



configuration management



Configuration management is the logical transition from a conventional document management system to a fully integrated, powerful information management environment.

Change management sequence

- Inception
- Change-effects analysis
- Notification
- Implementation
- Reporting

OVERVIEW

The rising volume of complex documents in today's enterprises that directly impact core business operations—together with a concurrent and increasing demand for information integrity—are challenging conventional document management processes. Information integrity is, quite simply, *the rapid access to accurate information in context upon demand*.

To be competitive, enterprises are faced with a high rate of change in terms of its projects, products, plants, processes, and organizations. These changes must ultimately be recorded and promoted by information embedded in documents. However, when the rate of change exceeds the ability to retain document integrity, the effect of false information on business efficiency becomes detrimental. Analysis has shown that a drop of 8% in the integrity of information flowing between business processes results in a 50% drop of resource efficiency.

To counter the deterioration of document integrity, conventional document management capabilities must incorporate the ability to define, use, and change enterprise documents related to all business projects, products, plants, processes, equipment, organizations, and users.

Configuration management is the logical transition from the conventional document management system to a more encompassing information management environment that addresses not only the classical aspects of document management—such as capture, storage, management, and retrieval—but also the ability to identify and retain the context of documents and their relationship to projects, products, plants, processes, equipment, organizations, and users throughout their complete life cycles.

Configuration management further adds the benefits of applying documents *in context* to the overall enterprise with complete visibility to all participating organizations and users. It ensures information integrity through closed-loop change management which controls changes in a logical sequence—from inception to change-effects analysis to notification to implementation and, finally, reporting.

It delivers the ability to manage change from a business-critical perspective.

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INTRODUCTION

Today's complex and competitive world is characterized by an exponential increase in the creation and distribution of information. At the same time, this increase challenges the availability and usability of information because information has value only when it accurately reflects the requirement, the product, or the service that it is describing.

The problem is compounded by the trend towards collaborative enterprises that exist in our new e-world, with masses of digital information that must coexist with existing paper-based information, all being created and used by a multitude of organizations.

The confidence and understanding within a closed environment and the common processes of the traditional enterprise are rapidly displaced by a loose association of enterprise participants with, most of the time, very different legacies and no common ground in terms of procedures and methods.

What's more, the benefits of the various forms of information technology used in today's enterprises—such as improved organizational flexibility and efficiency—are frequently offset by the time involved in searching, verifying, and cross checking information in order to determine its validity.

Failing to perform these checks would be to risk the consequences of using inaccurate or inadequate information—consequences that range from unproductive use of resources and time, to increased costs associated with rework and down time, right through to business failure and loss of life.

In this scenario, document management applications have become increasingly mission critical. Adapting these systems to meet the current demand for information quality will require increased focus in enhancing their capability.

ESSENCE OF INFORMATION QUALITY

In order to remain competitive, the enterprise must practice continuous improvement and communicate results in a clear, concise, and accurate manner. Achieving this result depends on two primary processes:

- The ability to define and communicate valid business requirements
- The ability to measure against set business requirements

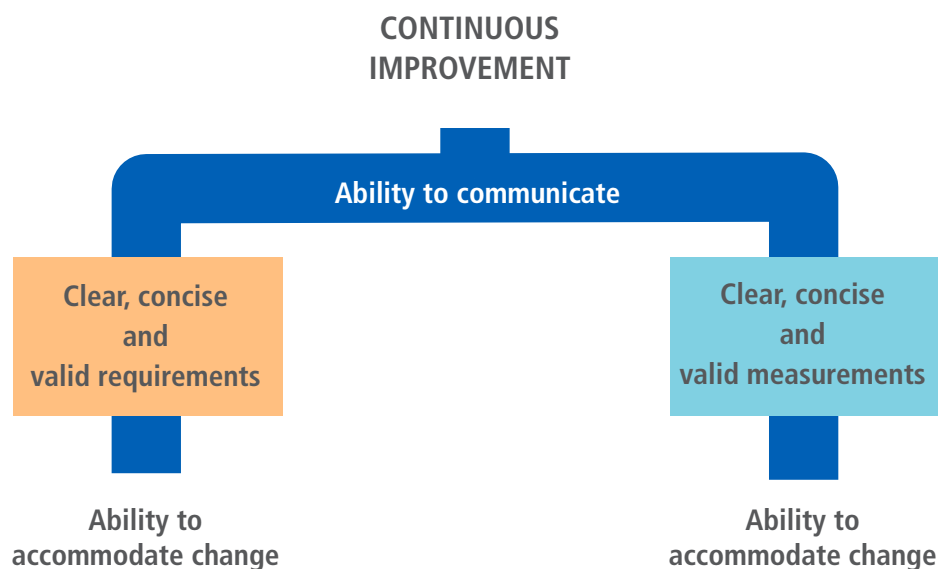
There are also two common principles that apply to these processes:

- The efficiency of the processes is directly proportional to information accessibility and integrity—information is the basis for decision-making, planning, and execution.
- Both of these processes require change. Change in information ultimately drives change in projects, products, processes, plants, equipment, and organizations.

Unfortunately, these two principles are also opposing forces, because change exposes information to corruption. Information corruption becomes unrestrained when the rate of change is allowed to exceed the ability to retain integrity in the requirements and measurements.

Defined in the context above, information quality is the state where information that can be provided with integrity, in the format required, at the time and at the place required, to support every business process across the enterprise.

The rate of change cannot be allowed to exceed the ability to maintain integrity in the requirements and measurements.



EFFECTS OF REDUCED INFORMATION INTEGRITY

The importance of information integrity over a product or project life cycle has been born out by research from the Institute of configuration management.

By measuring the effects of inaccurate or inadequate information on resources needed for a project, a correlation can be drawn between the cumulative effects of bad data integrity and the corresponding increase of resources needed to complete a project. Their findings imply that with a deterioration of only 8% in data integrity, double the resources are needed to achieve the objective.

LIMITATIONS OF CONVENTIONAL DOCUMENT MANAGEMENT SOLUTIONS

Conventional document management is enormously useful in streamlining business processes. For instance, it helps prevent problems that arise from lost or mislaid documents, and it enables enterprise information to be distributed more quickly and more conveniently.

But it does have limitations. Typically these are manifested in its failure to:

- Define and retain throughout the document life cycle the entire context of its existence in terms of its relationships to programs, plants, equipment, processes, organizations, and persons—and to provide complete traceability to its creation, release, and application
- Allow access and control of the document from every view within the defined enterprise context
- Determine the overall effect of change on the complete context of projects, products, plants, equipment, documents, organizations, and users
- Perform closed-loop change management—controlled release and use of information—while tracking the status of the affected entity, such as a product or process
- Continuously ensure that latest and correct information is in use

The effect of these limitations rapidly escalates when the enterprise environment one that involves complex processes and items exposed to continuous change and the need to constantly upgrade documents.

Today's user expects the information management system to understand and present the relationship of documents to all other aspects of the business before, during, and after it has changed.

The fundamental principle remains that when change is not evaluated and implemented in the context of the complete enterprise—incorporating all its users of information, documents associated with changed projects, products, plants, equipment—processes or administrative procedures are certain to contain errors.

Whereas the conventional approach to document management allows access only to information via a set of defined attributes, today's user expects the system to understand and present the relationship of documents to all other aspects of the business before, during, and after it has changed.

Definition, creation, release and application of information is no longer a document-centric process, but rather a business-centric process where the document becomes a secondary object to which information is necessary to underwrite the products, processes, plants, projects, organizations, and persons that interact within the enterprise. In this scenario, document management applications have become increasingly mission critical.

Technologies such as document management, imaging, workflow, and COLD/ERM, will certainly be instrumental in enabling organizations to effectively deal with the rising volume of documents and the challenges towards information volumes.

However, the challenge lies in extending the capability of the conventional document management system towards a solution that will maintain information integrity amid the dynamic and complex behavior of the changing enterprise. To extend their capability is no longer a technical question, but rather a business proposition towards ensuring survival.

EXTENDING DOCUMENT MANAGEMENT SYSTEMS WITH CONFIGURATION AND RECORDS MANAGEMENT CAPABILITIES

Configuration management is a solution that comprises a set of rules, methodologies, auditing, and approval processes for the creation, change, and use of documents applied to enterprise business items, whether these are customers or physical objects such as products, power plants, airplanes, railroad or telecommunications infrastructure, processes and practices involved in safety requirements, settling of insurance claims, setting up bank accounts or trading shares, or combinations any of these.

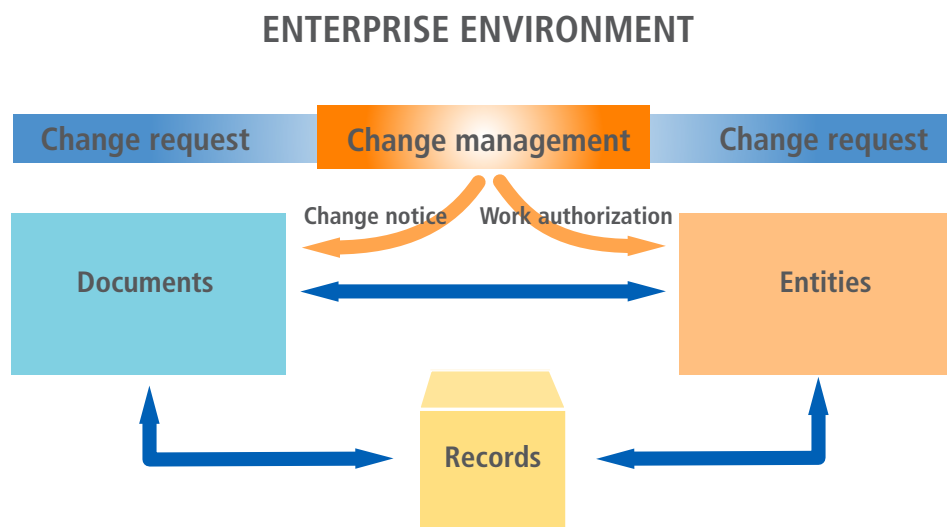
Today's challenge is to extend the conventional document management system so that it will maintain information integrity in a changing enterprise.

The principal processes of configuration management consists of:

- Identification
- Change management
- Records and status management

It is important that all three of these processes address the business entity and the documents, as well as the enterprise organization. It is also important to realize that these three processes are mutually dependent on one another, that is, change management can be practiced only on entities that have been identified. To know and manage the status (applicability) of these entities, change has to be managed. It is in all three of these areas where configuration management can extend the capability of the conventional document management system.

The domain of configuration management is illustrated in the figure below.



Configuration management extends the capabilities of conventional document management systems by applying context to the information.

THE PROCESS OF IDENTIFICATION

The process of identification is a key aspect of configuration management. It extends the capability of the conventional document management system to:

- Define the existence of business entities such as products, processes, programs, plants, equipment, organizations and persons in a structured way, not only to declare and manage its configuration, but also to describe their inter-relationships
- Determine the existence of the document in relationship to these business items, to manage change to documents, and then to apply the change to the business items and the enterprise

Identification of the business entity and its relation to documents extends beyond the conventional approach of referencing by attribute. Instead, it is the definition of the complete configuration of the business entity and its component relationship with relevant documents.

In the conventional document management system the context that gives meaning to information is limited to the classification and indexing of information against a fixed set of attributes. This limits the ability to define, search, control, and present information from many perspectives throughout the enterprise.

THE PROCESS OF CONTROL

The conventional document management solution does not manage the complete effects of information change in a closed-loop-fashion. It does not connect the product, process, and plant to documents or to meta-data or to the user. It actually has a detrimental effect on the validity, and the usefulness of the information.

Configuration management extends the ability of the conventional document and content management approach by identifying and inter-linking information contained in documents, other information systems, products, processes, projects, plants and equipment, people, and organizations.

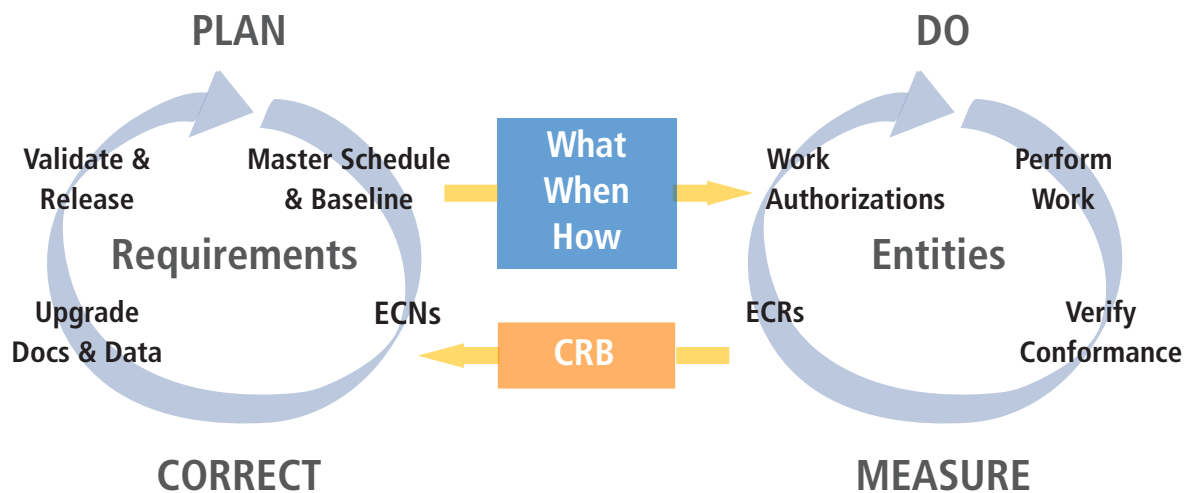
This approach provides a structured view of information that promotes contextual access to information; overall change-effect visibility; closed-loop change management; and controlled use and distribution of valid information.

The essential components of the control process include:

- Formal requests for change
- Analysis of the overall effect of change to documents, processes, items, organizations, and the identification of potentially false information within the context of the overall enterprise
- Formal notification of change to documents and the management of document change implementation
- Formal release of updated documents and work authorization to initiate change to the business entity in accordance with the released documents
- Maintenance of a complete record of each of these steps to provide evidence of the activity and to demonstrate accountability

The change process in context of the enterprise business processes is illustrated in the figure below.

DOCUMENTS LEAD and ENTITIES FOLLOW



Implementing a configuration management solution means that users can see information about the functional and physical aspects of business entities and their relationships to each other and their associated documents.

THE PROCESS OF RECORDS MANAGEMENT AND STATUS ACCOUNTING

This capability extends the conventional document management system to handle compliance with legal, legislative, corporate, audit, and quality requirements. It establishes traceability and accountability in the creation, change, release, and application of information.

LEVERAGING EXISTING INVESTMENTS

Most organizations have already invested in conventional document management technologies—either in the context of departmental functional systems, typified by EDMS integrated with workflow in a mortgage application process, or as an enterprise implementation providing control of PC desktop file management and departmental applications.

Significant investments in both software and legacy document stores may well be seen by users as a barrier to taking on configuration management if it means replacing existing EDMS systems. This does not have to be the case.

The significant benefit that a configuration management system adds to the simple one-dimensional EDMS system is information about the functional and physical aspects of the business entities that the documents relate to and the multi-dimensional relationships between documents and those entities.

Therefore it is perfectly feasible (given an open standards-based configuration management system, and EDMS), to integrate the two technologies. It is therefore possible for the EDMS system to act as a repository for the actual documents and the configuration management system to identify and control them.

Users of the existing EDMS would be able to continue to access their existing documents through their existing application interface, however documents that are designated as being critical to the business or safety regulations would be subject to change control only available through the configuration management processes.

relevant and accurate information on demand



Configuration management

- Spans the divide between the document and the enterprise environment it is intended to serve.
- Gives broader control of documents and other information related to the functional and physical aspects of products, projects, assets, or processes.
- Applies a quality discipline that supports the whole life cycle of the product or project, delivering information integrity in a unified rather than in a fragmented manner.

SUMMARY

The challenge today is to deploy information systems with a focus on systems that ensure that the meaning of information is not lost. Capabilities that extend beyond the conventional document management system are required, particularly in managing change.

The advantages of configuration management and records management as a step beyond the conventional document management system are clear.

Enterprise Informatics

Enterprise Informatics offers a commercial information management solution that ensures the integrity of controlled information by uniquely managing its connectivity to all other relevant information. By building bridges between documents, records, assets, people, processes and projects, our solutions create an ecosystem for the rapid access of accurate information in context.

With eB, our Enterprise Information Management (EIM) solution, organizations reduce the cost of meeting compliance requirements, minimize business risk, improve decision-making, and optimize process efficiency.



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