored in the electronic records management system. However, the system may permit the administrator to set limitations on the quantity of items within an aggregation if required for business purposes.	Must	Yes	Configuration Required Site collections, libraries and folders must be configured to allow SharePoint 2007 to scale.	Yes	Standard Feature(s) SharePoint 2010 is designed to scale to millions of items.
24	Allow users to choose at least one of the following where an electronic object has more than one manifestation: • register all manifestations of the object as one record; • register one manifestation of the object as a record; or • register each manifestation of the object as a discrete record.	Must	Partial	Additional Configuration Required Configuration is required to register all manifestations as one item.	Yes	Configuration Required Document sets can be configured for this purpose.

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25	Support the ability to assign records to multiple aggregations without their duplication.	Should	Yes	Configuration Required Metadata elements can be configured to allow multiple aggregations. Metadata standards require one disposal policy per item.	Yes	Configuration Required Separate business and records management schemas are supported.
3.1.4	**Bulk importing** Records and their metadata may be captured into an electronic records management system in bulk in a number of ways, for example, from another electronic records management system or as a bulk transfer from an electronic document management system or workflow application. The electronic records management system must be able to accept these, and must include features to manage the bulk capture process. The electronic records management system **must**	N/A	N/A	Requires the use of third party tools to implement bulk import with item specific metadata. A range of tools are available to support import from a wide variety of sources.	N/A	Content Organiser can be used to import from common sources such as share drives, however third party tools are still required for some formats such as Lotus Notes.
26	Be able to capture in bulk records exported from other systems, including capture of: • electronic records in their existing format, without degradation of content or structure, retaining any contextual relationships between the components of any individual record; • electronic records and all associated records management metadata, retaining the correct contextual relationships between individual records and their metadata attributes; and • the structure of aggregations to which the records are assigned, and all associated records	Must	Yes	Configuration Required Third party tools support bulk import.	Yes	Standard Feature(s) Content Organiser can be used for this purpose. Metadata can be bulk imported separately to files.

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	management metadata, retaining the correct relationship between records and aggregations.6					
27	Be able to import any directly associated event history metadata with the record and/or aggregation, retaining this securely within the imported structure.	Must	Yes	Configuration Required Third party tools can be used to import event history as additional metadata (when in suitable format)	Yes	Configuration Required Events are mapped in different ways. Where an event is an item there is no issue. Audit trails are not able to be easily imported.
3.1.5	**Electronic document formats** Electronic records management systems will have to deal with a range of formats, both common applications and often business-specific formats. The electronic records management system must have the functionality to deal with the formats that you commonly use or are common to your business environment. This will vary across systems and organisations. For ease of migration and export, use of open formats and industry standards will increase levels of interoperability and reduce the cost and difficulty of maintaining records effectively. The electronic records management system **must**	N/A	N/A	MOSS 2007 supports common open Office formats and PDF, as well as a wide range of file types.	N/A	Includes enhanced capabilities for storing digital media formats including previews without loading the application.
28	Support the capture of records created in native file formats from commonly used software applications such as: • standard office applications (word processing, spread-sheeting, presentation, simple databases);	Must	Yes	Configuration Required Third party tools are required for some formats, such as CAD. Blogs are not supported as records.	Yes	Standard Feature(s) Blogs are supported as records.

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	• email client applications; • imaging applications; and • web authoring tools.					
29	Be able to extend the range of file formats supported as new file formats are introduced for business purposes or for archival retention (for example, PDF/A).	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.1.6	**Compound records** Electronic records will comprise at least one component. An electronic record such as a text document will usually be a discrete record and comprise a single record object. Electronic records that comprise more than one component or multiple record objects, for example, a large technical report with dynamic links to diagrams and spreadsheets, may be referred to as 'compound records'. The nature of the components that comprise a given electronic record will vary. A component may be an electronic object, such as an electronic document, or a data element, such as an entry in a database. For example, a component of an electronic record in a system that encompasses the management of documents may consist of a single word-processed document, while components forming an electronic record in a human resource management system may comprise a number of closely linked data entries in a database (such as all data entered in connection with a single staff member's personnel profile). These compound records	N/A	N/A	MOSS 2007 provides for some support for compound records by enabling cross reference links. Compound records such as web pages can also be supported. Compound records comprising multiple documents such as a technical report cannot easily be managed as one.	N/A	With SharePoint 2010, document sets are specifically designed to support compound records.

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	should not be confused with internal record components or elements, such as a record object and its metadata or physical document and its marker. The electronic records management system **must**					
30	Capture compound electronic records (records comprising more than one component) so that: • the relationship between the constituent components of each compound record is retained; • the structural integrity of each compound record is retained; and • each compound record is retrieved, displayed and managed as a single unit.	Must	Partial	Additional Configuration Required Some compound records are supported such as web pages. Complex configuration is required to support compound documents	Yes	Standard Feature(s) Document sets and all web formats are supported.
31	Be able to capture compound records easily, preferably with one action, for example, a single click.	Must	No	Development Required Development is required to manage as one.	Yes	Standard Feature(s) Document sets provide this capability.
3.1.7	**Email** Email is used for sending both simple messages and documents (as attachments), within and between organisations. The characteristics of email can make it difficult to track and register. Organisations must provide users with the capability of capturing selected email messages and attachments. The electronic records management system **must**:	N/A	N/A	MOSS 2007 provides some email capabilities including automated receipt of emails directly into a library or list; however, third party tools are required for end users to easily drag and drop emails recording the required metadata as they do so. Tools used for the evaluation of these items include: Scinaptic's OnePlaceMail, Colligo and Wisdom.	N/A	While Exchange 2010 provides enhanced email rules and policies, third party tools are still required for end users to be able to save emails easily to SharePoint.

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32	Allow users to capture emails (text and attachments) as single records as well as individual records linked by metadata.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
33	Allow individual users to capture email messages (and attachments) from within their email application.	Must	Yes	Configuration Required Third party tools are required to allow easy user capture	Yes	Configuration Required Third party tools are required to allow easy user capture
34	Allow users to choose whether to capture emails with attachments as: • email text only; • email text with attachments; or • attachments only.	Must	Yes	Standard Feature(s) Third party tools and standard email support these options.	Yes	Standard Feature(s)
35	Ensure the capture of email transmission data as metadata persistently linked to the email record.	Must	Yes	Configuration Required Third party tools capture required email metadata however email transmission data needs to be defined as specific site columns. SharePoint automatically creates some email default fields for email enabled libraries and lists.	Yes	Configuration Required Third party tools capture required email metadata however email transmission data needs to be defined as specific site columns. SharePoint automatically creates some email default fields for email enabled libraries and lists.
36	Ensure that the text of an email and its transmission details cannot be amended in any way once the email has been captured. Nor should the subject line of the email itself be changeable, although the title of the record may be edited for easier access through, for example, keywords or by file-naming conventions.	Must	Yes	Configuration Required Can be configured as hidden not changeable metadata items.	Yes	Configuration Required

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37	Ensure that a human-readable version of an email message address is also captured, where one exists.	Must	Yes	Configuration Required Third party email tools support this	Yes	Configuration Required Third party email tools support this
3.2	**Identification**					
	To verify their existence within a system, every record and associated aggregation must have a unique identifier persistently linked to it. This allows to the user to locate records and helps them to distinguish between versions. The electronic records management system must/ should	N/A	N/A	While SharePoint creates its own system generated unique identifier this does not stay as a reference with all copies of an item. Simple CodePlex and third party add-on tools are available to generate unique ids.	N/A	SharePoint 2010 provides a unique id by site collection that stays with a record for its life regardless of location. Retrieval by this id is standard.
38	Associate each of the following with a unique identifier: • record; • record extract; and • aggregation.	Must	Partial	Additional Configuration Required Records can have unique record id Aggregation and Extracts require development for example the Office redact template saving with the same unique id as the original.	Yes	Configuration Required Unique Record id is standard. Extracts can be defined within a document set. Aggregations can have a unique id.
39	Require all identifiers to be unique and unduplicated within the entire electronic records management system.	Must	Partial	Additional Configuration Required Development required of multiple identifiers for different items, aggregations as well as records types.	Yes	Configuration Required Unique ids are generated for objects by site collection. Prefixes can be used to ensure uniqueness for the whole system.
40	Be able to store the unique identifiers as metadata elements of the entities to which they refer.	Must	Yes	Configuration Required Third-party or CodePlex required to generate id.	Yes	Standard Feature(s)

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41	Either: Generate unique identifiers automatically, and prevent users from inputting the unique identifier manually and from subsequently modifying it (for example, a sequential number).	Must	Yes	Configuration Required Third-party or CodePlex required to generate id.	Yes	Standard Feature(s)
42	Or: Allow users to input a unique identifier, but validate that it is unique before it is accepted (for example, an account number).	Must	Yes	Configuration Required Validation can be provided, such as against a database reference id.	Yes	Configuration Required
43	Allow the format of the unique identifier to be specified at configuration time.	Must	Partial	Development Required Development required to support unique id generation in a configurable format or referencing the volume and aggregation	Partial	Development Required Development required to support unique id generation in a configurable format is supported but complex configuration is required to allocate unique ids within a classification structure.
44	Where unique identifiers are automatically generated, the electronic records management system should: Allow the administrator to specify at configuration time the starting number (for example, 1, 10, 100) and increment (for example, 1, 10) to be used in all cases.	Should	Partial	Development Required Development required to support unique id generation in a configurable format or referencing the volume and aggregation	Yes	Standard Feature(s)
3.3	**Classification**					
3.3.1	**Establishing a classification scheme** 3.3.1 Establishing a classification scheme A records classification scheme is a hierarchical classification tool that can facilitate the capture, titling, retrieval, maintenance and disposal of records. A classification scheme lies	N/A	N/A	While business classifications and file plan structures can be configured using a hierarchy of sites and or libraries the preferred way using metadata elements defined by content type requires configuration and there are limits in terms of hierarchy views of classification schemes.	N/A	Supports a hierarchical classification scheme and file plan as standard. Term store can be used to record the business classification scheme. Classification scheme is made available using managed metadata site column in SharePoint metadata and search and Office 2010

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	at the heart of any electronic records management system since it defines the way in which individual electronic records are grouped together (aggregated) and linked to the business context in which they were created or transmitted. By aggregating records, many of the records management processes described below can be carried out quickly and efficiently. The electronic records management system **must/should/may**:			Third party add-on tools can be used to manage the classification scheme overcoming these limitations.		using the Backstage capability. Third party add-on tools and Office templates allow the classification scheme to be defaulted at the user desktop.
45	Support and be compatible with the organisational classification scheme.	Must	Yes	Configuration Required Configure BCS site columns.	Yes	Standard Feature(s) Using managed metadata
46	Be able to support a classification scheme that can represent aggregations (at the function, activity, transaction level) as being organised in a hierarchy with a minimum of three levels.	Must	Yes	Configuration Required Configure BCS site columns.	Yes	Standard Feature(s) Using managed metadata
47	Allow the inheritance of values from a classification scheme.	Must	Yes	Configuration Required Configuration required to support hierarchy	Yes	Standard Feature(s)
48	Allow naming conventions or thesauri to be defined at the time the electronic records management system is configured.	Must	Partial	Additional Configuration Required Third party tools required	Yes	Standard Feature(s) Term store supports this requirement.
49	Support the initial and ongoing construction of a classification scheme.	Must	Yes	Configuration Required Configuration of central control list is required.	Yes	Standard Feature(s)
50	Allow administrators to create new aggregations at any level within any existing aggregation.	Must	Partial	Additional Configuration Required Limited hierarchy are supported without development	Yes	Standard Feature(s) Term store and file plan support this requirement.

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51	Not limit the number of levels in the classification scheme hierarchy unless set by an administrator.	Must	Yes	Configuration Required "Hierarchies" are not supported as standard and need to be configured.	Yes	Standard Feature(s)
52	Support the definition of different record types that are associated with a specified set of metadata to be applied at capture.	Must	Yes	Standard Feature(s) Content Types support this requirement	Yes	Standard Feature(s)
53	Support the allocation of unique identifiers to records within the classification structure	Must	Partial	Development Required Development required to support unique ids within the classification structure.	Partial	Additional Configuration Required Complex configuration is required to allocate unique ids within a classification structure.
54	***Where the unique identifiers are based on sequential number, the electronic records management system should:*** Have the capacity to automatically generate the next sequential number within the classification scheme for each new electronic aggregation.	Should	No	Additional Development Required Unique id is not by aggregation and therefore would require development.	Partial	Additional Configuration Required Unique id within the file plan would need to be configured
55	Support a distributed classification scheme that can be maintained across a network of electronic record repositories.	May	Partial	Additional Configuration Required Third party add-on tools support this	Yes	Standard Feature(s) Term store syndication supports this. Third party tools support non SharePoint systems
56	***Where the electronic records management system employs a graphical user interface, it must:*** Support browsing and graphical navigation of the aggregations and classification scheme structure, and the selection, retrieval and display of electronic aggregations and their	Must	Partial	Additional Configuration Required Complex configuration required to navigate file plan structure, for example based on folders.	Yes	Standard Feature(s) File plan supported as standard functionality

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	contents through this mechanism.					
57	***Where the electronic records management system employs a graphical user interface, it should:*** Support the definition and simultaneous use of multiple classification schemes. This may be required, for example, following the merger of two organisations or migration of legacy systems. It is not intended for routine use.	Should	Partial	Additional Configuration Required Additional site elements would need to be configured.	Yes	Standard Feature(s) Content Organiser can be used for this purpose.
3.3.2	**Classification levels** The electronic records management system **must/should**:	N/A	N/A		N/A	
58	Support metadata for levels within the classification scheme.	Must	Yes	Configuration Required Configuration required of metadata defaults by level.	Yes	Standard Feature(s) Default by location
59	Provide at least two naming mechanisms for records in the classification scheme: • a mechanism for allocating a structured alpha, numeric or alphanumeric reference code (that is, an identifier which is unique within the classification scheme) to each classification level; and a mechanism to allocate a textual title for each electronic aggregation. • It must be possible to apply both identifiers separately or together.	Must	Partial	Additional Configuration Required Complex configuration required to support alternate description if it is to be used for more than just a name.	Yes	Configuration Required Numeric scheme needs to be configured Term store allows alternate description

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60	Allow only authorised users to create new classifications at the highest level in the classification scheme (for example, at the business function level).	Must	Yes	Configuration Required Security over control list would be configured.	Yes	Standard Feature(s)
61	Record the date of opening of a new aggregation within its associated records management metadata.	Must	Yes	Configuration Required Metadata element to be defined for this.	Yes	Configuration Required
62	Automatically include in the records management metadata of each new aggregation those attributes that derive from its position in the classification scheme (for example, name, classification code).	Must	Partial	Additional Configuration Required Limited default values can be configured.	Yes	Standard Feature(s) Default values by location
63	Allow the automatic creation and maintenance of a list of classification levels.	Must	Partial	Development Required Development required to list and output classification	Yes	Standard Feature(s)
64	Support a naming mechanism that is based on controlled vocabulary terms and relationships drawn (where appropriate) from an ISO 2788-compliant or ISO 5964-compliant thesaurus and support the linking of the thesaurus to the classification scheme.	Should	Partial	Additional Configuration Required Third party add-on tools required	Yes	Standard Feature(s) Term store supports this capability
65	Support an optional aggregation naming mechanism that includes names (for example, people's names) and/or dates (for example, dates of birth) as file names, including validation of the names against a list.	Should	Yes	Configuration Required Additional metadata elements and views can be configured for this purpose. Aggregation can be configured with lists for people, contracts etc, linked to other attributes such as date of birth.	Yes	Configuration Required

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66	Support the allocation of controlled vocabulary terms compliant with ISO 2788 or ISO 5964 as records management metadata, in addition to the other requirements in this section.	Should	Partial	Additional Configuration Required Full set of hierarchical term requires Third Party add-on tool	Yes	Configuration Required Term store supports this capability
3.3.3	**Classification processes** The electronic records management system **must**:	N/A	N/A		N/A	
67	Allow an electronic aggregation (including volumes) to be relocated to a different position in the classification scheme, and ensure that all electronic records already allocated remain allocated to the aggregations (including volumes) being relocated.	Must	Partial	Additional Configuration Required Development required for move functionality or third party tools are required to move content between collections.	Yes	Configuration Required Can be supported by File Plan and Content Organiser
68	Allow an electronic record to be reclassified to a different volume of an electronic aggregation.	Must	Yes	Configuration Required	Yes	Configuration Required
69	Restrict to authorised users the ability to move aggregations (including volumes) and individual records.	Must	Yes	Configuration Required Permissions can be defined for this	Yes	Standard Feature(s) Policies support the automation of these processes.
70	Keep a clear history of the location of reclassified aggregations (including volumes) prior to their reclassification, so that their entire history can be determined easily.15	Must	Yes	Configuration Required Recorded in version history	Yes	Standard Feature(s) Audit of moves and other changes

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71	Prevent the deletion of an electronic aggregation or any part of its contents at all times, with the exceptions of: • destruction in accordance with a disposal authority; and • deletion by an administrator as part of an audited procedure.	Must	Yes	Configuration Required Permissions must be set to prevent deletion.	Yes	Standard Feature(s) In place records management and records declaration simplifies this.
72	Allow an electronic aggregation to be closed by a specific administrator procedure, and restrict this function to an administrator.	Must	Yes	Configuration Required Close and open attributes to be configured	Yes	Configuration Required Folder limits can be defined.
73	Record the date of closing of a volume in the volume's records management metadata.	Must	Yes	Configuration Required Configure close to record date closed.	Yes	Configuration Required Configuration of event required.
74	Maintain internal integrity (relational integrity or otherwise) at all times, regardless of: • maintenance activities; • other user actions; and • failure of system components.16	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
75	Not allow any volume that has been temporarily re-opened to remain open after the administrator who opened it has logged off.	Must	Yes	Configuration Required The administrator is only able to perform changes while logged in as an administrator and therefore requirement is met without having to "close".	Yes	Configuration Required Same as MOSS 2007
76	Allow users to create cross-references between related aggregations or between aggregations and individual records.	Must	Yes	Configuration Required URL and other references are supported.	Yes	Configuration Required

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77	Provide reporting tools for the provision of statistics to the administrator on aspects of activity using the classification scheme, including the numbers of electronic aggregations (including volumes) or records created, closed or deleted within a given period, by user group or functional role.	Must	Partial	Additional Configuration Required Statistics are available by site and library aggregations but not by file plan.	Yes	Configuration Required File plan reports are supported
78	Allow the authorised users to enter the reason for the reclassification of aggregations (including volumes) and individual records.	Must	Yes	Configuration Required Version comments or specific comment fields could be used.	Yes	Configuration Required
79	Be able to close a volume of an electronic aggregation automatically on fulfilment of specified criteria to be defined at configuration, including at least: • volumes delineated by an annual cut-off date (for example, end of the calendar year, financial year or other defined annual cycle); • the passage of time since a specified event (for example, the most recent addition of an electronic record to that volume); and • the number of electronic records within a volume.	Must	Partial	Additional Configuration Required Complex configuration using workflows or custom policies required to automatically close volumes.	Yes	Configuration Required Content Organiser can be used for this and Folder limits support this. Policies can also be used for multiple purposes.
80	Be able to open a new volume of an electronic aggregation automatically on fulfilment of specified criteria to be defined at configuration.	Must	Yes	Configuration Required Workflow can create new sites.	Yes	Configuration Required Folders can be automatically created using Content Organiser.
81	Allow an administrator to lock or freeze aggregations to prevent relocation, deletion, closure or modification when circumstances require, for example, pending legal action.	Must	Yes	Configuration Required Using Records Centre or workflows	Yes	Standard Feature(s) Records Declaration process automates this.

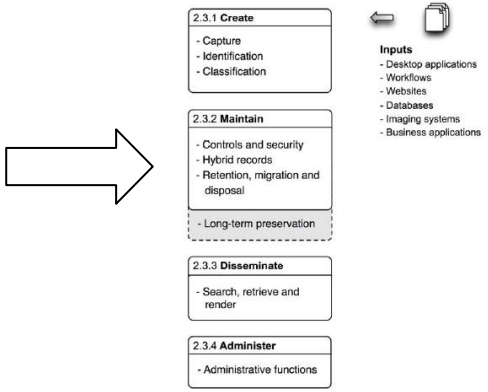
Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.3.4	**Record Volumes** This section includes requirements relating to the use of volumes, which are typically used to subdivide aggregations that might otherwise be unmanageably large. The requirements for volumes only apply to the aggregations at the activity level. They are intended to be primarily useful for physical files in hybrid systems. Where the electronic records management system uses volumes, it **must**:	N/A	N/A	Folders and folder content types are typically used to represent volumes of both electronic and physical files. Opening and closing requires configuration or third party record management add-on tools.	N/A	File plan functionality is designed to support record volumes though folders can still be used. Additional records management data reduces configuration compared with 2007 though complex physical files or hybrid records still require additional configuration or third party add on tools.
82	Allow administrators to add (open) electronic volumes to any electronic aggregation that is not closed.	Must	Yes	Configuration Required Folder content type to be configured	Yes	Configuration Required
83	Record the date of opening of a new volume in the volume's records management metadata.	Must	Yes	Configuration Required Must be defined as a metadata item.	Yes	Configuration Required
84	Automatically include in the metadata of new volumes those attributes of its parent aggregation's records management metadata that assign context (for example, name, classification code).	Must	Partial	Additional Configuration Required Default attributes from parent or master list requires more complex configuration.	Partial	Additional Configuration Required Can be supported using file plan for electronic records, but configuration using folders required for physical records
85	Support the concept of open and closed volumes for electronic aggregations, as follows: • only the most recently created volume within an aggregation can be open; and	Must	Partial	Additional Configuration Required Workflow required for this to "close" and "open" folders and other aggregations using permissions	Partial	Additional Configuration Required Workflow required for this to "close" and "open" folders and other aggregations using permissions

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	• all other volumes within that aggregation must be closed (subject to temporary exceptions required by Requirement 68).					
86	Prevent the user from adding electronic records to a closed volume (subject to the exceptions required by Requirement 68).	Must	Partial	Additional Configuration Required Workflow required for this to "close" and "open" folders and other aggregations using permissions	Partial	Additional Configuration Required Workflow required for this to "close" and "open" folders and other aggregations using permissions
87	Allow an authorised user to add records to a closed file.	Must	Yes	Configuration Required Administration permissions support this.	Yes	Configuration Required Administration permissions support this. Electronic records can also be "undeclared" by an administrator

6.2 MAINTAIN

This section covers the functional requirements under the major heading MAINTAIN:

- 3.4 Managing authentic and reliable records
- 3.5 Hybrid Records Management
- 3.6 Retention and Disposal



Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.4	**Managing authentic and reliable records**					
3.4.1	**Access and Security** Organisations need to control access to their records. Typically, access to records and aggregations is limited to specific users and/or user groups. In addition to controlling access by user and user groups, some agencies will need to limit access further by using security classifications. This is achieved by allocating security classifications to aggregations and/or records. Users can then be allocated security clearances to permit selective access to aggregations or records at higher security categories. Maintaining metadata of all records management actions undertaken by an	N/A	N/A	SharePoint provides security based on defined user groups and roles, however functional groupings are broadly defined. Security is most easily set up by aggregation (or volume within aggregations), taking advantage of inheritance from parents. While security can be defined by record using permissions SharePoint does not support user security classification with out the addition of third party add-on tools such as Titus Labs and janusNET. Audit trails and version history are kept to record changes to metadata and moves.	N/A	While the security limitations are similar the ability to set up metadata driven rules does provide some additional functionality to protect records based on their security classification for example by immediately moving them to a more secure location. External storage is also supported as well as transfers.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	electronic records management system and its users and administrators is essential to meeting requirements for legal admissibility. The volume of metadata information can become large if all actions are audited. Consequently, management may decide that some actions need not be audited. In most cases, the online metadata is periodically moved to offline storage and is disposed of at the same time as the records to which it relates, and a summary record retained. This process is also known as 'tracking'. Over time, records and aggregations may be transferred from one storage medium or location to another (for example, migration), as their activity decreases and/or their use changes. A tracking feature is needed to record the change of location for both ease of access and to meet regulatory requirements. The electronic records management system **must**:					
88	Ensure that records are maintained complete and unaltered, except in circumstances such as court orders for amendments to record content and metadata, in which cases only system administrators may undertake such changes with appropriate authorisation.	Must	Yes	Configuration Required Holds apply only to Records Centre but CodePlex add-on can be used to extend this.	Yes	Standard Feature(s) Holds can apply to all records.
89	Document any exceptional changes to records as described in Requirement 88 in relevant metadata.	Must	Yes	Configuration Required Hold list.	Yes	Standard Feature(s) Holds are recorded as metadata

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
90	Maintain the technical, structural and relational integrity of records and metadata in the system.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.4.2	**Access controls** The electronic records management system **must**:	N/A	N/A		N/A	
91	Restrict access to system functions according to a user's role and strict system administration controls.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.4.3	**Establishing security control** Normal systems controls over access and security support the maintenance of authenticity, reliability, integrity and usability, and therefore should be appropriately implemented. A risk assessment can inform business decisions as to how rigorous the controls need to be. For example, in a high-risk environment, it may be necessary to prove exactly what happened, when and by whom. This links to systems permissions and audit logging, to prove that approved actions are undertaken by authorised people. The electronic records management system **must**:	N/A	N/A	Moss 2007 controls are most easily configurable by aggregation such as site, document library, list and folders. Separate "archive" or "record centre" sites are recommended to provide additional permission to defined records.	N/A	SharePoint 2010 improves control over records using in place records management and the option to use Content Organiser to move records based on their security metadata.
92	Allow only administrators to set up user profiles and allocate users to groups.	Must	Yes	Configuration Required Site owners can also do this.	Yes	Configuration Required Site owners can also do this.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
93	Allow the administrator to limit access to records, aggregations and records management metadata to specified users or user groups.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
94	Allow the administrator to alter the security category of individual records.	Must	Yes	Configuration Required Security category must be configured. Development is required to automatically change levels over time.	Yes	Configuration Required Content Organiser and Information Management Policies can be used to automate changes to security levels.
95	Allow changes to security attributes for groups or users (such as access rights, security level, privileges, initial password allocation and management) to be made only by the administrator.	Must	Yes	Configuration Required Site owners also have this capability	Yes	Configuration Required
3.4.4	**Assigning security levels** The electronic records management system **must**:	N/A	N/A		N/A	
96	Allow only the administrator to attach to the user profile attributes that determine the features, records management metadata fields, records or aggregations to which the user has access. The attributes of the profile will: • prohibit access to the electronic records management system without an accepted authentication mechanism attributed to the user profile; • restrict user access to specific records or aggregations; • restrict user access according to the user's	Must	Yes	Standard Feature(s) Integration with Active Directory is used to achieve the "Administer only" requirement.	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	security clearance; • restrict user access to particular features (for example, read, update and/or delete specific records management metadata fields); • deny access after a specified date; and • allocate the user to a group or groups.					
97	Be able to provide the same control functions for roles, as for users.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
98	Be able to set up groups of users that are associated with an aggregation.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
99	Allow a user to be a member of more than one group.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
100	Be able to limit users' access to parts of the list (to be specified at the time of configuration).	Must	Yes	Standard Feature(s) Access can be restricted to sites, libraries, lists and folders.	Yes	Standard Feature(s)
101	Allow a user to stipulate which other users or groups can access records that the user is responsible for.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.4.5	**Executing security controls** The electronic records management system **must**:	N/A	N/A		N/A	
102	Allow the administrator, subject to Section 3.4.6: Security categories, to alter the security category of all records within an aggregation in	Must	Partial	Additional Configuration Required Security categories are a configured	Yes	Configuration required Content Organiser could be used for this

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	one operation. The electronic records management system must provide a warning if the security classifications of any records are lowered, and await confirmation before completing the operation.			attribute.		purpose.
103	Allow the administrator to change the security category of aggregations, subject to the requirements of Section 3.4.6: Security categories.	Must	Partial	Additional Configuration Required Development is required to manage bulk changes.	Yes	Configuration Required Bulk Changes are supported as standard.
104	Record full details of any change to security category in the records management metadata of the record, volume or aggregation affected.	Must	Yes	Standard Feature(s) Security classification change will be recorded in version history.	Yes	Standard Feature(s)
105	Provide one of the following responses (selectable at configuration time) whenever a user requests access to, or searches for, a record, volume or aggregation that they do not have the right to access: • display title and records management metadata; • display the existence of an aggregation or record (that is, display its file or record number) but not its title or other records management metadata; or • not display any record information or indicate its existence in any way.	Must	Partial	Additional Configuration Required By default MOSS 2007 does not display any record information or indicate its existence in any way (option 3). This is seen as the most stringent security. Versions can be selectively flagged for access and working versions kept confidential using minor and major versioning. Sensitive materials can also be excluded from Search. An IM Administrator or specific security cleared user can be set up to search everything.	Partial	Additional Configuration Required Same as MOSS 2007

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
106	Never include, in a list of full text or other search results, any record that the user does not have the right to access.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
107	***If the electronic records management system allows users to make unauthorised attempts to access aggregations (and their volumes) or records, it must:*** Log all unauthorised attempts to access aggregations (and their volumes) or records in their respective unique metadata.	Must	Yes	Configuration Required Security logs are set by configuration. Users will see aggregations that they have access rights to however MOSS will only display records within the aggregation where the user has been granted access. If there are no items that have been granted access to the user, the user will not see the aggregation.	Yes	Configuration Required
3.4.6	**Security categories** The functional requirements in this section only apply to organisations that manage classified records within their electronic records management system. Please refer to your jurisdictional requirements and security requirements. The electronic records management system **must:**	N/A	N/A	While SharePoint provides item level permissions these are difficult to manage manually. There are two options: • Apply permissions at an aggregation level such as document library level or even site (in other words configure separate sites and libraries for specific confidential or secret data) This is an accepted approach in many file plans, but the administrator must still control permissions at the aggregate level • Use a third party tool such as Titus Labs or janusNET to use the security classification metadata and the end users security classification to achieve compliance with a fully automated solution. The decision will rest with each organisation	N/A	SP 2010 has the advantage that security classification level can be defaulted at the location level and automatically apply to all items in that location.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
				on which of the two options works best. Some government agencies use tools such as the Titus Labs or janusNET email add-on tool to automatically classify and control access to email in accordance with the security standards in the National Protective security regime (secret, top secret etc) These tools now often provide a similar SharePoint add-on that allows the same security to be applied provided the classification is recorded in the item's metadata. This is a standard record management data element.		
108	Allow security classifications to be assigned to records.	Must	Yes	Configuration Required Specific security metadata to be configured.	Yes	Configuration Required
109	Allow security classifications to be selected and assigned at system level for: • all levels of records aggregations (including volumes); and • individual records or record objects.	Must	Partial	Additional Configuration Required While SharePoint maintains individual item security permissions these do not automatically relate to security classifications. Titus Labs allows security classifications to be defined by content type or individual metadata element.	Yes	Configuration Required Location based policies support this
110	Allow access-permission security categorisation to be assigned: • at group level (be able to set up group access to specific aggregations, record classes security or clearance levels); • by organisational role; • at user level; and	Must	Partial	Development Required Development is required to support organisational role and user level or third party tool.	Partial	Development Required Development is required to support organisational role and user level or third party tool.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	• in combination(s) of the above.					
111	Allow the assignment of a security category: • at any level of records aggregation; • after a specified time or event; and • to a record type.	Must	Partial	Development Additional configuration is required to apply default security category by aggregation or record type. Development is required to apply a category after a specified time or event.	Yes	Configuration Required Default location metadata and policies can be applied after a specified period of time.
112	Support the automated application of a default value of 'Unclassified' to an aggregation or record not allocated any other security category.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
113	Enable its security subsystem to work effectively together with general security products.	Must	Partial	Additional Configuration Required Security clearances not supported and third party add-on tools are required.	Partial	Additional Configuration Required Security clearances not supported and third party add-on tools are required.
114	Be able to determine the highest security category of any record in any aggregation by means of one simple enquiry.	Must	Yes	Configuration Required View could be configured for this.	Yes	Configuration Required View could be configured for this.
115	Support routine, scheduled reviews of security classifications.	Must	Partial	Additional Configuration Required Workflow would need to be developed for this.	Yes	Configuration Required Policy could be developed to review based on security classification.
116	Restrict access to electronic aggregations/records that have a security classification higher than a user's security	Must	Partial	Additional Configuration Required Security clearances not supported and third	Partial	Additional Configuration Required Security clearances not supported and

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	clearance.			party add-on tools are required.		third party add-on tools are required.
117	***If security classifications are assigned to aggregations as well as individual records (as per Requirement 107), then the electronic records management system must:*** Be capable of preventing an electronic aggregation from having a lower security classification than any electronic record within that aggregation.	Must	No	Additional Development Required Security classification is not on aggregation unless configured separately. There is no check of classification of individual items within the classification.	Partial	Additional Configuration Required Location based defaults could be used to default on saving with a specific policy to move any items saved with a high classification to a more secure location.
3.4.7	**Records management process metadata** Metadata about the processes of managing the record, including the disposal of the record, needs to be documented to ensure the integrity and authenticity of the record, so that all alterations, linkages and uses of the record are able to be authoritatively tracked over time. Records exist at different layers of aggregation, for example, as documents, items, files or series. Records management metadata must be applied to records at all levels of aggregations. Although the record may be fixed and inviolable, the records management metadata will continue to accrue throughout the administrative life of the record. It must be persistently linked to the record to ensure that the record is authentic, unaltered and reliable. The electronic records management system **must**:	N/A	N/A	Records Management metadata is supported linked to a record. Some process metadata is held related to but separate to the actual record such as workflow history. Additional metadata elements can be defined to store event data with the record or full versioning can be enabled on lists to allow every change in value to be recorded such as movement history.	N/A	SharePoint 2010 provides additional records management metadata as standard simplifying configuration and removing the need for event triggers such as when a record is first registered.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
118	Be capable of creating unalterable metadata of records management actions (actions to be specified by each agency) that are taken on records, aggregations or the classification scheme. The metadata should include the following records management metadata elements: • type of records management action; • user initiating and/or carrying out the action; and • date and time of the action.	Must	Yes	Configuration Required Records Management metadata values have to be configured.	Yes	Standard Feature(s) Improved records management functionality reduces configuration effort.
119	Track events, once the metadata functionality has been activated, without manual intervention, and store in the metadata information.	Must	Yes	Configuration Required Configuration of all events is required.	Yes	Standard Feature(s)
120	Maintain the metadata for as long as required.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
121	Provide metadata of all changes made to: • electronic aggregations (including volumes); • individual electronic records; and • records management metadata associated with any of the above.	Must	Partial	Additional Configuration Required Additional configuration is required to provide electronic aggregation metadata. Folder content types may be used for this.	Yes	Configuration Required File plan can be used to record aggregation metadata.
122	Document all changes made to administrative parameters (for example, changes made by the administrator to a user's access rights).	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
123	Be capable of capturing and storing in the metadata information about the following actions: • date and time of capture of all electronic records; • reclassification of an electronic record in another electronic volume; • reclassification of an electronic aggregation in the classification scheme; • any change to the disposal authority of an electronic aggregation; • any change made to any records management metadata associated with aggregations or electronic records; • date and time of creation, amendment and deletion of records management metadata; • changes made to the access privileges affecting an electronic aggregation, electronic record or user; • export or transfer actions carried out on an electronic aggregation; • date and time at which a record is rendered; • disposal actions on an electronic aggregation or record.	Must	Partial	Additional Configuration Required Significant configuration is required to record all actions and events.	Yes	Configuration Required Multiple policies and additional records management metadata mean less configuration is required.
124	Ensure that metadata is available for inspection on request, so that a specific event can be identified and all related data made accessible, and that this can be achieved by authorised external personnel who have little or no familiarity with the system.	Must	Yes	Configuration Required Audit trails can be exported as spreadsheets.	Yes	Standard Feature(s) Compliance views provide access to audit trail for an item.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
125	Be able to export metadata for specified records and selected groups of records without affecting the metadata stored by the electronic records management system.	Must	Partial	Development Required Export of metadata needs to be developed.	Partial	Development Required Export of metadata needs to be developed.
126	Be able to capture and store violations (that is, a user's attempts to access a record or aggregation, including volumes, to which they are denied access), and (where violations can validly be attempted) attempted violations of access control mechanisms.	Must	Yes	Configuration Required	Yes	Configuration Required
127	Be able, at a minimum, to provide reports for actions on records and aggregations organised: • by record or aggregation; • by user; and • in chronological sequence.	Must	Partial	Development Required Development required of aggregation history.	Partial	Development Required Development required of aggregation history
128	Allow the metadata facility to be configurable by the administrator so that the functions for which information is automatically stored can be selected. The electronic records management system must ensure that this selection and all changes to it are stored in the metadata.	Must	Yes	Configuration Required Default values can be provided by site collection.	Yes	Standard Feature(s) Term store and managed metadata columns and defaults by location support this.
129	Be able to provide reports for actions on aggregations and records organised by workstation and (where technically appropriate) by network address.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
130	Allow the administrator to change any user-entered records management metadata element. Information about any such change must be stored in the metadata.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.4.8	**Tracking record movement** Location can refer to the physical location for hybrid records or the location within a classification structure or file structure for electronic records. Movement refers to changing the location of both electronic and physical records. The electronic records management system **must**:	N/A	N/A	File and Physical record tracking needs to be configured with suitable workflows to manage requests.	N/A	No change from MOSS 2007. Physical file tracking needs to be configured using lists and relevant workflows developed
131	Provide a tracking feature to monitor and record information about the location and movement of both electronic and non-electronic aggregations.	Must	Yes	Configuration Required Metadata to capture this needs to be configured. Lists may be used for non-electronic records.	Yes	Configuration Required Non-electronic records need to be configured.
132	Record information about movements including: • unique identifier of the aggregation or record; • current location as well as a user-defined number of previous locations (locations should be user-defined); • date item sent/moved from location; • date item received at location (for transfers); • user responsible for the move (where appropriate).	Must	Partial	Additional Configuration Required Workflows can be developed to track the location of records.	Partial	Additional Configuration Required Workflows can be developed to track the location of records.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
133	Maintain access to the electronic record content, including the ability to render it, and maintenance of its structure and formatting over time and through generations of office application software.	Must	Yes	Configuration Required Office formats are open XML based. Third party tools allow all content to be converted to latest office version or PDF.	Yes	Configuration Required Office formats are open XML based. Content Organiser and Office Document Assembly, and third party tools allow all content to be converted to latest office version or PDF.
3.5	**Hybrid records management**					
3.5.1	**Management of electronic and non-electronic records** Not all business systems are limited to the management of records in electronic format. Some business systems are specifically designed to provide for the management of physical records as well. Consequently, the functional requirements include requirements for hybrid system management to include functionality for managing records and files in physical format. *Hybrid file* The relationship between physical files and records in electronic formats differs significantly. As physical records (such as paper-based files) cannot be physically captured and registered directly into the business system, the business system must create and maintain markers – metadata profiles of physical records – to maintain linkages between the physical and electronic files.	N/A	N/A	Physical Records are normally recorded and tracked using SharePoint's list functionality. A physical record in SharePoint is therefore only a placeholder for the actual record; it is not the physical object itself. Therefore, it is essential to add process metadata and workflows to keep the list items synchronised with actions that are taken on actual record. Common processes for physical records include: • Disposing of the physical record when the list item that represents the record has expired. • Moving the physical object to a storage location when a new item is added to the list. • Retrieving the physical object. Content types are used to record the same metadata as electronic records, and cross references maintained between list and electronic documents. For example customer enquires could be recorded in a	N/A	2010 provides similar functionality for physical records, which need to be configured using lists. Add on tools are still required for comprehensive physical records management capabilities.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	Generally the marker will identify the title and unique identifier of the physical record, outline the record's content and provide location information for retrieval. A hybrid file exists where a related set of physical files and aggregations of electronic records (for example, electronic files) deals with the same function, activity or transaction, and must be managed as a single aggregation of records. Management of these hybrid files involves merging the aggregation of electronic records and physical file management processes. *Hybrid records* Electronic records can be linked to physical records or files through a tightly bound metadata relationship to form a hybrid record, in much the same way that physical files and aggregations of electronic records can be linked to create hybrid files. The metadata link between the electronic and physical records will be established through the marker, which will identify the physical record and its location. The marker may be attached directly to the electronic record component of the hybrid record. The electronic records management system **must/should:**			list, cross referenced to the clients enquiry (email, letter, fax, voice) and the related response. Physical record specific lists include relevant metadata. Details of the physical file, it's unique id, it's status and location can also be configured, but additional development is required to manage these as records. Physical files and electronic files may be merged in varying ways depending on the business needs. For example using an overall file list used to manage physical records such as employee files and their retention, but with links to the relevant electronic records, for example grouped by site for each employee. Workflows would retain and manage the archiving of electronic records based on the status of the physical record. Alternatively physical records and files can be tracked using lists with unique ids. These ids are then used as mandatory metadata links on any associated electronic record, so that a complete record of a transaction can be maintained covering both physical and electronic files. There is also the option to configure a reverse "electronic marker" where the physical record location is directly managed and relevant electronic records are cross referenced using links or look ups.		

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
				Please note add on tools are required for comprehensive physical records management capabilities.		
134	Be able to define in the classification scheme non-electronic aggregations and volumes, and must allow the presence of non-electronic records in these volumes to be reflected and managed in the same way as electronic records.	Must	Yes	Configuration Required Using content types configured for the same classification scheme item, with specific electronic and physical metadata. The electronic content type would be applied to document libraries and the physical record content type to lists	Yes	Configuration Required Using two classification scheme content types, as well as specific file plan items for physical records and folders for volumes.
135	Allow both kinds of record to be managed in an integrated manner.	Must	Partial	Configuration Required / Additional Configuration Required The above two content types would have the same information policies. Cross references and common site aggregations can be configured to allow physical and electronic records to be linked Complex physical aggregations will require third party add on tools	Partial	Configuration Required The above two content types would have the same information policies Complex physical aggregations will require third party add on tools
136	Allow a non-electronic aggregation that is associated as a hybrid with an electronic aggregation to use the same title and numerical reference code, but with an added indication that it is a hybrid non-electronic aggregation.	Must	Yes	Configuration Required Content type metadata	Yes	Configuration Required Content type metadata
137	Allow a different records management metadata element set to be configured for non-electronic and electronic aggregations; non-	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	electronic aggregation records management metadata must include information on the physical location of the non-electronic aggregation.					
138	Ensure that retrieval of non-electronic aggregations displays the records management metadata for both electronic and non-electronic records associated with it.	Must	Yes	Configuration Required List cross referencing to related electronic records and configuring physical records metadata to be an additional set to electronic record metadata will achieve this.	Yes	Configuration Required List cross referencing to related electronic records and configuring physical records metadata to be an additional set to electronic record metadata will achieve this.
139	Include features to control and record access to non-electronic aggregations, including controls based on security category, which are comparable with the features for electronic aggregations.	Must	Partial	Additional Configuration Required See comments on 3.4.3 Security classification add-on to support this.	Partial	Additional Configuration Required See comments on 3.4.3 Security classification add-on to support this.
140	Support tracking of non-electronic aggregations by the provision of request, check-out and check-in facilities that reflect the current location of the item concerned.	Must	Yes	Configuration Required Workflow required to manage requests and track locations.	Yes	Configuration Required Workflow required to manage requests and track locations.
141	Support the printing and recognition of bar codes for non-electronic objects (for example, documents, files and other containers), or should support other tracking systems to automate the data entry for tracking the movement of such non-electronic records.	Should	Partial	Additional Configuration Required Development required for bar coding on physical and list items and automated data entry	Partial	Additional Configuration Required Development required for bar coding on physical and list items and automated data entry
142	Support the retention and disposal protocols and routinely apply to both electronic and non-electronic elements within hybrid aggregations.	Should	Partial	Additional Configuration Required Linked retention and disposal actions require third party tools or additional	Partial	Additional Configuration Required Linked retention and disposal actions require third party tools or additional

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
				development – see 193 below		development – see 193 below
143	***Where aggregations have security categories, the electronic records management system must:*** Ensure that a non-electronic record is allocated the same security category as an associated electronic record within a hybrid records aggregation.	Should	Partial	Additional Configuration Required Third party security add-on tool meets this need.	Partial	Additional Configuration Required Third party security add-on tool meets this need.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.6	**Retention and Disposal**					
3.6.1	**Disposition authorities** Disposition' includes a number of actions, such as destruction, transfer, permanent archive and reassessment of a retention period, however the term for authorised records destruction is often 'disposal'. In this Module the term 'disposition' is used to cover all these processes and the term 'disposal' is used as shorthand for assigning a period before authorised destruction can be considered. Deletion is often considered to be (permanent) destruction, however material may still be accessible, discoverable or recoverable due to back-ups, personal hard drives and so on, and through digital forensics. These technical issues may be addressed at a policy or technical level and may required serious consideration where legal or security requirements are paramount. *Establishing disposition authorities* The electronic records management system **must**:	N/A	N/A	MOSS 2007 has Information Management polices tied to content types that can be used for this purpose. Content types and policies can also be referenced to specific disposition authorities. MOSS 2007 is limited to one policy per content type, without development of specific workflows or multiple content types during the life of a record.	N/A	SharePoint 2010 supports an expanded range of policies and actions, including ongoing review. Content Organiser can also be used for metadata driven actions. SharePoint 2010 also allows multi-stage policies both by content type and location (file plan).
144	Provide a function that: • specifies disposal authorities; • automates reporting and destruction actions; • disposes of compound records as a single action; and • provides integrated facilities for exporting records and records management metadata.	Must	Partial	Additional Configuration Required Development required of export and other automated functions	Yes	Configuration Required Additional disposition actions are supported as standard including transfers and moves. Content Organiser can also be used for metadata driven actions.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
145	Be able to restrict the setting up and changing of disposal authorities to the administrator only.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
146	Allow the administrator to define and store a set of customised standard disposal authorities.	Must	Yes	Configuration Required Control list required, CodePlex add-on allows policies to be copied.	Yes	Standard Feature(s) Via Content type syndication.
147	Support retention periods from a minimum of one month to an indefinite period.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
	Applying disposition authorities The electronic records management system **must**:					
148	Be capable of assigning a disposal authority to any aggregation or record type.	Must	Partial	Additional Configuration Required Disposal authorities are set up by content type and records must be assigned a new content type / location for disposal by aggregation.	Yes	Standard Feature(s) Disposal policies are by location (aggregation) and content type.
149	By default, ensure that every record in an aggregation is governed by the disposal authority(s) associated with that aggregation.	Must	Partial	Development Where content types cannot be used to represent aggregations, default authority by aggregation needs to be developed.	Yes	Standard Feature(s) Default by location (aggregation) is supported.
150	Include a disposition action, agency retention period and trigger in the (metadata) record for the decision for each disposition authority.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
151	For each aggregation: • automatically track retention periods that have been allocated to the aggregation; and • initiate the disposition process by prompting the administrator to consider and, where appropriate approve and execute, disposal action when disposition is due.	Must	Partial	Additional Configuration Required Workflow development or advanced configuration is required of recurring policies.	Yes	Standard Feature(s) Dashboard of required actions is provided.
152	Allow at least the following decisions for each disposal authority: • retain indefinitely; • present for review at a future date; • destroy at a future date; and • transfer at a future date.	Must	Partial	Additional Configuration Required Workflow development or advanced configuration is required of recurring policies.	Yes	Standard Feature(s)
153	Allow retention periods for each disposal authority to be specified at a future date, with the date able to be set in at least the following ways: • passage of a given period of time after the aggregation is opened; • passage of a given period of time after the aggregation is closed; • passage of a given period of time since the most recent record has been assigned to the aggregation; • passage of a given period of time after a specific event (event to be identified in the	Must	Partial	Additional Configuration Required Workflow development required for “most recent record” by aggregation.	Yes	Standard Feature(s) “Events” must be identified as metadata values.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	schedule, and will be notified to the electronic records management system by the administrator, rather than being detected automatically by the electronic records management system); and • specified as 'indefinite' to indicate long-term preservation of the records.					
154	Enable a disposal authority to be assigned to an aggregation that over-rides the disposal authority assigned to its 'parent' aggregation.	Must	Partial	Development Required Parent aggregation requires development.	Yes	Standard Feature(s) File plan supports this.
155	Allow the administrator to amend any disposal authority allocated to any aggregation at any point in the life of that aggregation.	Must	Yes	Standard Feature(s) Supported by Content Type	Yes	Standard Feature(s)
156	Allow the administrator to change the authority(s) associated with an aggregation at any time.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
157	Allow the definition of sets of processing rules that can be applied as an alerting facility to specified aggregations prior to initiation of a disposal process.	Must	Partial	Development Development required for "sets of rules".	Yes	Standard Feature(s) Using multiple policies and Content Organiser.
158	Provide the option of allowing electronic records or aggregations that are being moved between aggregations by the administrator to have the disposal authority of the new aggregation, replacing the existing disposal authority(s) applying to these records.	Must	Yes	Configuration Required Content types can be configured by location and so apply to the moved items.	Yes	Standard Feature(s) Content Organiser can be used to automate this based on metadata. File plan policies override content type policies.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	Executing disposition authorities The electronic records management system **must**:					
159	Allow the administrator to delete aggregations, volumes and records (subject to Section 3.4.6: Security categories).	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
160	When executing disposition authorities, the electronic records management system must be able to: • produce an exception report for the administrator; • delete the entire contents of an aggregation or volume when it is deleted; • prompt the administrator to enter a reason for the action; • ensure that no items are deleted if their deletion would result in a change to another record (for example, if a document forms a part of two records – see Section 3.1.3: Aggregation of electronic records – one of which is being deleted); • inform the administrator of any links from another aggregation or record to an aggregation or volume, that is about to be deleted, and request confirmation before completing the deletion; • alert the administrators to any conflicts, for example, items that are linked to more than one disposition action involving pointers; and • maintain complete integrity of the records management metadata at all times.	Must	Partial	Additional Configuration Required Complex configuration of workflows or development required to validate links. By design items can have only one disposal policy assigned to them.	Yes	Configuration Required Document sets and location can be used to provide overarching controls. Content Organiser can be configured to apply the longest retention policy to linked items.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	If more than one disposal authority is associated with an aggregation, the electronic records management system must:					
161	Automatically track all retention periods specified in these disposal authorities, and initiate the disposal process once the last of all these retention dates is reached.	Must	Partial	Development Workflows or development required to use multiple authorities by aggregation.	Yes	Configuration Required Multiple policies can be configured and Content Organiser can be set up to use the longest policy, or location driven override used.
162	Allow the administrator to manually or automatically lock or freeze records disposition processes (freeze for litigation or legal discovery purposes, Freedom of Information purposes, etc.).	Must	Yes	Configuration Required Records Centre needs to be configured for this.	Yes	Standard Feature(s)
	Documenting disposition authorities The electronic records management system **must**:					
163	Record any deletion or disposal action comprehensively in the process metadata	Must	Yes	Configuration Required Audit trail	Yes	Configuration Required Audit trail
164	Automatically record and report all disposal actions to the administrator.	Must	Partial	Additional Configuration Required Some disposal actions such as Transfer, needs to be configured	Yes	Configuration Required Transfers and other actions are provided as standard
	Reviewing disposition The electronic records management system **must/should**:					

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
165	Support the review process by presenting electronic aggregations to be reviewed, with their records management metadata and disposal authority information, in a manner that allows the reviewer to browse the contents of the aggregation and/or records management metadata efficiently.	Must	Partial	Additional Configuration Required Configuration of specific query web parts required to present aggregations.	Yes	Configuration Required Views required for browsing. File plan views support this.
166	Allow the reviewer to take at least any one of the following actions for each aggregation during review: • mark the aggregation for destruction; • mark the aggregation for transfer; • mark the aggregation for indefinite hold, for example, pending litigation; and • change the disposal authority (or assign a different schedule) so that the aggregation is retained and re-reviewed at a later date, as defined in this section.	Must	Partial	Development Required Development required to support alternate actions.	Yes	Configuration Required Multiple actions are supported.
167	Allow the reviewer to enter comments into the aggregation's records management metadata to record the reasons for the review decisions.	Must	Partial	Development Required Development required of workflows to support review processes.	Yes	Configuration Required Using standard review policies.
168	Alert the administrator to aggregations due for disposal before implementing disposal actions, and on confirmation from the administrator must be capable of initiating the disposal actions specified in this section.	Must	Partial	Additional Configuration Required Workflow development required.	Yes	Configuration Required Using standard review policies.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
169	Store in the metadata all decisions taken by the reviewer during reviews.	Must	Partial	Additional Configuration Required Workflow configuration of reviewers required.	Yes	Configuration Required Configure reviewers as required.
170	Produce a disposal authority report for the administrator that identifies all disposal authorities that are due to be applied in a specified time period, and provide quantitative reports on the quantity and types of records covered.	Must	Partial	Development Required Development required of reports against the file plan.	Yes	Configuration Required File plan reports are supported. Reports could be customised to provide this data.
171	Be able to specify the frequency of a disposal authority report, the information reported and highlight exceptions such as overdue disposal.	Must	Partial	Development Required More complex report development required	Partial	Additional Configuration Required More complex report development is required.
172	Alert the administrator if an electronic aggregation that is due for destruction is referred to in a link from another aggregation and pause the destruction process to allow the following remedial action to be taken: • confirmation by the administrator to proceed with or cancel the process; and • generation of a report detailing the aggregation or record(s) concerned and all references or links for which it is a destination.	Must	Partial	Development Required Customised report would need to be developed.	Partial	Development Required Customised report would need to be developed.
173	Support reporting and analysis tools for the management of retention and disposal authorities by the administrator, including the ability to: • list all disposal authorities;	Must	Partial	Additional Configuration Required Reports need to be developed.	Partial	Additional Configuration Required Report development is required to support the “where used” requirement. List of policies by file plan is standard.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	• list all electronic aggregations to which a specified disposal authority is assigned; • list the disposal authority(s) applied to all aggregations below a specified point in the hierarchy of the classification scheme; • identify, compare and review disposal authorities (including their contents) across the classification scheme; and • identify formal contradictions in disposal authorities across the classification scheme.					
174	Provide, or support the ability to interface with, a workflow facility to support the scheduling, review and export/transfer process by tracking: • progress/status of the review, such as awaiting or in-progress, details of reviewer and date; • records awaiting disposal as a result of a review decision; and • progress of the transfer process.	Must	Partial	Additional Configuration Required Complex configuration of review decision using workflows.	Yes	Configuration Required Specific timer jobs check scheduling and statuses.
175	Be able to accumulate statistics of review decisions in a given period and provide tabular and graphic reports on the activity.	Should	Partial	Additional Configuration Required Review history would need to be saved for this purpose.	Yes	Configuration Required Using review audit trails.
3.6.2	**Migration, export and destruction** The electronic records management system **must/should**:	N/A	N/A		N/A	

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
176	Provide a well-managed process to transfer records to another system or to a third party organisation and support migration processes.	Must	Yes	Configuration Required Third party tool required such as VERS.	Yes	Configuration Required Third party tool required and Content Organiser with Document Assembly will automate some exports.
177	Include all aggregations, volumes, records and associated metadata within aggregations whenever an electronic records management system transfers any aggregation or volume.	Must	Partial	Additional Configuration Required Development required to record metadata on transfer of aggregation or volume.	Yes	Configuration Required Policies by location (aggregation).
178	Be able to transfer or export an aggregation (at any level) in one sequence of operations so that: • the content and structure of its electronic records are not degraded; • all components of an electronic record (when the record consists of more than one component) are exported as an integral unit including any technical protection measures; • all links between the record and its records management metadata are retained; and • all links between electronic records, volumes and aggregations are retained.	Must	Partial	Development Required Development required to structure outputs of compound records.	Yes	Configuration Required Document sets can be used to export as a unit or VERS add-on.
179	Be able to include a copy of the entire metadata set associated with the records and aggregations that are transferred or exported from an electronic records management system.	Must	Partial	Additional Configuration Required Output needs to be developed/configured to match metadata standards.	Partial	Additional Configuration Required Output needs to be developed/ configured to match metadata standards.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
180	Produce a report detailing any failure during a transfer, export or destruction. The report must identify any records destined for transfer that have generated processing errors, and any aggregations or records that are not successfully transferred, exported or destroyed.	Must	Partial	Development Required Development required to provide controlled transfer process or use third party add-on tool	Partial	Development Required Development required to provide controlled transfer process or use third party add-on tool
181	Retain copies of all electronic aggregations and their records that have been transferred, at least until such time as a successful transfer is confirmed.	Must	Yes	Configuration Required Copies can be supported	Yes	Configuration Required
182	Be able to continue to manage records and aggregations that have been exported from the electronic records management system to other forms of storage media.	Must	Partial	Additional Configuration Required Third party add-on tool or development required	Yes	Standard Feature(s) External storage media is supported.
183	Have the ability to retain records management metadata for records and aggregations that have been destroyed or transferred.	Must	Yes	Configuration Required Retain metadata using history list.	Yes	Configuration Required Content Organiser supports this
184	Allow the administrator to specify a subset of aggregation records management metadata that will be retained for aggregations which are destroyed, transferred out or moved offline.	Must	Yes	Configuration Required Using history content type.	Yes	Configuration Required
185	Enable the total destruction of records (whether identified by class or individually) stored on re-writable media by completely obliterating them so that they cannot be restored through specialist data recovery facilities.	Must	Yes	Configuration Required CodePlex add-on supports this.	Yes	Configuration Required

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
186	Provide a utility or conversion tool to support the conversion of records marked for transfer or export into a specified file transfer or export format.	Should	Partial	Additional Configuration Required Third party tools support VERS and other export formats e.g. PDF/A	Partial	Additional Configuration Required Third party tools support VERS and other export formats e.g. PDF/A
187	Provide the ability to add user-defined records management metadata elements required for archival management purposes to electronic aggregations selected for transfer.	Should	Yes	Configuration Required Configuration of metadata elements is required.	Yes	Configuration Required
188	Provide the ability to sort electronic aggregations selected for transfer into ordered lists according to user-selected records management metadata elements.	Should	Partial	Development Required Views are standard but ordering transfer by this requires development.	Partial	Development Required Views are standard but ordering transfer by this requires development.
189	Require the administrator to confirm that the non-electronic part of the same aggregations has been transferred, exported or destroyed before transferring, exporting or destroying the electronic part.	Should	Partial	Development Required Workflow or other development needed to support this.	Yes	Development Required Workflow or other development needed to support this.
3.6.3	**Retention and disposal of electronic and non-electronic records** The electronic records management system **must/should**:	N/A	N/A		N/A	
190	Support the allocation of disposal authorities to every non-electronic aggregation in the classification scheme. The authorities must function consistently for electronic and non-electronic aggregations, notifying the administrator when the disposal date is reached, but taking account of the different	Must	Yes	Configuration Required Workflow needed for different processes. Content types apply to both.	Yes	Configuration Required Metadata driven policies support this.

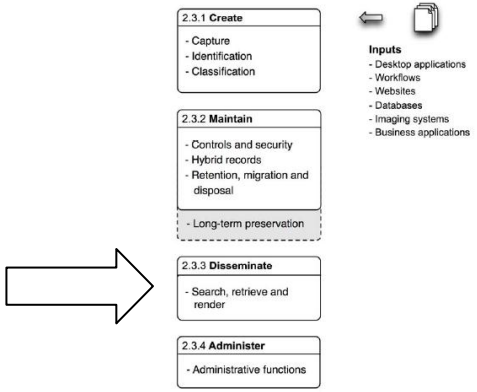
Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	processes for disposing of electronic and non-electronic records.					
191	Support the application of the same disposal authority to both the electronic and non-electronic aggregations that make up a hybrid aggregation.	Must	Yes	Configuration Required Using same content type and policies applied to list and document.	Yes	Configuration Required Using same content type and policies applied to list and document.
192	Be able to apply any review decision made on a hybrid electronic aggregation to a non-electronic aggregation with which it is associated.	Must	Yes	Configuration Required Workflow could be used for this.	Yes	Configuration Required Via Content Organiser or location.
193	Alert the administrator to the existence and location of any hybrid non-electronic aggregation associated with a hybrid electronic aggregation that is to be exported or transferred.	Must	Partial	Additional Configuration Required Workflow could be used for this.	Partial	Additional Configuration Required
194	Be able to record in the metadata all changes made to records management metadata references to non-electronic or hybrid aggregations and records.	Must	Yes	Configuration Required Version history and audit trails could be configured to support this.	Yes	Configuration Required Version history and audit trails could be configured to support this.
195	Be capable of offering check-out and check-in facilities for non-electronic aggregations profiled in the system, in particular enabling the ability to record a specific user or location to which a non-electronic aggregation is checked out, and to display this information if the non-electronic aggregation is requested by another user.	Must	Yes	Configuration Required Check in and Check out is a standard feature. Workflow would need to be configured for requests.	Yes	Configuration Required Workflow would need to be configured for requests.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
196	Be capable of offering a request facility for non-electronic records profiled in the hybrid aggregation system, enabling a user to enter a date that the non-electronic element is required and generating a consequent message for transmission to the current holder of that non-electronic aggregation or the administrator, according to configuration.	Must	Yes	Configuration Required Straight forward workflow configuration	Yes	Configuration Required Straight forward workflow configuration
197	Be able to export and transfer records management metadata of non-electronic records and aggregations.	Must	Partial	Additional Configuration Required Export of metadata to be configured	Partial	Additional Configuration Required
198	Support the application of a review decision taken on a group of aggregations to any non-electronic aggregations within that group, by notifying the administrator of necessary actions to be taken on the non-electronic aggregations.	Should	Partial	Additional Configuration Required Complex workflow development is required to check and alert for this.	Partial	Additional Configuration Required Complex workflow development is required to check and alert for this.

6.3 DISSEMINATE

This section covers the functional requirements under the major heading DISSEMINATE:

- 3.7 Search, retrieve and Render



Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.7	**Search, retrieve and render**					
	Establishing a classification scheme Note that the electronic records management systems must never present information to any user who is not entitled to access it. All the features and functionality in this section must be subject to access controls as described in Section 3.4: Managing authentic and reliable records. To avoid complexity, this is assumed and is not repeated in each requirement below. The electronic records management system **must/should**:	N/A	N/A	Enterprise Search is a standard function of MOSS 2007 however CodePlex add-ons available as part of the SharePoint Search Community Kit are required to address specific search requirements.	N/A	Enhanced Search and metadata browsing capabilities mean that the majority of functionality is supported as standard.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
199	Provide a flexible range of functions that operate on the metadata related to every level of aggregation and on the contents of the records through user-defined parameters for the purpose of locating, accessing and retrieving individual records or groups of records and/or metadata.	Must	Yes	Configuration Required Configuration of search managed properties is required.	Yes	Standard Feature(s) Metadata elements are standard filters.
200	Allow all record, volume and aggregation records management metadata to be searchable.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
201	Allow the text contents of records (where they exist) to be searchable.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
202	Allow the user to set up a single search request with combinations of records management metadata and/or record content.	Must	Yes	Configuration Required Advanced Search needs to be configured.	Yes	Standard Feature(s)
203	Allow administrators to configure and change the search fields to: • specify any element of record, volume and aggregation records management metadata, and optionally full record content, as search fields; and • change the search field configuration.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
204	Provide searching tools for: • free-text searching of combinations of record and aggregation records management metadata elements and record content; and • Boolean searching of records management metadata elements (see also Requirement 219).	Must	Yes	Configuration Required Advanced Search needs to be configured.	Yes	Configuration Required Advanced Search needs to be configured.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
205	Provide for 'wild card' searching of records management metadata that allows for forward, backward and embedded expansion.44	Must	Partial	Additional Configuration Required Full wild card search requires third party add-on tool. Standard is prefix only.	Yes	Standard Feature(s)
206	Allow searching within a single aggregation or across more than one aggregation.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
207	Be able to search for, retrieve and display all the records and records management metadata relating to an electronic aggregation, or volume, as a single unit.	Must	Yes	Configuration Required Metadata display needs to be configured.	Yes	Configuration Required Metadata display needs to be configured.
208	Be able to search for, retrieve and render an electronic aggregation by all implemented naming principles, including: • name; and • identifier (classification code).	Must	Yes	Configuration Required Search for aggregation required configuration though tabs can be used to filter by aggregation.	Yes	Standard Feature(s) Search by file plan.
209	Display the total number of search results on a user's screen and must allow the user to then display the results list, or refine the search criteria and issue another request.	Must	Partial	Additional Configuration Required Facetted search can be provided by CodePlex or via a third party add-on tool.	Yes	Standard Feature(s) Facetted search is standard.
210	Allow records and aggregations featured in the search results list to be selected, then opened (subject to access controls) by a single click or keystroke.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
211	Allow users to retrieve aggregations and records directly through the use of a unique identifier.	Must	No	Development Required Unique id for both documents and aggregations needs to be developed	Partial	Additional Configuration Required Unique id for records is standard however development required for aggregations

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
212	Never allow a search or retrieval function to reveal to a user any information (records management metadata or record content) that the access and security settings are intended to hide from that user.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
213	Have integrated search facilities for all levels of the classification scheme.45	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
214	Provide free-text and records management metadata searches in an integrated and consistent manner.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
215	Present seamless functionality when searching across electronic, non-electronic and hybrid aggregations.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
216	Allow users to save and re-use queries.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
217	Allow users who are viewing or working with a record or aggregation, whether as the result of a search or otherwise, to see the record within the classification or aggregation hierarchy easily and without leaving or closing the record.	Must	Partial	Additional Configuration Required For site aggregation the only view of the aggregation is via a breadcrumb. For folders, folder content types could be configured to display the level.	Yes	Configuration Required Need to configure the classification scheme as a location metadata to support this.
218	Allow users to refine (that is, narrow) searches.	Must	Partial	Additional Configuration Required Facetted search can be provided either via CodePlex or a third party add-on tool.	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
219	Provide word proximity searching that can specify that a word has to appear within a given distance of another word in the record to qualify as a search result (see also Requirements 202, 203 and 204).	Should	Yes	Configuration Required Implicit and explicit "near" is supported in advanced search SQL queries. 50 words default approximate distance.	Yes	Standard Feature(s) Implicit and explicit "near" is supported Proximity is part of relevance.
220	Allow the records management metadata of any object (such as record, volume or aggregation) to be searched, whether the object itself is in electronic form or not, and regardless of whether the object is stored online, near-line or offline.	Should	Yes	Standard Feature(s)	Yes	Standard Feature(s)
221	Provide display formats configurable by users or administrators for search results, including such features and functions as: • select the order in which the search results are presented; • specify the number of search results displayed on the screen; • set the maximum number of search results; • save the search results; and • choose which records management metadata fields are displayed in search result lists.	Should	Partial	Additional Configuration Required Filtered metadata views require CodePlex SharePoint Search Community kit add-on.	Yes	Configuration Required Standard Search configuration
222	Provide relevance ranking of the search results.	Should	Yes	Standard Feature(s)	Yes	Standard Feature(s)
223	Be able to relate an 'extract' of an electronic record to the original record, so that retrieval of one allows retrieval of the other, while retaining separate records management metadata and access controls over the two items.	Should	Partial	Additional Configuration Required Link column type required or development of common unique id to relate the two records.	Yes	Configuration Required Related content needs to be configured.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
224	Provide concept searches through the use of a thesaurus incorporated as an online index.	Should	Partial	Additional Configuration Required Third party taxonomy tool required.	Yes	Configuration Required Term Store supports this.
225	***Where a graphical user interface is employed, the electronic records management system must:*** Provide a browsing mechanism that enables graphical or other display browsing techniques at any level of aggregation.	Must	Partial	Additional Configuration Required File plan browsing requires development. Search tabs can limit scope to specific site aggregations.	Yes	Standard Feature(s)
3.7.1	**Rendering: displaying records** The electronic records management system **must/should**:	N/A	N/A		N/A	
226	Render or download records that the search request has retrieved.	Must	Yes	Configuration Required Can be provided via a web display	Yes	Standard Feature(s) Preview is standard
227	Render records that the search request has retrieved without loading the associated application software.	Should	Yes	Configuration Required Web Display and Windows 7 web display preview.	Yes	Standard Feature(s)
228	Be able to render all the types of electronic records specified by the organisation in a manner that preserves the information in the records (for example, all the features of visual presentation and layout produced by the generating application package), and which renders all components of an electronic record in their original relationship.	Should	Yes	Configuration Required Render to PDF/A is an add-on tool.	Yes	Configuration Required Content Organiser and document assembly can output archive formats.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.7.2	**Rendering: printing** This section applies to records and their records management metadata and other data within the electronic records management system that can meaningfully be printed. The electronic records management system **must/should**:	N/A	N/A		N/A	
229	Provide the user with flexible options for printing records and their relevant records management metadata, including the ability to print a record(s) with records management metadata specified by the user.	Must	Yes	Configuration Required Configure print parameters to include metadata properties.	Yes	Configuration Required
230	Allow the printing of records management metadata for an aggregation.	Must	Partial	Additional Configuration Required Aggregation requires development or configuration of folder content types is folders are used for aggregation.	Yes	Configuration Required Location metadata
231	Allow the user to be able to print out a summary list of selected records (for example, the contents of an aggregation), consisting of a user-specified subset of records management metadata elements (for example, Title, Author, Creation date) for each record.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
232	Allow the user to print the results list from all searches.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
233	Be able to print all the types of electronic records specified by the organisation. Printing must preserve the layout produced by the generating application package(s) and include all (printable) components of the electronic record.	Must	Yes	Configuration Required Some file types may require original application.	Yes	Configuration Required Some file types may require original application.
234	Allow the administrator to specify that all printouts of records have selected records management metadata elements appended to them, for example, title, registration number, date and security category.	Must	Partial	Additional Configuration Required Third-party add-on tools support the print out of selected metadata. Office supports print out of properties	Partial	Additional Configuration Required Third-party add-on tools support the print out of selected metadata.
235	Allow the administrator to print the thesaurus, where a thesaurus exists within the system.	Must	No	Development Required Only supported by separate third party products.	Yes	Standard Feature(s)
236	Allow the administrator to print any and all administrative parameters.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
237	Allow the administrator to print disposal authorities.	Must	Yes	Configuration Required Report required to list policies by site collection.	Yes	Standard Feature(s) Supported by file plan.
238	Allow the administrator to print the classification scheme.	Must	Yes	Configuration Required Tailored reports can be configured to support this.	Yes	Configuration Required Tailored reports can be configured to support this.
239	Allow the administrator to print metadata schema or element sets.	Must	Yes	Configuration Required Tailored reports can be configured to support this.	Yes	Configuration Required Tailored reports can be configured to support this.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
240	Allow all records in an aggregation to be printed, in the sequence specified by the user, in one operation.	Should	Partial	Additional Configuration Required Third party printing tools required to batch print.	Yes	Standard Feature(s) Batch process supported.
241	**If the electronic records management system uses classification schemes and thesauri, it must:** Allow the administrator to print the file list.	Must	Partial	Additional Configuration Required File list involves complex configuration	Yes	Standard Feature(s)
3.7.3	**Rendering: redacting records** A redacted record is a copy of an electronic record from which some material has been removed or permanently masked (redacted). An extract is made when the full record cannot be released for access, but part of the record can. The electronic records management system **must/should**:	N/A	N/A		N/A	
242	Allow the administrator to take a copy of a record for the purposes of redaction.	Must	Yes	Configuration Required Using Office only	Yes	Configuration Required Using Office, OCR supported as well for images.
243	Record the creation of extracts in the records management metadata, including at least date, time, reason for creation and creator.	Must	Yes	Configuration Required Relationships to be configured. See section 7.3 Analysis against NAA Recordkeeping Metadata Standard.	Yes	Configuration Required Relationships to be configured. See section 7.3 Analysis against NAA Recordkeeping Metadata Standard.
244	Store in the metadata any change made in response to the requirements in this section.	Must	Yes	Configuration Required Relationships to be configured.	Yes	Configuration Required Relationships to be configured.

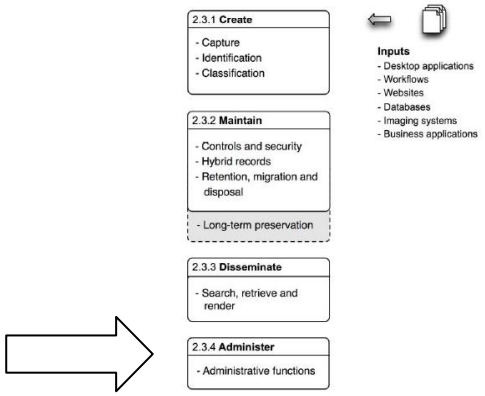
Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
245	Provide functionality for redacting (see Glossary at Appendix A) sensitive information from the extract. If the electronic records management system does not directly provide these facilities, it must allow for other software packages to do so.	Should	Yes	Configuration Required Using Office only.	Yes	Configuration Required Using Office only.
246	Prompt the creator of an extract to assign it to an aggregation.	Should	Yes	Standard Feature(s)	Yes	Standard Feature(s)
247	Store a cross-reference to an extract in the same aggregation and volume as the original record, even if that volume is closed.	Should	Yes	Configuration Required Relationships to be configured.	Yes	Configuration Required Relationships to be configured.
3.7.4	**Rendering: other** This section applies only to records that cannot meaningfully be printed, such as audio, visual and database files. The electronic records management system **must**:	N/A	N/A		N/A	
248	Include features for rendering those records that cannot be meaningfully printed to an appropriate output device.	Must	Yes	Configuration Required Other media files can be saved.	Yes	Standard Feature(s) Digital asset media and streaming are supported as standard.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.7.5	**Rendering: re-purposing content** The electronic records management system **must**:	N/A	N/A		N/A	
249	Allow the re-use or re-purposing of content.	Must	Yes	Standard Feature(s) Additional content types can be applied.	Yes	Standard Feature(s) Will also support DITA to allow content reuse.

6.4 ADMINISTER

This section covers the functional requirements under the major heading ADMINISTER:

- 3.8 Administration



Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.8	**Administration**					
	In exceptional circumstances, records may be altered or deleted by system administrators. Where this is the case, copies of the records without the sensitive information (redacted copies) must be able to be created. System administrators also need to be able to manage system parameters, backup and restore data, and generate system reports. This section includes requirements for managing system parameters, back-up and restoration, system management and user administration. The administration of security classification, controls, classification and so on are addressed in the relevant security-related requirements in Section 3.4.4: Managing authentic and reliable records.			MOSS 2007 provides administration tools to support back up and restore of data. Third party add-on tools are needed to simplify item level recovery.		Administration is improved over MOSS 2007. Microsoft's next generation of back up and security tools simplify SharePoint administration. Tools such as content type syndication simplify deployment and support.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
3.8.1	**Administrator Functions** The electronic records management system **must**:	N/A	N/A		N/A	
250	Allow the administrator to retrieve, display and re-configure system parameters and to re-allocate users and functions between user roles.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
251	Provide back-up facilities so that records and their records management metadata can be recreated using a combination of restored back-ups and metadata.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
252	Provide recovery and rollback facilities in the case of system failure or update error, and must notify the administrator of the results.58	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
253	Monitor available storage space and notify the administrator when action is needed because available space is at a low level or because it needs other administrative attention.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
254	Allow the administrator to make bulk changes to the classification scheme, ensuring all records management metadata and metadata data are handled correctly and completely at all times, in order to make the following kinds of organisational change: • division of an organisational unit into two; • combination of two organisational units into one;	Must	Partial	Additional Configuration Required Third party add-on tools are needed to reconfigure content easily in this way.	Yes	Configuration Required Content Organiser could be configured to make these changes.

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
	• movement or re-naming of an organisational unit; and • division of a whole organisation into two organisations.59					
255	Support the movement of users between organisational units.	Must	Partial	Additional Configuration Required AD supports users by organisation unit but updates do not occur automatically. Workflow development is required or third party security add-on tool such as Titus Labs or janusNET.	Partial	Additional Configuration Required AD supports users by organisation unit but updates do not occur automatically. Workflow development is required or third party security add-on tool such as Titus Labs or janusNET.
256	Allow the definition of user roles, and must allow several users to be associated with each role.	Must	Yes	Configuration Required Limited roles are defined as standard.	Yes	Configuration Required Limited roles are defined as standard.
257	Communicate any errors encountered in saving data to storage media.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
3.8.2	**Metadata administration** Metadata schemas have to be administered, including the creation, addition, deletion or alteration of metadata elements, and the semantic and syntactical rules and obligation status applied to those elements. The electronic records management system **must**:	N/A	N/A	Metadata defined as site columns and deployed by content types.	N/A	Content type syndication simplifies changes and enforces a common standard. Term Store also allows schemas to be managed.
258	Allow the administrator to create, define and delete metadata elements, including custom fields.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
259	Allow the administrator to apply and modify metadata schema rules, including semantic and syntactical rules, encoding schemes and obligation status.	Must	Partial	Additional Configuration Required Third party tools needed to easily deploy content types and changes.	Yes	Standard Feature(s) Content type syndication provides this functionality.
260	Allow the administrator to configure the system to restrict the viewing or modifying of metadata elements by group, functional role or user.	Must	Partial	Additional Configuration Required Restriction of views of metadata are system wide (hidden metadata).	Yes	Configuration Required Use file plan to support this.
261	Document all metadata administration activities.	Must	Partial	Additional Configuration Required Only source items are audited as standard events need to be defined to cover all possible changes	Yes	Configuration Required Improved audit trails can be used for this.
3.8.1	**Reporting** This section articulates basic reporting requirements. It does not articulate the requirements for a comprehensive reporting subsystem. The electronic records management system **must**:	N/A	N/A		N/A	
262	Provide flexible reporting facilities for the administrator. They must include, at a minimum, the ability to report the following: • numbers of aggregations, volumes and records; • transaction statistics for aggregations, volumes and records; and • activity reports for individual users.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
263	Allow the administrator to report on metadata based on selected: • aggregations; • volumes; • record objects; • users; • time periods; and • file formats and instances of each format.	Must	Partial	Additional Configuration Required Report would need to be developed to show aggregations and volumes.	Yes	Configuration Required File plan reports provide the basis for this data.
264	Be able to produce a report listing aggregations, structured to reflect the classification scheme, for all or part of the classification scheme.	Must	Partial	Development Required A file plan report needs to be developed.	Yes	Configuration Required A file plan report is provided.
265	Allow the administrator to request regular periodic reports and one-off reports.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
266	Allow the administrator to report on metadata based on selected: • security categories; • user groups; and • other records management metadata.	Must	Yes	Configuration Required Reports by user group need to be configured.	Yes	Configuration Required Reports by user group need to be configured.
267	Include features for sorting and selecting report information.	Must	Yes	Configuration Required Custom reports are available.	Yes	Configuration Required
268	Include features for totalling and summarising report information.	Must	Yes	Configuration Required Using pivot tables.	Yes	Configuration Required

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
269	Allow the administrator to restrict users' access to selected reports.	Must	Yes	Configuration Required Administrator is generally the only user.	Yes	Configuration Required
3.8.4	**Back-up and recovery** Electronic records management systems must have comprehensive controls to create regular back-ups of the records and records management metadata that they maintain. These back-ups should enable the electronic records management system to rapidly recover records if any are lost because of system failure, accident or security breach. In practice, back-up and recovery functions may be divided between electronic records management system administrators and IT staff. The electronic records management system **must**:	N/A	N/A		N/A	
270	Provide automated back-up and recovery procedures.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
271	Allow the administrator to schedule back-up routines by: • specifying the frequency of back-up; and • allocating storage media, system or location for the back-up (for example, offline storage, separate system, remote site).	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)

Ref	Detailed Requirement	Level	SP 2007 Compliance	MOSS 2007 Analysis Assessment	SP 2010 Compliance	SP 2010 Analysis Assessment
272	Allow only the administrator to restore from electronic records management system back-ups. Full integrity of the data must be maintained after restoration.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
273	Allow only the administrator to roll-forward the electronic records management system from a back-up to a more recent state, maintaining full integrity of the data.	Must	Yes	Standard Feature(s)	Yes	Standard Feature(s)
274	Allow users to indicate that selected records are considered to be 'vital records'.	Must	Yes	Configuration Required Separate libraries and review workflows can be configured to support this.	Yes	Configuration Required
275	Be able to notify users whose updates may have been incompletely recovered, when they next use the system, that a potentially incomplete recovery has been executed.	Must	Partial	Development Required Notification needs to be developed to support this.	Partial	Development Required

7. Review Against Recordkeeping Metadata Standards

7.1 Overview

Recordkeeping metadata standards are being developed to support the increasingly electronic form of records. Metadata standards have been adopted for web content based on the Australian Government Locator Service (AGLS), the Australian Government extension of the Dublin Core metadata set, and the NAA *Australian Government Recordkeeping Metadata Standard* (version 2.0), a specification now widely adopted by other Australian jurisdictions, New Zealand and Spain.

MOSS 2007 and SharePoint 2010 provide metadata capabilities using content types and site columns, and audited events to capture recordkeeping and business metadata. This section assesses how each of these metadata standards can be configured and supported.

7.2 Overview of SharePoint Metadata capabilities

MOSS 2007 allows entity schemes to be configured for record keeping purposes:

- Record Agent and Business metadata is supplied using appropriate site columns, defaults and look up lists
- Properties such as description (title), author, start date and record format are supported as standard system wide elements.
- Email metadata standards are also supported.
- Disposal and location properties can be configured and values updated as a result of disposal, review and transfer workflows.
- Separate content types can be used to distinguish digital and physical records (with additional metadata elements for physical records).
- Numerous add-ons are available to support unique record id generation, complete disposal metadata and format records to meet requirements such as VERS.
- Event history is recorded in audit trails and version history that can be retained with the record.

SP 2010 extends this capability introducing:

- Managed metadata site columns
- Record declarations, holds and policy status
- Multiple term stores
- File and record plans
- Extended records management metadata and functionality

We note also that the Office 2007 XML can be used to store relevant metadata as part of a document or file. This is retained with the document and can be separately searched and queried on.

MOSS 2007 and SharePoint 2010 can be configured to meet metadata, audit and compliance requirements using specific features including:

Feature	Use
Document and List Content types	Can be configured to capture mandatory and optional record entity properties and sub-properties, business, agent, mandate and some relationship properties and sub properties
Locations / folder Content types	Can be configured in addition to document content types to capture record, business, agent, mandate and some relationship properties and sub-properties
Information policies	Used to record disposal actions and triggers (by content type or location and so related to record)

Feature	Use
Site columns	Used to define specific properties and sub properties including their attributes such as obligation, choices, default values and repeatability. With SharePoint 2010 this includes managed metadata columns types to store hierarchical schemes. Defined site columns become managed properties for filtering and search. Specific site columns can also be established to record relationship and agent properties, such as Redacts and Digitises
Version history	Used to capture Relationship Change History properties for a record where the record or associated metadata properties are changed
Workflow history	Used to capture specific workflow enabled recordkeeping event relationships for a record, such as Reviews
Audit history	Used to capture specific auditable recordkeeping event relationships for a record, such as "Assigns" changing permissions
Term store	Used in SharePoint 2010 to store defined metadata schemes and taxonomies, in addition to simple choices and look up lists

The primary metadata recording vehicle in SharePoint is the content type. Content type metadata site columns are defined by Record but also cover Agent, Business, Mandate and some Relationship entity properties. Separate Relationship change histories are not needed for these items because all changes to content type metadata are versioned and previous values kept. Some Relationship recordkeeping events are also stored as standard compliance metadata by Record including Creates, Registers, Removes, and Replaces agent and date metadata. A full mapping of recordkeeping events is set out below.

Content types have associated Information polices used to set disposal actions and required auditing. Content types site columns are also treated as managed properties in search and able to be used in filters and views. Managed metadata site columns also allow search and filtering on any level of a hierarchical scheme, and facetted search allows the concurrent search based on key record, business and agent properties simultaneously, a key benefit of the multiple entity model. The only limitation is that search only utilises current metadata properties, and not version history, in its facetted search outputs.

7.3 Analysis against NAA Recordkeeping Metadata Standard

The Australian Government Record Keeping Metadata Standard Version 2.0 implements a multiple-entity metadata model, allowing for the description of five separate entities: Record, Agent, Business, Mandate and Relationship. It defines a basic set of 26 metadata properties and an additional 44 sub-properties that may be used to describe these entities. The multiple-entity model is derived from that presented in the Australian Standard on Information and Documentation – Records Management Processes – Metadata for Records, AS ISO 23081, depicting the main recordkeeping metadata types and their relationships.

The following diagram illustrates a potential configuration of SharePoint to meet this metadata standard:

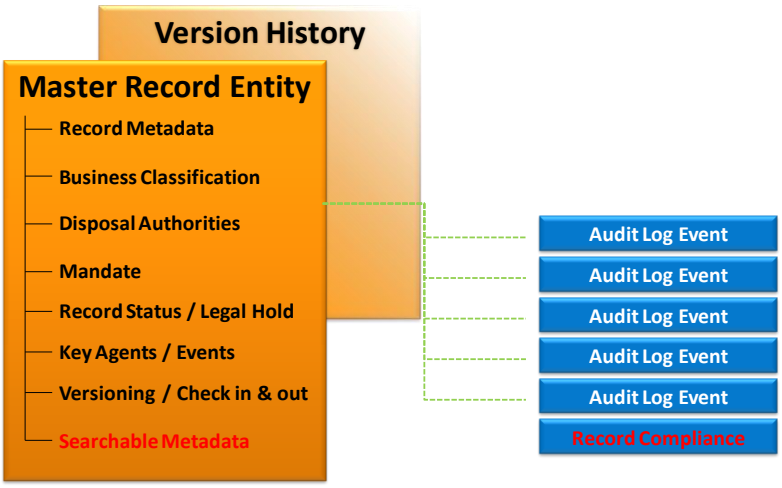


Figure 15 SharePoint Entity Model Representation © Wise Technology Management

As this diagram shows key entity data is stored as a part of a "master" record entity. Changes to this metadata will be automatically stored in version history. Relationship events that are not covered by Key Agents / Events such as created, modified, check in and check out, can be recorded as part of each record's audit trail using standard events (such as copied, viewed and moved), or custom events triggered by retention actions or workflows.

While the SharePoint metadata model is a combined single entity model, use of common schemes across entities and look up lists can ensure the required metadata consistency. There a number of advantages to the SharePoint model from an end user perspective including:

- the ability to define views and tasks to check record status;
- facetted search which supports simultaneous searching by multiple entities such as record, business and agent: and
- improved ability to default metadata avoiding the need for end user entry or selection, also improving the quality of metadata.

Standard system generated metadata items or defaults include:

- Record id (standard with SP 2010)
- Author (created by)
- Created date
- Modified by
- Modified Date
- Checked out date
- Checked in status and comments
- Registered date (standard with SP 2010 called declared date)
- Language
- Size
- File Type
- File name
- Retention policy (link to Information Management retention policy in SP 2010)
- Confidentiality Level (using audiences in SP 2010)
- Record status (standard with SP 2010)
- Hold status

- Workflow status
- Email metadata items (where email enabled)
- Version and version history
- Audit trail of all changes, access, search, disposal policy events

In SharePoint 2010 locations (such as folders in a file plan) can also be used to default relevant metadata and retention policies. Content Organiser can automatically move and save documents to the correct file plan based on specified metadata values. Documents can then inherit any default metadata for this location, including business classification, relevant disposal policies, and security classifications.

Office 2010 allows end users to access the term store easily to add key words and other metadata managed properties. Third party tools such as SchemaLogic's MetaPoint extend the automatic completion of metadata to site columns and key words based on defined schemes and site column choices, by automatically searching and matching terms and synonyms based on the actual document or file content, without any effort on the part of the end user.

SharePoint does not maintain a generic event entity, except for an item's audit trail used to track standard and custom actions on an item. Many processes are automated however as part of standard SharePoint functionality, with metadata recorded against the record or in the audit trail. Some events can be handled using configured relationship and event site columns that would use look up lists to ensure a valid choice. In the case of lists for physical records, full versioning can be enabled to automatically record the agent and date time for each of these events. Link column types and document sets can be used to record relationships between related documents, copies and redactions.

While SharePoint captures the required metadata using a combined Record, Agent, Business and Mandate entity, which also records some of the key events, there is no reason metadata can't be extracted to match the Metadata standard object model at time of transfer. Time stamping and version history will allow associated entities with each event to be correctly linked, in particular the agent for specific events.

SharePoint 2010 also provides an easily selected compliance view to make it easy to view audit, record status and disposal policies in one place, shown below for an individual item. As illustrated, the user selects Compliance using the standard right click menu:

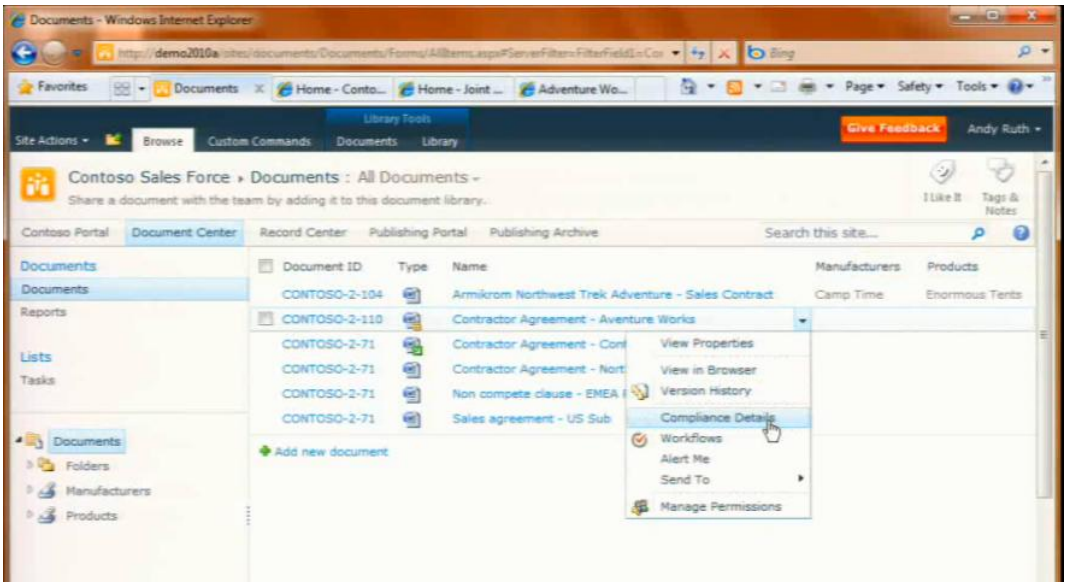


Figure 16 Viewing Compliance Status for an Item using SharePoint 2010

A compliance window is then opened showing the record's status and relevant disposal policies, with access to the item's audit log covering the above events:

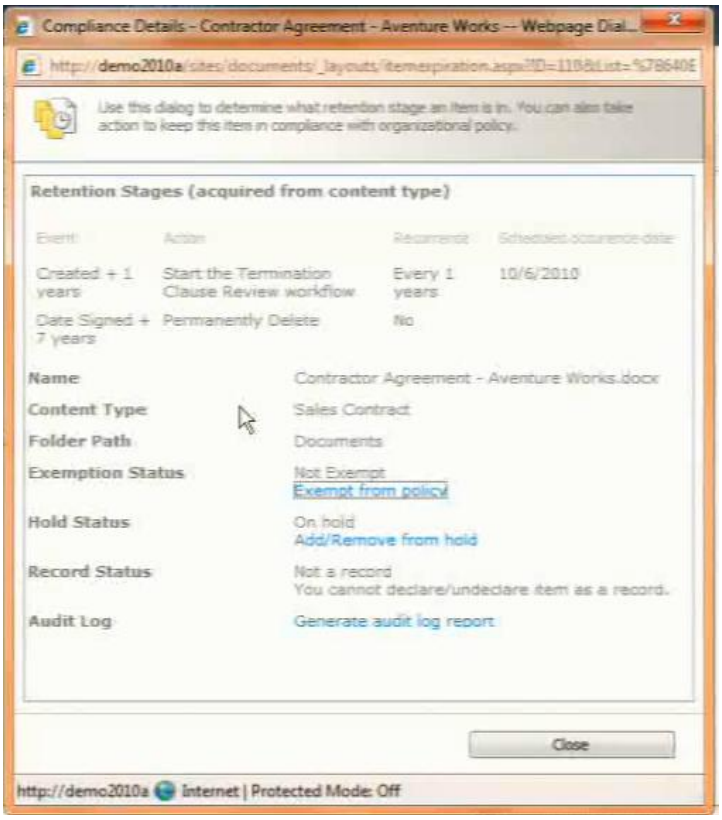


Figure 17 SharePoint 2010 Item Compliance Summary Window

7.4 Detailed Mapping Against NAA Recordkeeping Metadata Standard

The following table sets out a sample mapping of each of the Entity properties and sub-properties into relevant SharePoint data items in accordance with this representation.

Entity Property / Sub -Property	SharePoint Equivalent
Record Entity	
Entity	Document or Location Content type by default
Category	"Record Category" site column, which can be defaulted to item or file based on content type
Identifier	"Unique Record Id" is the system generated value recorded here. Where other identifiers are required such as ISBN, separate non system generated site columns should be used.
Name	"File name" is the system recorded name for a record.
Date Range	Key recordkeeping event dates are system generated and recorded automatically. Other key dates such as "Closed" or "Transferred" can be configured as specific key event data by Record, or recorded as part of Information Management policies or audit trails (See event mapping below)

Entity Property / Sub -Property	SharePoint Equivalent
Description	"Title" is the default user modifiable description for all items. Additional "Subject" and "Comments" site columns are available as standard.
Jurisdiction	"Jurisdiction" would be configured as a standard choice, look up list or metadata managed item.
Security Classification	"Security Classification" site column, with choice fields based on PSM. Default values such as 'Unclassified' can be configured by content type or location
Security Caveat	"Security Caveat Category" and "Security Caveat Text" would be a managed metadata item, to allow definition and support of agency specific schemes.
Rights	"Rights Statement" and "Rights Type" would be configured as a managed metadata item to ensure correct association of these values. "Rights Status" and "Rights Start" and "Rights End Dates" would be configured as specific site columns. Note also Information Management policies can be used to change "Rights" based on periods of time or specific events..
Language	"Language" is a standard site column for Records and is a predefined search filter
Coverage	Separate metadata managed site columns would be configured for "Jurisdictional Coverage" and "Temporal Coverage". "Spatial Coverage" would use a link to the relevant ABS or Getty Thesaurus. Where relevant GPS coordinates can also be recorded a spatial metadata items.
Keywords	"Keywords" is a standard site column for Records, and can be linked to the Term Store in SP 2010, identifying the keyword scheme. User defined terms or folksonomies are also supported in SP 2010.
Disposal	Disposal sub properties are recorded as part of a content type's information management policy, including "Disposal Action", "Trigger Date" and "Disposal Action Due". "Disposal Authority" and "Disposal Class Id" can be recorded by policy, but are generally recorded as separate content type site columns, or recorded as attributes against the business classification scheme or both. As noted above we recommend Disposal Authority and Disposal Classes be assigned to unique content types, noting that a record can *generally* have only one content type and hence one disposal class. An aggregation may of course have multiple content types and disposal classes where necessary. SP 2010 supports multiple disposal actions including periodic review. Trigger dates can use specific record metadata items and associated look up lists where relevant (such as an employee's date of birth, or a contract end date) and are repeated to support multiple actions or alternative triggers.
Format	"File Type" and "Application" are system generated. Application version is definable for some file types (e.g. .Word 2003). Open formats such as Office XML formats include format metadata as part of the actual record.
Extent	"File size" is a system generated property equivalent to "Logical size". Physical record dimensions, quantity and units can be configured as site columns for physical records if required. Digital records follow the Digital Units Scheme. Folders can be configured in SP 2010 to limit volumes within each folder.
Medium	"Physical Medium" site column with defined choices for physical records, system metadata for digital records

Entity Property / Sub -Property	SharePoint Equivalent
Integrity check	"Message Digest" would be a calculated site column type, generated as part of the transfer process. MD5 is supported as part of the Microsoft .NET security framework
Location	"Location" can be configured as required to store the location of physical records and archives.
Document Form	"Document Form" would be a managed metadata item to allow views to be used to restrict choices or default values by content type
Precedence	"Precedence" would be a site column with defined Precedence choices
Agent Entity	
Entity	By default combined with Record Entity by Content Type
Category	"Workgroup" and "Person" are defined system values with their own site columns. Multiple columns are supported to support relationships with multiple events such as Creates (Created By), Registers (Registered By) , Replaces (Check In or Modified By). Institution and organisation are implied based on the person or workgroup and could be written to specific site columns or generated at time of output or transfer. Mechanism would have a specific site column to record the relevant system name.
Identifier	Employee id is a hidden metadata item recorded by person. This value is used in all audit trails and history.
Name	"Person" or "WorkGroup" name display as default based on the identifier. Audiences can also be defined as work groups for security purposes.
Date Range	Key event dates by Agent can be recorded against the record, in the records version history, workflow history, audit trails, or configured event site columns (depending on the event).
Description	Not expected to be used for Agent.
Jurisdiction	"Agent Jurisdiction" would be need to be configured as a standard choice, look up list or metadata managed item (using the same source as Record "Jurisdiction").
Permissions	Permissions are System Values and are implied metadata by "Person" and "Workgroup". Security Classification add-on tools require this value be configured as part of a persons profile.
Contact	Implied – part of a person or workgroup's profile. Can be output or recorded using an event trigger if required.
Position	Implied – part of a person or workgroup's profile. Can be output or recorded using an event trigger if required
Language	Implied – can be configured as part of a person or workgroups profile if required.

Entity Property / Sub -Property	SharePoint Equivalent
Business Entity	
Entity	By default combined with Record Entity by Content Type.
Category	Not required - either separate site columns would be configured for "Function," "Activity," "Transaction," or a single metadata managed column would be used that would record the hierarchy as "Function>Activity>Transaction". We recommend content types be separately configured by Transaction to automate selection of these values.
Identifier	Term store items have their own unique id. "Function", "Activity" Transaction" items can also reference the relevant disposal authority or classification scheme identifier.
Name	Function, Activity and Transaction names would be recorded in separate specific site columns or a single managed metadata column.
Date Range	Dates of initial classification and changes are recorded in the Records version history.
Description	Not expected to be used for Business but if required could be implied, incorporated as a term store attribute.
Jurisdiction	"Business Jurisdiction" would be need to be configured as a standard choice, look up list or metadata managed item (using the same source as Record "Jurisdiction") or implied by recording this as an attribute of the Business Classification Scheme.
Security Classification	Security classification add-on tools define security classification site columns by defined business function or activity.
Permissions	Security classification add-on tools define security classification permission in hidden site columns by defined business function or activity.
Mandate Entity	
Entity	Document Content type or Location by default.
Category	"Mandate Category" can be configured as a specific site column. Some items such as "Policy" may be set up as managed metadata items to allow a specific scheme to record specific policy area, as equivalent to "Description".
Identifier	Term store items have their own unique id. Look up lists can be used where a Mandate has a unique reference id, else Mandate name would be used.
Name	"Mandate Name" would be recorded based on Look up list or term store item.
Date Range	Key recordkeeping event dates are system generated and recorded automatically. Other key dates such as "Closed" or "Transferred" can be configured as specific key event data by Record, or recorded as part of Information Management policies or audit trails (See event mapping below).
Description	Not expected to be used for Mandate, but if required could be implied, incorporated as a term store attribute.
Jurisdiction	"Mandate Jurisdiction" would be need to be configured as a standard choice, look up list or metadata managed item (using the same source as Record "Jurisdiction") or implied by recording this as an attribute of the Mandate Scheme.

Entity Property / Sub -Property	SharePoint Equivalent
Security Classification	Security classification by mandate would need to be configured as a mandate attribute, for an additional security check to record and business function.
Security Caveat	Security caveat associated with a mandate would need to be configured as a mandate attribute. This could be used to default to the Record if required, similar to the business classification scheme and security caveat example given below.
Coverage	The relevant coverage sub-property by mandate would need to be configured as a mandate attribute. This could use the same term store scheme as the Record coverage items.
Relationship Entity	
Entity	Document Content type or Location by default.
Category	"Provenance" would be a separate site column to enable relationships to be recorded as "Provenance Relationships". "Recordkeeping Events" which are not covered in standard systems metadata would be defined as a choice site column.
Identifier	Term store items have their own unique id. Look up lists can be used for predefined event names.
Name	"Event Name" site column would be configured
Date Range	"Event Date" could be configured for the non system tracked events. Workflow enabled events automatically have start and end dates recorded, as well as status.
Description	Could be provided using description against an Event" Look Up table or managed as a term store attribute.
Related Entity	Record, Agent, Business and Mandate history are saved as the record's version history by default. Record site columns configured to record manual record keeping events will also have their history saved with the record version. Audit trails also reference the record. Workflow enabled events will have their history recorded as both specific record site columns and in custom audit events.
Change History	Change history as noted above is recorded by Record, version history and audit trails as relevant to the event. See the recordkeeping event mapping table below for details of how changes are recorded

In terms of the **Relationship entity** the following table sets out a sample of how SharePoint can record each event.

Recordkeeping Event	SharePoint equivalent
Assigns	Permissions are recorded as systems metadata at the item level. Changes in permissions are recorded audit logs for the item. Changes in security classification and caveat metadata is recorded in the Record's version history.
Attached to	Standard metadata site column.
Authorises	Approved or authorised would be defined as a standard site column that could be updated via workflow where relevant. This records the agent and date approved.

Recordkeeping Event	SharePoint equivalent
Backs Up	Copies of records where done programmatically using policies are recorded in policy audit trails. Copies are recorded in audit trails
Changes	Covered by versioning and modified by history on the record.
Closes	Can be accomplished by declaring a record or moving to a closed location. Declaration date time and declarer are recorded.
Compress	Copy to a separate location to save storage can be recorded in audit trail.
Contributes to	Contributor is a standard record site column, but is best met by modified by audit trail in the version history as Compares function allows specific contributions to be shown.
Converts	Can be done programmatically in SP 2010 using content organiser and document assembly engine and would show in audit trail or produced file container.
Creates	System generated including date and agent.
Decrypts	Not recorded in SharePoint as such – digital rights tool would need to record. All accesses can be audited.
Deletes	Recorded in audit trail for documents. Metadata element changes are recorded in version history but not flagged as deletes as such. Mandatory metadata items must be completed and cannot be deleted and left blank.
Destroys	Recorded in retention policy audit trail.
Digitises	Cross reference can be maintained between hard copy item and digital representation. Digitised could be defined as a site column and populated on saving if required.
Documents	Generic function of record capability outputs, including metadata elements of proof of transaction authenticity. Key system elements are hidden to prevent alteration by end users.
Downloaded	Recorded in audit trails for an item.
Embedded	Recorded as links, and using document sets for compound documents. Document sets have overarching metadata properties such as when created and added to the set, as well as the documents they contain.
Encrypts	Not recorded in SharePoint as such – digital rights tool would need to record. All accesses can be audited.
Is version of	Copies and drafts are recorded as standard metadata as well as minor and major versions of a document.
Microfilms	Would need to be configured as a separate Recordkeeping activity on the Record. This would be repeatable to allow multiple events to be recorded.
Migrates	Content Organiser automates this process in SP 2010, preserving metadata and providing links to the new location. Within SharePoint recorded in audit logs for an item.
Next in Sequence	Would be defined as a site column type with a look up to relevant succeeding items.

Recordkeeping Event	SharePoint equivalent
	In terms of retention policies sequence is recorded as policy metadata.
Performs	Could be defined list with look up similar to Microfilms.
Previous in Sequence	Would be defined as a site column type with a look up to relevant succeeding items. In terms of retention policies sequence is recorded as policy metadata.
Prints	Print audit trails and dates can be recorded in audit trails or by an event against each record, e.g. last printed, last accessed.
Receives	Upload is recorded the same as create. Can be defined as a separate date site column if required.
Redacts	Configured as a set relationship type and link.
References	Would be configured as a separate references linked field.
Refreshes	No recorded in SharePoint metadata.
Registers	Recorded as Record Declared as standard in SP 2010.
Removes	Check out is a standard metadata item including date and agent.
Renders	Configured as a set relationship type and link where separate document located. Viewed is recorded in items audit log.
Replaces	Standard check in and versioning supports this process.
Requires	Configured as a set relationship type and link.
Reviews	Standard workflow and review policies support this process with actions recorded in audit logs and relevant “last reviewed” site columns.
Sends	Workflow history is the preferred means of forwarding a document for a review, comment or approval. If the document is sent as an attachment in an email the email can be saved with relevant email metadata linked to the document as an attachment using a common email cross reference.
Sentences	Can be automated for digital records. Sentenced date can be configured for physical records.
Transfers	Can be automated using Content Organiser or retention policies in SP 2010. Recorded in policy audit logs for an item.
Views	Recorded in audit log for an item.

7.5 AGLS Metadata Standards

The aim of using the AGLS Metadata Standard in Australian Government agencies is to ensure that people searching the Australian Government information space on the World Wide Web have fast and efficient access to descriptions of government resources. AGLS metadata should enable people to locate the government resources that they need without having to possess a detailed knowledge of government structures.

The AGLS Metadata Standard is based on the Dublin Core (DC) standard because one of the major objectives of Dublin Core is the fast and efficient creation of metadata, either by document authors or automated systems.

In most cases it will be sufficient for agencies to create and maintain relatively simple and unstructured AGLS metadata records. The AGLS Metadata Standard supports the creation of a minimum set of simple, unqualified metadata. Agencies are, however, encouraged to create more detailed and structured metadata. With the addition of qualifiers, descriptions become more highly structured and more semantically correct, resulting in better quality metadata. The AGLS allows agencies to create highly structured and precise, high quality metadata to ensure efficient online retrieval of Australian Government resources

In terms of AGLS Metadata, MOSS 2007 provides

- A standard content type designed to meet Dublin Core metadata. This can be easily configured to support the AGLS definition and requirements.
- MOSS 2007 site columns support controlled lists to allow default and relevant choices to be centrally managed.
- Controlled “lookup” lists can be defined for larger selections and to maintain hierarchical relationships (such as function, activity and transaction).

Add-on tools are required to allow the modeling and publication of more complex taxonomies or term definitions such as the AGLS Thesaurus of Australian Government Subjects (TAGS).

SharePoint 2010 improves this capability with:

- Its term store and managed metadata site columns simplifying capture of relevant metadata items.
- Simplified recording of relevant metadata using tags and easily entered metadata selections.
- Improved metadata driven search capabilities.

SharePoint 2010 also allows web site content to be declared and managed as a record including Web 2.0 content such as wikis and blogs.

8. Conclusion

8.1 Introduction

The electronic business environment today has experienced an evolution. The concept of a record has dramatically shifted from 'paper' to information dynamically created in many formats using digital tools including office business systems and mainstream internet based technologies.

Integral to this evolution, successive generations of office tools and business systems are becoming the central information store. The effective capture and management of format diverse information is an increasing priority for well managed organisations and businesses worldwide.

Microsoft's SharePoint platform, first with MOSS 2007 and now SharePoint 2010, is being developed as a platform to support web 2.0 and collaboration business activities, and to provide the necessary tools for end users to manage information for improved search and retrieval, compliance and life cycle management.

The ICA ERMS specifications provide a new approach to managing electronic records in an office environment, and are a good basis for assessing the progress made in developing these products. The guiding principles in Module One of these specifications also summarise the important issues for future development of these systems, ensuring that solutions are business focussed, with as much metadata as possible being system generated and end users able to create and capture records as part of a normal business activity. SharePoint 2010 in particular appears to have been designed with these guiding principles in mind.

8.2 Overall Results

The following graphs show the **overall compliance results** for MOSS 2007 and SharePoint 2010 analysed against the ICA Module 2 Section 3 Functional Requirements:

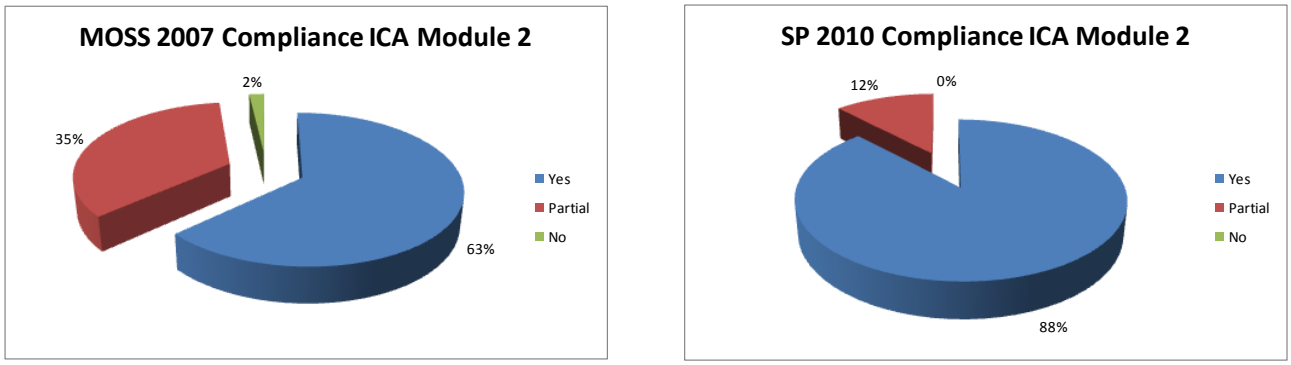


Figure 18 Overall MOSS 2007 and SP 2010 Compliance Results

As the graphs show, MOSS 2007 Enterprise version is found to be a partially compliant solution out of the box. It was found to be difficult to achieve required compliance levels with MOSS 2007 solely through configuration and simple add-ons. Significant add-ons, complex configuration and development are required to achieve a partially compliant solution. While MOSS 2007 can be considered as a user friendly, collaboration front end, it needs to be integrated with a compliant ERMS back end or a pre-configured third party records management add-on to achieve substantial compliance.

With an 88% compliance result, SharePoint 2010 is shown to be largely compliant, albeit with configuration still required to address specific records management functions, and some add-ons for requirements such as security classifications and physical records. Key improvements reduce the complexity of configuration significantly compared with MOSS 2007, such as records declaration, improved audit trails, content organiser, document sets, file plan and location based policies, and managed metadata terms. There is a relatively small gap to be filled by add-on software or complex configuration. In addition SharePoint 2010 has the advantages of improved ease of use, automated metadata capture, improved search and retrieval using this improved metadata, and coverage of Web 2.0 and other rich media formats. Properly configured SharePoint 2010 appears to be able to deliver on the promise of providing business focused information and processes while at the same time supporting transparent compliance and records

management. SharePoint 2010 addresses the scaling limitations of MOSS 2007 and may evolve into a viable ERMS alternative.

We believe it is also important to consider the *Module 1 Overview and Statement of Principles* in evaluating these solutions. This module sets out Record and System-Related principles that should be considered in designing and implementing ERMS systems. Both MOSS 2007 and SharePoint 2010 can be configured to meet the key System-Related ease of creation/capture and default metadata principles, essential for end user acceptance and quality of information capture. Third party tools are required to meet some of the other System-Related principles including bulk import, export and security. While both address the Records-Related principles, SharePoint 2010 has the advantage of a defined records declaration capability, and its content organiser allowing business information to be managed as an asset transparently to the end user.

In terms of the NAA Recordkeeping Metadata standards, our analysis shows that both MOSS 2007 and SharePoint 2010 can be configured to capture the majority of required metadata and event history. Both require the use of a combined Record, Agent, Business and Mandate model to simplify configuration using Content Types. SharePoint 2010 has the advantage of a term store and managed metadata columns to provide the required hierarchical metadata schemes, as well as additional recordkeeping metadata as standard, improved auditing of events and improved retention policy functionality.

8.3 Summary of Key Gaps and Add-on Requirements

The following table summarises the key areas of complex configuration or development, add-on tools and system management limitations or requirements needed for MOSS 2007 and SharePoint 2010 to achieve improved compliance:

Key Requirement Area	MOSS 2007	SharePoint 2010
Key Add-on tools		
Office 2007 / 2010	Office is the **preferred client** for ease of use and ability to default or automatically assign metadata as documents are created	SharePoint2010 and Office 2010 **improve this integration** including access to taxonomies, content types and simpler saving to SharePoint, though third party add ins are required for automated tagging and business metadata capture
Email	Outlook **add ins are required** to simplify saving to SharePoint for end users and to ensure required metadata is captured	**Still required** - while Exchange 2010 provides improved policies many end users will still need a SharePoint integration add in
Taxonomy and Controlled Vocabulary	Hierarchical terms are limited in MOSS 2007. **Third party add ins are required** to provide compliant metadata management capabilities	**Less required** - term store and managed metadata functionality reduces the need for third party tools, except where there are complex, large vocabularies, automated tagging requirements and integration and standardisation of terms with other repositories
Security Classifications	**Third party add on tools are required** to meet security classification requirements, but result in a largely compliant solution	**Still required** - third party add on tools are still required to meet security classification requirements, but site design and confidentiality levels can be used to restrict access in many business cases
Bulk import	**Third party tools are required** to allow bulk import with metadata management capabilities	**Less required** - Content Organiser provides some bulk capabilities, but depending on the source, volume and data quality. There is the ability to

Key Requirement Area	MOSS 2007	SharePoint 2010
		bulk import metadata on items. Third party tools may still be required for some formats
Bulk Export	**Third party tools are recommended** to meet VERS standards. Integration with other repositories (ERMS) is limited	**Still required** -Third party tools are recommended to meet VERS standards. CMIS may allow improved integration with other ERMS systems and document assembly allows export of XML and archive formats
Key CodePlex Add-ons		
Unique reference id	**CodePlex provides an add-on**, but can be fairly easily developed using events and a SQL reference table	**Not required** - provided as standard by site collection
Search Community kit	**CodePlex provides a range of search improvements** including managed properties, wild card search, facetted search.	**Not required** - search is significantly improved including facetted search and metadata driven filters
Custom Configuration, Development or Add-ons		
Records Management Metadata	Careful design and planning are required to configure MOSS successfully. **Third party record management add-ons** have "packaged" this configuration	**Less required** - Enhanced record management metadata is standard. A standard configuration against NAA specifications could be packaged as a solution.
Records Repository	Records centre is limited, and repository requires **add-on external storage tools, or scaling of multiple archive sites**	**Less or not required** - File plan is supported, with ability to scale and external storage, so there is less need for third party tools
Business Classification	Careful design and planning are required to configure MOSS successfully. **Third party record management add-ons h**ave "packaged" this configuration, as well as taxonomy and content type management tools	**Less or not required** - Term store and managed metadata site columns address this requirement, though configuration is still required to default this metadata for end users.
Physical & hybrid records	This **can be configured for simple** physical record needs. More **complex needs require third party add-on tools**	**Third party add on still required if complex** - Lists used for physical records and hybrid links can now scale to millions of records, but folders still need to be set up to emulate volumes
Location driven policies	Careful design and planning are required to configure MOSS successfully. **Third party record management add-ons** have "packaged" this configuration	**Not required** - Content Organiser and enhanced policies address these needs, so there is less need for third party tools
Retention policies	Careful design and planning are required to configure MOSS successfully. **Third party record management add-ons** have "packaged" this configuration	**Less or not required** - File plan, Content Organiser and enhanced policies address these needs, so there is less need for Third party tools

Key Requirement Area	MOSS 2007	SharePoint 2010
System Management Requirements		
System scaling	Site collections have to be used to scale SharePoint. Records Centre does not scale as a solution without **third party external storage tools.**	**Not required** - SharePoint can scale to millions of documents. External storage is also supported.
Item level back up and recovery	**Third party system admin tools are required** to support easy item level back up and recovery	**Less or not required** - Microsoft's back up offerings have matured, and third party tools may not be required depending on the business needs.
Deployment	**Third party tools are required** particularly for large complex deployments	**Less required** - Syndicated services and improved deployment capabilities reduce the need for third party tools

Based on this gap analysis, we believe organisations reviewing MOSS 2007 as an ERMS solution need to consider the complexity of configuration and number of add-on functions and tools that may be necessary to achieve a reasonable level of compliance. Where an organisation already has a compliant ERMS we believe MOSS 2007 (together with Office 2007) is best considered as a user friendly front end for collaboration and related business needs, but the organisation should continue to rely on its ERMS as the compliant corporate repository. This assumes of course the ERMS supports automated item level integration with MOSS 2007.

In the case of SharePoint 2010, we believe SharePoint can be a viable solution, particularly where the majority of information is in an electronic form. Out of the box SharePoint 2010 does not possess some key functionality needed for full compliance, particularly the gaps with:

- **Native security classification and access control** – despite having item level security SharePoint 2010 is unable to impose classifications on information, or to control access effectively.
- **Physical and hybrid information management tools –** SharePoint 2010 is focussed on electronic records and is unable to manage paper and other physical format information effectively**.**
- **Ease of email capture –** despite SharePoint supporting email enabled lists and libraries, third party Outlook add ins are still required to simplify user capture of email and required metadata

SharePoint 2010 when combined with effective third-party providers for the above gaps is able to provide significant potential improvements to the implementation of organisational information architectures.

8.4 Overall Conclusions and Recommendations

Our conclusions in this analysis are as follows:

- **Significant progress has been made** through both later releases and the availability of add-on software from Microsoft software partners expanding the feature set to meet records management business requirements, while retaining ease of use and improved metadata capture promised with MOSS 2007.
- **Usability, ease of use, collaboration support and features such as default or automated metadata and records classification,** provided by MOSS 2007 and extended by SharePoint and Office 2010, means these tools are likely to become accepted solutions in many business situations.
- The recent **SharePoint 2010 release significantly improves records management functionality and overcomes limitations in sizing and scale that limited MOSS 2007's use** as the central corporate information management repository.

- These improvements and the forward direction provided by Microsoft mean that **MOSS 2007 / SharePoint 2010 can now be considered as an option for some less complex corporate records management functions**, particularly where much of the content is digital, generated via Office, collaborative sites or directly using web sources. The main downside is the need for supplementary tools or third party add-ons to meet varying needs.
- The **main areas of non-compliance** in the improved SharePoint 2010 **are with security classifications**, **simple email and related metadata capture** and **the management of physical or hybrid records.**

While MOSS 2007 Service Pack 2 and SharePoint 2010 offer improved records management compliance we note that the achievement of these results is reliant on appropriate design and governance of implementation, configuration and set up to ensure consistency with desired records management outcomes.

Glossary of Terms

The following table provides a definition of key terms used in this report:

Term	Definition
ADRI	Australasian Digital Records Initiative
API (Application Programming Interface)	An interface that a software program implements to allow other software to interact with it.
Business Data Catalogue (BDC)	BDC is a MOSS 2007 function that allows business systems data to be used to validate or link to content type metadata fields in SharePoint. See full definition in section 4.1 Definition of Microsoft Terms. The BDC function is upgraded in SharePoint 2010 to become Business Connection Services (BCS).
Business Connection Services (BCS)	BCS is a SharePoint 2010 feature that allows two way integration with business systems.
BackStage (Office 2010)	Office 2010 feature to simplify the saving of documents with appropriate metadata.
CodePlex	CodePlex is Microsoft's open source project hosting website. This address for the CodePlex site is www.codeplex.com
CMIS (Content Management Interoperation Services)	CMS or Content Management Interoperation Services is an International standard for interoperability between ECM repositories and applications. This standard is overseen by an OASIS Technical Committee.
Content Control	Content Control is an enhanced template feature introduced with Office 2007 that serve as containers for specific types of content such as dates, lists and paragraphs.
Content Organiser	SharePoint 2010 feature that allows policies and actions to be applied to records based on metadata and location driven rule
Content Type	SharePoint metadata and policy definition item – see full definition in Section 2.7 Definition of Microsoft terms
Enterprise version	This is a version of SharePoint that supports business data integration, forms and dashboards. This version is used as the basis of this assessment.
Folksonomy	A system of classification derived from the practice of collaboratively creating and managing tags.
In Place Records Management	SharePoint 2010 feature that applies records management functions and metadata to selected document and files without the need to transfer them from their in use location
Line of Business Systems (LOB)	Line of Business Systems used for core business applications.
MOSS 2007	Microsoft Office SharePoint Server 2007, separate to the desktop Office 2007.
NAA	National Archives of Australia
Office 2007 / 2010	Versions of Microsoft's desktop applications used in conjunction with MOSS 2007 or SharePoint 2010

Term	Definition
Records Centre	SharePoint site that can be configured for record keeping purposes
SharePoint 2010	Latest recently released version of Microsoft's SharePoint platform
Sites	SharePoint collection of documents and other files as seen by end users and for security. 4.1 Definition of Microsoft Terms.
Site Columns	See full definition in section 4.1 Definition of Microsoft Terms.
SOAP	Simple Object Access Protocol is a protocol specification for exchanging structured information.
Syndication Services	SharePoint 2010 feature to ensure consistent content types, metadata and terms across a large or distributed implementation.
Term Store	SharePoint 2010 feature that supports hierarchical taxonomies
VERS	Victorian Electronic Records Strategy Standard developed by the Public Record Office of Victoria, Australia. For further information refer to http://www.prov.vic.gov.au
WSDL	Web Services Description Language. It provides a model for describing web services.
XML	Extensible Mark-up Language is a set of rules for encoding documents electronically.