

A **Domain Systems, Inc.** White Paper



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## **Knowledge Building With Document Component Content Management**

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### Introduction

In order to make more sense of any document content, the end goal is to synchronize intermediate steps for discrete use and collation into a final product that is available as a part of an accessible and reusable living and growing organizational knowledge base.

### Issue Description

90% of corporate documents contain reused data. The inability of document owners to be able to revise and reuse document content at a granular level diminishes productivity by wasting resources, requiring redevelopment, and spending lost time researching and updating existing documents

### Previous Options

Traditional document management creation calls for control of the document only at the document level. It does not allow for the components of that document to be reused without manual and error prone manipulation.

### Domain Systems Solution

Domain has created a module built inside Agile PLM to control document creation at any granular level, thereby allowing those documents to be reused, updated globally and revised within a workflow at any time in any other document.

Domain allows clients who have already invested in Agile PLM to leverage that investment and create real ROI when controlling and reusing controlled documentation

### Summary

Controlled documents such as Regulatory & Submission, SOPs, Operations & Maintenance manuals, Legal documentation, SOWs, Quotes, etc., all require granular control, workflow, or a collaborative document that a Component Content Management system like Domain's Knowledge Builder provides. Corporate use of an enterprise system like this improves bottom line by eliminating lost search cycles and rework as well as by controlling versions and allowing for point or global updates of documents.

## Introduction

According to the not for profit organization AIIM, Enterprise Content Management (ECM) is “the strategies, methods and tools used to capture, manage, store, preserve, and deliver content and documents related to organizational processes”. ECM tools and strategies allow the management of an organization's unstructured information, wherever that information exists.

Additionally, ECM as an application is a collection of procedures used to manage work flow in a collaborative environment. These procedures can be manual or computer-based. An ECM can be defined to store and manage almost anything – documents, drawings, regulations, movies, pictures, scientific data, etc. ECM often shares recognition via other terms including “Digital Asset Management”, “Digital Records Management”, “Electronic Document Management”, “Web Content Management”, etc. Regardless, the content that is controlled is often industry specific (design documents describing a ship for example differ from media designed to entertain). The end goal is to make the most sense of content. We do that by synchronizing the intermediate steps for discrete use and collating into a final product that is available as a part of an accessible and reusable living and growing organizational knowledge base.

## Component Content Management

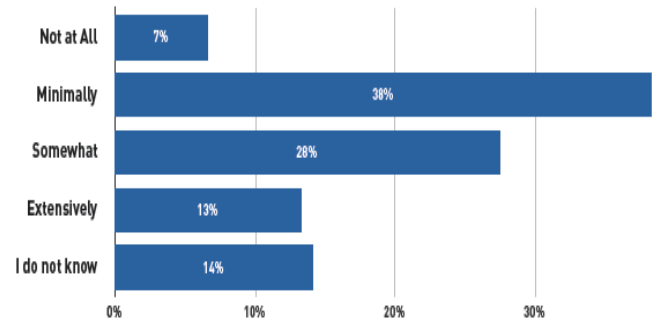
Typically the traditional approach to content management has been to control the entire content of a document along with the specific metadata that corresponds to it. All document management systems manage and retrieve the document as a whole. Productivity is wasted when an organization needs more granular access to documents, say for example if you need to reference a paragraph or section, or even want to reuse a document elsewhere as a component of another.

Reuse of documents with a traditional ECM requires time consuming searches along with cut and paste operations that are extremely unproductive. Inefficiencies that are compounded even more when copies of the same snippets must be updated. Ever try and track down all the copies of a document description to update it? Document tentacles can become lost and untraceable after even 2 or 3 reuses.

Studies show that 90%+ of enterprise documents contain content that came originally from other documents. Further that document “genealogy” was often propagated through several generations of documents with slight changes in each document that may or may not have been recorded in the subsequent version.

A study of 198 end users found that 54% of organizations manually re-key some of the content they receive from customers, suppliers, and partners. While 61% scan a proportion of their incoming documents, 34% make no

further attempt to automatically recognize text as data. This is a wasted opportunity to reduce transaction processing costs.



**Figure 1 - Source: AIIM Market IQ on The On-Ramps and Off-ramps of ECM**

Component Content Management Systems are able to control information at the granular level and have the advantage over traditional ECM systems in that they allow:

- Multiple views of information (vs. the whole document)
- Elimination of unmanaged data replication
- Accurate interpretation and use of information eliminating redundant search and reads of non-pertinent data.
- Linkage between a document component (paragraph, section, page, etc) and its many uses.
- Dissemination or repurposing of documents into potential downstream applications.

## Who Needs Component Content Management?

The reality of business is that document development requires constant review, update, and the publishing of large amounts of data. The content is created for a reason, whether for external reviews like submittals to the FDA for example, or internal use like Standard Operating Procedures (SOPs), the information must still be controlled and maintained.

Component Content Management excels in environments where content is repeated and requires intensive revision and update. Typical areas of application include Statements of Work (SOW), Standard Operating Procedures (SOP), Quote Catalog, Compliance and/or Regulation Documents, Maintenance and Support Manuals, Marketing Collateral and more.

In general Component Content Management excels at any use where there is a high volume of document variation in standard documentation, where variants consist of text substitutions, when publishing is conditional, where common document constructs are used (plug and play document components), Tailored documents – documents

that start from the same base or template and are customized for individual use, and for repurposing/republishing (feeding document components to other systems or formats to avoid reentry of the same data).

Table 1 outlines and describes key Component Content Management features usually present in this type of document management system.

Some Component Content Management systems require that you pre-define the level of granularity and therefore the size of the component beforehand by shredding or “chunking” the document in to pre-defined components. More flexible systems allow the user to define a component to be any size on the fly.

### Benefits of Component Content Management

Summarizing the benefits discussed, Component Content Management systems provide the:

- Most time and resource efficient method for developing content
- Highest quality publication output

**Table 1- Key requirements of a component content management system**  
(source: Gilbane Group, Inc.)

Component Content Management in Depth	
<i>Repository Functions</i>	Roles-based access control for check-in, check-out Management of both content and metadata Reuse at any level Enable components to be freely moved around, with link integrity guaranteed
<i>Linking, Link Integrity and Management</i>	Components managed through all kinds of links, sources are managed, multiple links and link types are supported. Standards like XInclude and XLink are supported. Automated consistency checks
<i>Content and Document History, Versioning</i>	All content components versioned and complete history tracked. Any individual component or collection of components (document) at any version can be reproduced
<i>Workflow</i>	Task Management Role Based
<i>Content Lifecycle</i>	Central storage for schemas "Impact analysis" for possible changes to schemas, content Instance modifications using style sheets Metadata can be handled, filtered at the same time Content can be enhanced, refactored over time within the repository
<i>Conditional Publishing</i>	Publish variant versions of content based on variables, schema constructs, abstract links Examples: publish based on dates, variables in the text (product name and numbers), varying schemas, varying stylesheets, varying based on the top-level component Images stored separately, and can be generated or manipulated at publish time
<i>General Requirements</i>	Scalability High performance Flexible and comprehensive security Maintainability Low total cost of ownership

- Easiest accessibility of developed content at any component level
- Most visibility into publication management and revision control
- Best reuse of existing and historical content
- Quickest way of repurposing documents into multiple output document or media formats

### Agile PLM Based Component Content Management

In order to create additional value to the Agile PLM customer, Domain Systems, Inc has created a document management module that leverages a customer’s Agile PLM investment by extending the application into complete Component Content Management. The “Knowledge Builder” Application for Oracle’s Agile PLM product is the result of Domain’s breadth of knowledge in document management.

The Knowledge Builder application utilizes Agile PLM constructs with Domain application functionality in order to allow complete document reuse and controlled development at any component level. This module will:

- Maintain relative or specific component structures to reusable elements (i.e. enables global updates of documents while other protected verbiage remains unchanged)
- Author once, reuse many times in document assemblies throughout the document library
- Collaboratively edit with dynamic document generation
- Revision/version at any level within the document (page, section, paragraph, phrase, etc)
- Enforce document access control (who can access one part versus another part)
- Manage workflow of collaborative document creation
- Reuse document components in a library while maintaining specific document output

### Conclusion

Traditional document management methods get us only part way to the goal of complete and productive content management. In almost every industry vertical, there are significant productivity improvements to be had when documents are developed, controlled and reused at the component level. Domain’s Knowledge Builder as a document component content manager enables organizations to increase productivity over time through reuse while still actively controlling change to the document itself and through the workflow it goes through further leveraging the Agile PLM investment.