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Analysis

Enterprise Content Management: From Strategy to Solution

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Abstract

Enterprise content management has become an important competence and infrastructural technology, particularly for large and medium-sized organizations. Four key forces are driving organizations to adopt a strategic, enterprise-level approach to planning and deploying content systems. These forces include the compounding growth of content generated by organizations, the need to integrate that content within business processes, the need to support increasing sophistication for business user content access and interaction, and the need to maintain governance and control over content to ensure regulatory compliance and preparedness for legal discovery.

According to InfoTrends' research, more than half of large organizations have already implemented or are developing an ECM strategy. Of those, 65% of large companies and 80% of medium-sized organizations are looking to a single ECM platform provider to fulfill their ECM strategy. Given the scope and scale of enterprise content management, there are few vendor choices that provide the full spectrum of content management solutions, the depth of the technology stack, and the surrounding service expertise to facilitate customer adoption. IBM, particularly with its 2006 acquisition of FileNet, is clearly one such vendor.

Organizations implementing an ECM strategy should consider IBM's ECM offering as it meets the requirements of "true" enterprise content management. Standardizing on a broad and deep ECM platform can result in a multiplier effect on the well-documented benefits of content management deployments, including increased worker efficiency and productivity, faster cycle time, and the elimination of hard costs associated with paper-based processes. At the enterprise level, it makes the organization as a whole more agile and provides a consistent means to support compliance requirements.

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Introduction

Enterprise content management, or ECM, has been a term widely used in the past to define a set of technology solutions for managing unstructured content. Unstructured content refers to information assets that are *not* stored as data in databases (often referred to as “structured content”). Unstructured content includes electronic documents, images, graphics, video, audio, e-mail, forms, and reports, just to name a few. Admittedly, the term ECM originated more from a “definitional,” market-view perspective than from a customer-view perspective. While vendors offered suites of content management software, rarely did organizations define a clear strategy for content across their organizations and proactively develop a plan for deploying technology solutions and business processes in a logical and holistic manner.

Rather, content system deployment was based in large part on de-centralized functional or departmental needs (examples being “accounts payable” or “claims processing”) and, as a result, organizations ended up with a variety of disparate repositories that ultimately made up their content management architecture.

As vendor offerings rounded out to include additional content components and organizations continued to deploy these components, it ultimately became a stark reality that content management should be considered a core infrastructural technology. It became apparent there was a need for an enterprise-level approach to planning, technology selection, deployment, and management. Simply stated, organizations saw the need to implement an enterprise content management strategy.

InfoTrends defines an ECM strategy as the technological approach to a content strategy wherein information is shared across applications, workgroups, and business needs. Essentially, ECM provides a platform that centralizes and distributes an enterprise’s content services broadly across the organization.

InfoTrends’ research confirms that enterprise content management is making great strides as a truly enterprise-level competence and an integral part of IT infrastructure. Consider the following data point from a recent InfoTrends research study:

Over 55% of respondents to InfoTrends’ recent inquiry cited the development or existence of an ECM strategy in their organizations.¹

Key Takeaways

- The need for all organizations to manage content effectively is acute, given the growing volume of content, the multiple formats of content, the integration of content with business processes, the sophistication of business users, and the growing need to support regulatory compliance requirements.
- Enterprise Content Management is strategic and infrastructural, and should be evaluated at an enterprise level; over half of the large companies that we surveyed are already doing this today.
- IBM offers an ECM solution portfolio that:
 - Encompasses the spectrum of content requirements
 - Enables content-centric business processes
 - Provides enterprise scalability
 - Provides a deep services offering to help organizations plan for and deploy true enterprise content management
- Key benefits of “true” ECM include business agility, process enablement, IT optimization, and the capability to support regulatory compliance.

¹ Maziarka, Franke, et Duek. *Multi-Channel Communications: The Content Publishing Workflow Challenge*. InfoTrends, Inc. 22 September 2006.

The forces driving this strategic approach to ECM are many, including:

- The continued growth in the volume of content, driven by the evolution of electronic content creation
- The growth in the various content “delivery channels” that the content needs to support
- The notion of content at a more granular level to enable re-use, dynamic assembly, and multi-channel delivery
- The need to wed content to business processes and, by extension, other business systems
- The need to support increasing levels of business user sophistication, in terms of how users access and interact with content
- The need to establish governance and rules around the retention and disposition of content to support ever-expanding compliance laws and regulations
- The realization of the value of a strategic approach to evaluating “go forward” planning for new content management deployments while leveraging prior investments in legacy deployments

From a content management market trends perspective, it is also important to note the “validation” of enterprise content management as evidenced by the strategic activity of the major business solution infrastructure players. IBM, augmented by the acquisition of FileNet in 2006, provides a comprehensive ECM technology and services solution portfolio comprising content services, integration, classification, actionable search, business process management, and compliance capabilities.

When considering the impact of content on organizations and the market dynamic of solution provider consolidation, it isn't surprising that organizations are seeking to benefit from standardizing on a strategic content solution platform/provider. InfoTrends' research found that **over two-thirds of large organizations and over four-fifths of medium-sized organizations have a desire for a single platform/provider for all document and content solutions.**

Indeed, there are significant gains to be realized when seeking to standardize in the context of ECM, including better business agility, improved workforce productivity and faster process cycle time. Given the pressure for organizations to innovate while keeping costs in check, a commitment to providing the right information to workers precisely when and where they need it is really a strategic imperative.

The Impact of Content in the Enterprise

The somewhat hackneyed saying that “Content is King” still maintains relevance today, perhaps more so as the role of content in business operations within organizations expands. We have advanced a long way from the early “search and retrieval” implementations of content management to a point where content is now intrinsic to business processes, whether they are well-defined and formal or more casual in nature. There are very few business processes that don’t involve some form of content, either directly “in line” within a process or indirectly via the collaboration or research required to complete steps in a process.

Impact #1: Content Continues to Grow in Volume and Formats

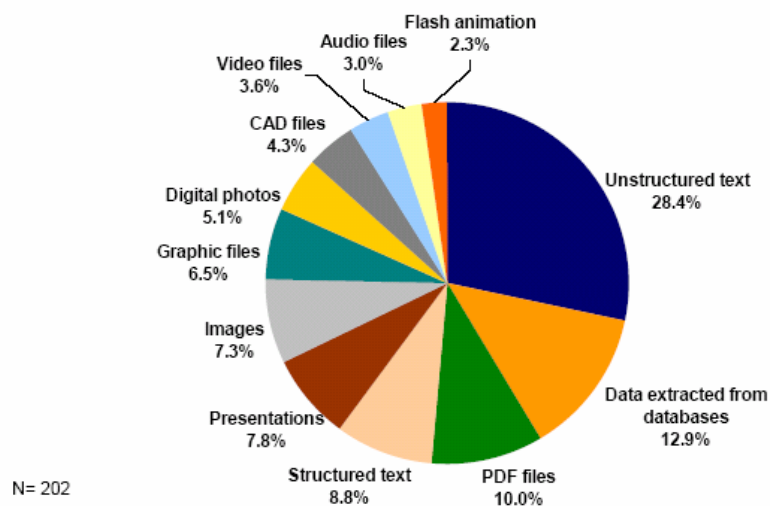
The sheer volume of content and the ways in which content is created, published, and shared within organizations grows every day. Consider that the expected growth rates of content generated in the enterprises ranges from nearly doubling to tripling year over year. For organizations that have struggled in the past to manage content, the choice is to endure increasing levels of pain or seize the opportunity to take control of their content and treat it as an asset rather than allowing it to become a liability.

Content is also expanding in the formats and types utilized for sharing and/or delivery. As illustrated in Figure 1, InfoTrends’ research has found that while unstructured text (e-mail, contracts, forms, reports, etc.) accounts for the largest portion of enterprise content (28.4%), there are at least a dozen different formats that an organization must manage. Given the inherent differences in terms of the content and the subsequent management needs, the result is invariably multiple content repositories. It is not uncommon for larger organizations to have dozens of content repositories spread across the enterprise. The impact of this becomes evident when attempting to make these repositories work together or trying to provide unified access to them.

Figure 1: Content Format Type Distribution in the Enterprise

2006 Percentage of Corporate Document and Contents by Type

Please estimate the breakdown of your document and content by the following types. The total should add up to 100.

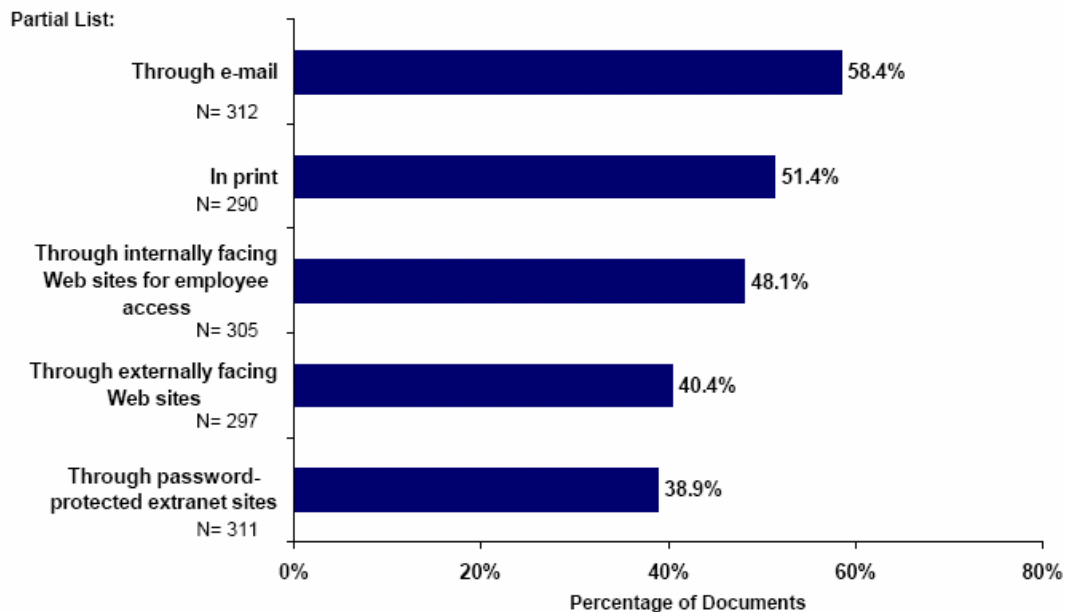


The approach in the not-so-distant past to “legacy” content system deployments was essentially a forced migration of content to the new content platform or system. This was the only viable approach to organizing and managing content uniformly and taking advantage of advances in content-related functionality. The customer reality is that wholesale content system migrations have proven extremely costly and time-consuming. In many cases, migrating content from numerous repositories to a single content repository is simply cost-prohibitive. As a result, many organizations have left legacy systems in place as archives rather than perform content migration. That said, the ability to access and also manage content across new and legacy content repositories is increasingly important.

Also, consider that this content is being used to serve a variety of publishing channels, or what InfoTrends refers to as “multi-channel content delivery.” As illustrated in Figure 2, content is delivered through numerous electronic and print channels, with e-mail leading the way as the most frequently-used form of delivery.

Figure 2: Multi-Channel Content Delivery

For all of the documents and content that are delivered through more than one channel, approximately what percentage are delivered through each of the following channels?



Furthermore, InfoTrends’ research has found that there is a growing shift to creating content for electronic delivery first. In 2006, electronic-first delivery crossed over into the majority at 51.4%. By 2008, InfoTrends’ research suggests that two-thirds of all content will be generated for electronic delivery. Related to this, and not at all surprising, is the growing role of XML-based content in terms of use within organizations. By necessity, to simultaneously support the variety of Web, electronic document, and print delivery channels, XML is being used to streamline the creation and publication of content.

The short summary of InfoTrends’ research indicates that there is more content being generated in a growing number of formats to serve a growing number of delivery channels with an increasing proportion of electronic documents.

Impact #2: Content Serves Business Processes

In most formal, well-defined processes and in nearly all casual business processes, some form of content is involved. The receipt of content typically triggers the business process to be managed. Generally speaking, content:

- ***Drives the business process:*** A claim form and supporting documents in a claims processing application
- ***Is required to complete a step in a business process:*** A customer service rep searching a knowledge base to answer a customer inquiry
- ***Is generated as a result of a business process:*** Company executives collaborate on an annual financial reporting document

Therefore, content management and business process management are really “part and parcel” of enterprise content management. Traditionally, enterprise applications covering a range of unique business processes have “embedded” some form of document capability directly in the application flow. For example, documents are stored in, and used in the context of, ERP or CRM applications. Today’s business process environment has increased in sophistication as the level of business system integration has deepened. For example, composite applications draw from packaged and custom-built applications to support unique process needs, often combining content in the context of business processes that span many functional areas of an organization. Innovative organizations are utilizing a service-oriented architecture approach to build and manage applications and integration. Connecting processes to cross-application business processes requires customized content-centric application capabilities, where integration includes application and content.

Impact #3: Increased End-User Sophistication – Content Access and Interactivity

Business user expectations are increasing in terms of the way they access and interact with content. Part of this is driven by the increasing sophistication of the consumer-based experience, which delivers richness in terms of content quality, personalization, and interactivity. This interactivity refers to the interactivity of the application user interface as well as the interactivity with other people or communities of interest. The sophistication also exists in the need to support consistent delivery across the various devices used to access content. As the line between business and personal lives becomes more blurred, the “business user” comes to expect more from business content and applications.

From a content access standpoint, this implies a growing need to “unlock” and provide access to quality content across departments, systems, and even separate companies. Internet search tools can provide access to Web-based content and desktop search tools may be effective for network or personal drives, but the broader set of databases, document management systems, and other content repositories requires deeper integration for finding quality information to drive good business decisions. This integration implies enterprise-level document classification, federated searching, and advanced analytical tools for sifting through very large or complex sets of content.

Given the nature of corporate business systems, and often the complexity inherent in the development of these systems over time, the ability of an organization to facilitate this sophisticated functionality is predicated on a coordinated content infrastructure across the enterprise.

Impact #4: The Relationship of Compliance, Discovery and Enterprise Content

Compliance is interesting in that it is a business process in itself, but perhaps more important is the fact that it impacts the entire organization as it relates to the ongoing creation, management, security, and ultimate destruction of business content. As a business process, it is a requirement for nearly all organizations to establish governance procedures, controls, and audit capability for business processes across the enterprise to ensure accountability and, as a result, document what was done and by whom at each step in the process. There is specific application functionality required to support the compliance process, which requires collaboration among the compliance organization as well as legal, IT, and line-of-business executives. As it relates to content, an important element of the compliance process is establishing retention schedules for formal records and, more broadly, documents. This is often a daunting task, but one that can provide tremendous value, particularly when considered in the context of an overall content strategy.

The enforcement element of a compliance program is another matter entirely, whether it relates to the disposition of content at the specified time, applying holds on content relevant to legal action (even if legal action is only potential), or responding to broad legal discovery requests. With the revisions to the Federal Rules of Civil Procedure formally addressing eDiscovery, the exposure has broadened to include a wide range of enterprise content. While the process of compliance in and of itself does not necessitate enterprise content management, its enforcement and the ability to respond and react to legal action certainly does.

A recent survey by Océ Business Services indicates that only 10% of in-house corporate counsels consider their companies well-prepared to comply with a discovery request for electronic and paper documents.

To respond to a discovery request, organizations need to fundamentally understand where and how to go about finding and producing the requested information, including parameters related to specific time periods, specific parts of an organization, and specific topics. Responding to these types of inquiries necessitates a thorough understanding of an organization's entire content inventory and often how it relates to the organizational structure. In other words, organizations need a consistent, enterprise-wide content classification scheme and must be able to use that classification scheme to quickly and efficiently access (and ultimately produce) content. In nearly all cases, this content will reside in a number of repositories.

Considering that the amended Federal Rules of Civil Procedure only give the parties 99 days from the filing date of a lawsuit to produce a plan for eDiscovery, the need for corporations to address this issue is acute. A recent survey by OCE Business Systems² indicates that only 10% of in-house corporate counsels consider their companies well-prepared to comply with a discovery request for electronic and paper documents. Clearly, having an effective enterprise content management strategy in place, within the context of an overall compliance framework, is necessary to assist the 90% of organizations who are not yet prepared for discovery.

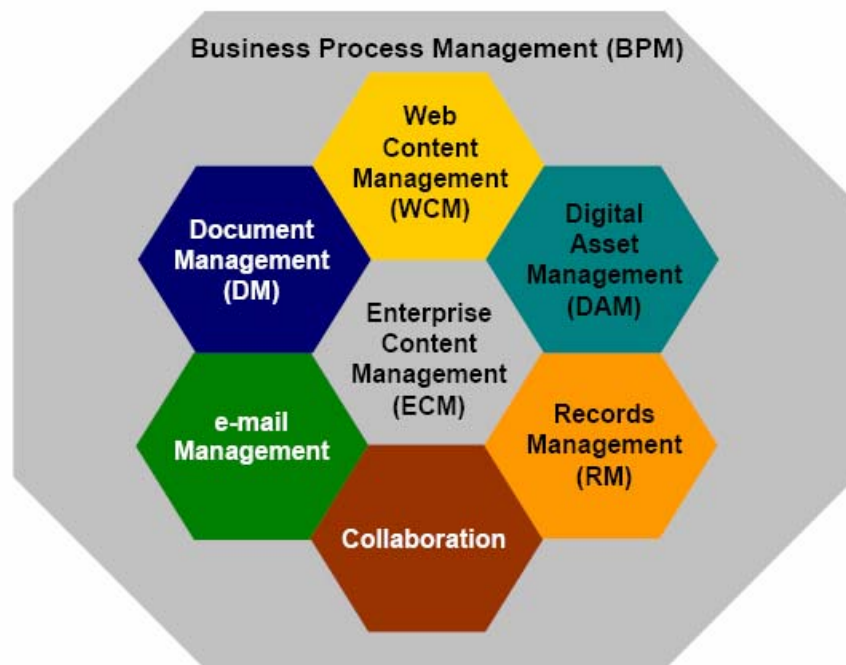
² *In Pursuit of Proactive Litigation Preparedness: The dawn of the DISCOVERY-READY ENTERPRISE.* Océ Business Services. 2007

A Strategic Approach to Enterprise Content Management

Organizations need to adopt a strategic, enterprise-level approach to content management that addresses the gamut of content systems and repositories within the larger context of the business. InfoTrends' conceptual view of enterprise content management is presented in Figure 3, which shows the major content systems and the overarching relationship to business process management. Organizations need to be aware that there is tremendous value in planning for and managing the various content repositories as well as making that content available to business users in the context of business processes.

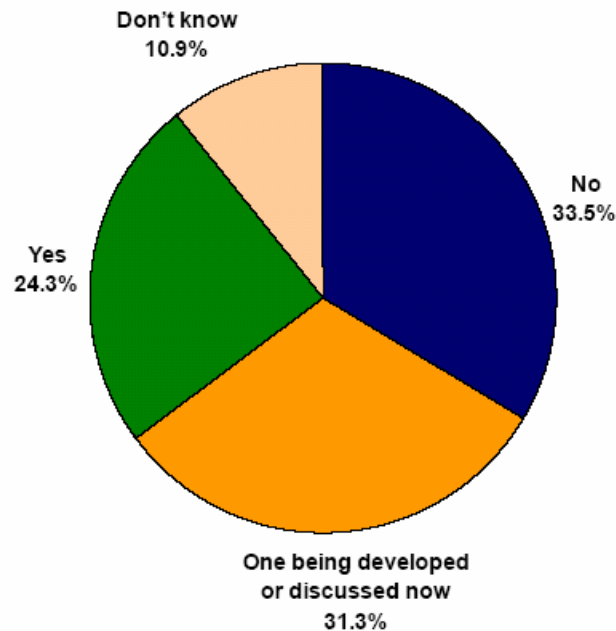
ECM can help by providing a truly enterprise-wide view of content with the benefit of understanding the unique characteristics of each content system. In a "go forward" manner, new content system deployments would be implemented based on enterprise-level best practices, so the content stored within can be more easily combined and integrated with other content systems and business processes.

Figure 3: InfoTrends' View of Enterprise Content Management



The positive news from InfoTrends' research is that many organizations are already pretty far along when it comes to implementing an enterprise content management strategy. As illustrated in Figure 4, 55% of organizations have a strategy in place or are in the planning process.

Figure 4: Enterprise Content Management Strategy
(Question Response: Does Your Organization have an ECM Strategy?)



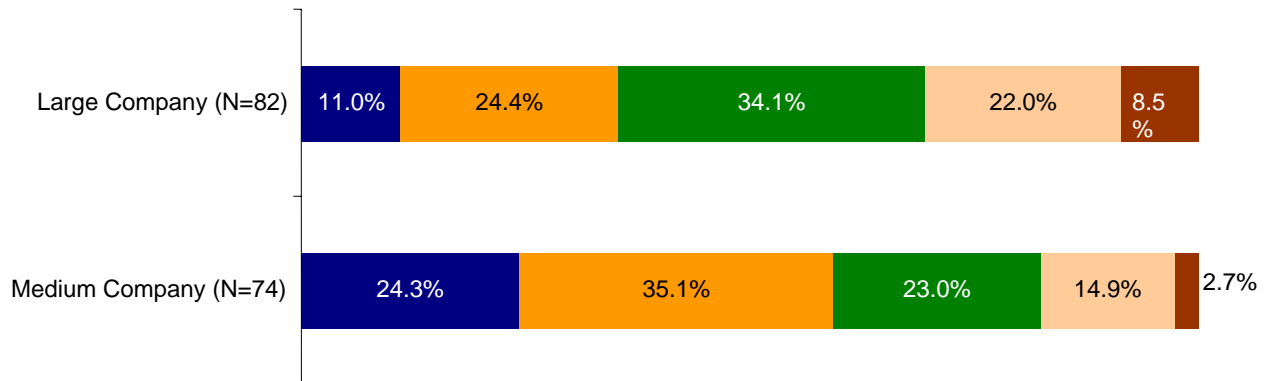
It is important to note that InfoTrends defines an ECM strategy in the following way, with an emphasis on the technology approach and implementation to support a broader content strategy:

“An ECM strategy is the technological approach to a content strategy wherein information is shared across applications, workgroups, and business needs. Essentially, ECM provides a content platform that centralizes and distributes an enterprise’s content, enabling the organization to create content-centric applications.”

The actual implementation of an ECM strategy is no trivial exercise, particularly considering the differences in content, the number of content repositories, and the differences in terms of technology systems deployed over time. This necessitates the need for flexibility in deploying an ECM strategy, particularly as it relates to “legacy” applications. This notion was also supported by InfoTrends’ research, as illustrated in Figure 5. It also requires a significant planning effort, which can often benefit from an approach that creates a content management Center of Excellence to bring all of the key stakeholders into the process and ensure that local deployments meet enterprise standards.

Figure 5: Approach to ECM Strategy Deployment

- One ECM platform (/provider) for all content and document solutions: legacy systems will eventually migrate to platform
- One ECM platform (/provider) for all content and document solutions: legacy systems may remain intact, new implementations must be on platform - no exceptions
- One ECM platform (/provider) for all content and document solutions: legacy systems may remain intact, new implementations are preferred to be on platform - exceptions can be made
- Multiple providers, but common approach towards implementation
- Don't know



Interestingly, InfoTrends' research indicates that over two-thirds of large organizations and over four-fifths of medium-sized organizations desire a single platform/provider for their content. Furthermore, these organizations do want some flexibility from a strategy implementation perspective, mostly in terms of legacy system migration. This posture is understandable, given the significant cost of migrating legacy content systems.

ECM for an On Demand World

Given the imperative for a strategic, organization-wide approach to enterprise content management and the importance of the resulting benefits to an organization, only a few real options exist when evaluating the single platform/vendor approach that many large and most medium-sized organizations indicate a preference for.

Organizations evaluating the platform/vendor choice should consider the following as it relates to the supporting a true enterprise content management strategy. The offering(s) should:

- Provide a complete spectrum of content management services including imaging, document management, Web content management, e-mail management, digital asset management, records management, and compliance.
- Include a strong integration and business process management capability to connect components of the product portfolio with each other and to other enterprise business systems as well as easily enable the development of custom or composite applications via approaches such as a service-oriented architecture.
- Demonstrate proven scalability to support rapidly growing volumes of enterprise content.
- Deliver on emerging capabilities demanded by increasingly sophisticated business users, ultimately making them more productive.
- Provide an effective means to leverage legacy content system deployments and integrate other popular third-party content-based technologies.
- Support compliance initiatives across the enterprise, from the compliance process itself, to the enforcement of rules and schedules, and ultimately to the legal discovery process.
- Provide a path forward into future requirements of an information architecture that can commingle data and content.

IBM is clearly well-positioned with a true enterprise content management solution and a services portfolio that delivers value for organizations seeking to gain efficiencies and optimize their content infrastructure. IBM's ECM offering maps well to today's ECM requirements, satisfying the criteria identified above in addition to addressing emerging requirements for more advanced content capabilities such as information taxonomy, master metadata management, content classification, and analytics. Over time, this supports the overall shift toward information-centric architectures.

The acquisition of FileNet, a company that has decades of large-scale production content system and workflow experience, further adds to IBM's breadth in overall business and technology services. In addition, the combination of FileNet's dynamic content handling and content-centric Business Process Management with IBM's broader business integration capabilities (WebSphere family of products) delivers a very comprehensive process and application integration capability.

This business process orientation is front and center in IBM's enterprise content management strategy. The company's solution messaging stresses the importance of "activating" content to drive business processes. In IBM's own words, *"Turning information into Active Content is achieved by providing the content in context and involving the content in business processes."*

The IBM deployment strategy is also noteworthy because it is based on a realistic view in terms of integration with existing content systems. The key differentiation “*lies in its commitment to maintaining an open, heterogeneous platform embracing multiple databases, portal and Web servers, and content repositories.*”³ Even with a broad content service portfolio, IBM views a key ECM innovation as the ability to leverage existing systems without necessitating content migration.

This is an important element in the company’s product strategy, given that many organizations have deep investments in legacy systems and will invariably want to take advantage of “other” content systems or applications. That being said, with IBM, organizations also have the flexibility to reap the benefits of standardization by engaging with a single vendor not just for content services, but for a major portion of their IT stack, including integration, databases, software, and storage and server hardware.

Lastly, IBM offers deep service expertise in content systems across a broad range of industries. This expertise comes from IBM’s Global Business Services organization (featuring the Portals, Content, and eCommerce practice) as well as its extended partner channel, which has been further augmented with the addition of FileNet’s partner program (ValueNet) members. From an ECM standpoint, IBM can provide expert support in terms of content system planning and deployment as well as content and ECM strategy development and implementation.

Among its service offerings, many are designed and geared specifically toward enterprise content management, including the **ECM Strategy & Roadmap Jumpstart** service designed to identify and pinpoint the content management issues faced by organizations and to develop a strategy and roadmap toward addressing those issues. For organizations seeking to define and establish an organization-wide ECM competence providing ECM technology leadership, governance, and knowledge transfer, IBM provides an **ECM Center of Competency** service offering.

In addition to a deep services offering, IBM Global Business Services offers a breadth of expertise in terms of industry and domain-specific experience, with over four hundred consulting and integration specialists dedicated to content system planning and deployment.

To summarize, IBM’s enterprise content management offering:

- Delivers an enterprise content management solution portfolio that addresses needs related to content generated across the organization
- Provides a core content infrastructure including repositories, integration, business process management, and compliance
- Emphasizes the importance of Active Content (where content and business processes meet) and enabling the “right content at the right time, within context”
- Establishes a framework to unlock and leverage business insight from unstructured content through semantic search and contextual understanding
- Provides a software and services portfolio that expands well beyond ECM to other IT infrastructures, systems, and applications

³ IBM Enterprise Content Management Product Strategy White Paper, July, 2007

The Business Imperative for Enterprise Content Management

The value of deploying content management systems, even at a project level, is well-documented. It includes important, tangible benefits that lead to a significant return on investment. These benefits include:

- A reduction in the time that is spent searching for information
- A reduction in process cycle times
- Elimination of paper storage costs
- A reduction in manual processes and re-work due to errors
- Improvement in staff efficiency and productivity
- A reduction in customer service costs
- An increase in the ability to react to events necessitating process changes

While the benefits of content management are important to evaluate from a project perspective, from an organizational perspective there is much more of a business imperative for enterprise content management. Simply put, organizations must speed up their responsiveness and their ability to adapt to these market needs or they risk losing their competitive edge.

By addressing enterprise content management across an entire organization, there is a multiplier effect on these “project” benefits by incorporating them into an overarching business process view that makes content available to business processes throughout the enterprise. In addition, there are many benefits associated with IT standardization on a single platform that can dramatically lower the cost of ownership of enterprise content management. These benefits include:

- Content system integration and federation can combine content as needed, without costly migrations
- Better leveraging of content by overlaying a master indexing capability across content repositories
- Providing new ways to share and distribute content to employees, partners, and customers
- Increased ability to comply with regulations and records retention programs
- Ability for an organization to adapt and respond to market opportunities
- Lower cost of ownership, based on streamlining the ECM architecture
- Reduced costs in terms of licensing, integration, and ongoing maintenance
- Improved time to market for new applications
- Increased ease of compliance to support foreseen or unforeseen actions that affect the organization

InfoTrends' Perspective

As our research clearly indicates, most organizations are responding to the rising pressure of content-related challenges by implementing an enterprise content management strategy, including finding cost-effective ways to create, manage, secure, and dispose of enterprise content as well as effectively and fully integrate that content into business processes across the organization. Many large and most mid-size organizations are seeking a single platform/vendor solution to fulfill their ECM strategy, but still want the flexibility to leverage existing investments in legacy content systems.

Given the scope and scale of enterprise content management, there are few vendor choices that provide the full spectrum of content management solutions, the depth of the technology stack and the surrounding service expertise to facilitate customer adoption. IBM, particularly with the 2006 acquisition of FileNet, is clearly one vendor that delivers on these requirements.

Standardizing on a broad and deeply capable ECM platform can result in a multiplier effect on the well-documented benefits of individual content management deployments, including increased worker efficiency and productivity, faster cycle time, and the elimination of hard costs associated with paper-based processes. At the enterprise level, it can provide substantial IT standardization benefits and makes the organization as a whole more agile and provides a consistent means to ensure compliance and prepare for inevitable legal discovery requests. Given that only 10% of in-house counsels consider their companies well-prepared to comply with a discovery request for electronic and paper documents, this may well be a catalyzing force for addressing content management at the enterprise level. Those organizations that don't have an ECM strategy in place clearly need to start planning and implementing without delay.

The 55% of organizations that do have an ECM strategy should evaluate their content management and business process technology infrastructure to ensure that it is able to address needs across the content landscape, scale to enterprise-level workloads, and ultimately create an organization that values its content as an asset rather than a liability.

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