IBM Information Management software

IBM Active Content: Linking ECM and BPM to enable the adaptive enterprise

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Introduction

Businesses today need to rapidly deliver trusted information in context to people, processes and applications. They need to cost-effectively manage that critical information. And perhaps most importantly, they need to leverage information to maximize its business value throughout its life cycle. These requirements have combined over the past decade to create a new world of corporate technology, commonly called Enterprise Content Management (ECM). ECM, however, has been used as a catch-all phrase—and there are significant differences in how solutions provide value and fit into a broad information architecture.

As useful as it is, content management alone cannot drive operational efficiency or organizational change—the content in content management needs to be handled as it relates to the business that an organization is trying to conduct. In other words, the content needs to be connected to an organization's business processes to deliver maximum value. Organizations that are getting the biggest payback on their ECM investments are doing precisely that: They have implemented their ECM strategies with an emphasis on the Business Process Management (BPM) capabilities that some solutions have as internal parts of their ECM suites. Going one step further, the most successful ECM implementations treat content as part of a larger, event-based On Demand information infrastructure.

Such an infrastructure makes a company's business processes and existing systems more adaptive because it makes the content and processes that surround its business systems more *actionable.* It adds the ability to respond quickly to business events, to trigger different actions, to launch different business processes, to deliver targeted content and to handle exceptions based on different contexts and circumstances.

In practical terms, creating an event-based infrastructure means companies need to intelligently link the information contained within individual business documents with the triggering events that launch or modify business processes and that interact with enterprise applications. These linkages extend the capabilities of an enterprise content management system by enabling what IBM refers to as *Active Content.*

Linking information and events: Creating Active Content

Active Content is not simply a business document stored within an enterprise content system. Active Content is rather a self-contained "business object" that combines information with action. In particular, Active Content encapsulates:

- *The content itself and the related metadata that describes particular transactions, together with the corresponding behaviors about next steps*
- *The steps in the life cycle that define both the individual transactions and the associated content*
- *The corresponding business processes that are required to manage the content and the related transactions*
- *The business rules that determine how decisions and corporate governance standards are maintained*
- *The specific transaction events that trigger the use, creation, management and delivery of content as well as the execution of business processes*
- *The connections that integrate existing enterprise applications and the resources (which include both systems and people) that support these transactions*

Active Content thus combines content, process and connectivity to optimize operational efficiency, company productivity and organizational responsiveness. Content consumers are no longer passively looking for information with the expectation that they will find relevant content by

happenstance. Rather, by activating key parts of an enterprise business processes and linking content delivery to enterprise applications, a company will be able to use both its human and system resources most effectively and efficiently. Moreover, Active Content helps ensure that a company becomes more adaptive to changes in its customers' circumstances and business context without rewiring its entire underlying IT infrastructure.

In addition to driving efficiency, activating content also helps support compliance efforts by managing content and automating the associated processes, enabling better auditability and accountability.

Actively delivering enterprise content

Delivering content in the context of business events is not a new objective. Many companies have focused on managing their enterprise content. Most have begun by building and deploying one or more enterprise content repositories for managing unstructured business information. But the content stored within a central repository is usually fairly passive. Content contributors put content into the repository; they organize and store it according to predetermined criteria. Content consumers (including customers, business partners and company employees) then fetch and view the content as needed. But both content contributors and content consumers must rely on predefined business processes to figure out what to do with the information they now have.

Customers, employees and partners no longer have the luxury of time to assimilate electronic facts and figures and then to decide what actions to take. To compete effectively, reduce their costs of operations and do more with less, companies need to "activate" business information. Companies need to do such things as place orders or make changes to orders in process, determine eligibility and administer benefits, initiate activities as proposals are approved and ensure compliance with regulations. In order to make business content

truly actionable, companies need to focus on the active *delivery* of enterprise content as well as the multiple ways in which it is created, approved, distributed and stored. It is essential to combine how a firm manages its enterprise content with how a firm coordinates its business processes and how it maintains connections to disparate enterprise applications.

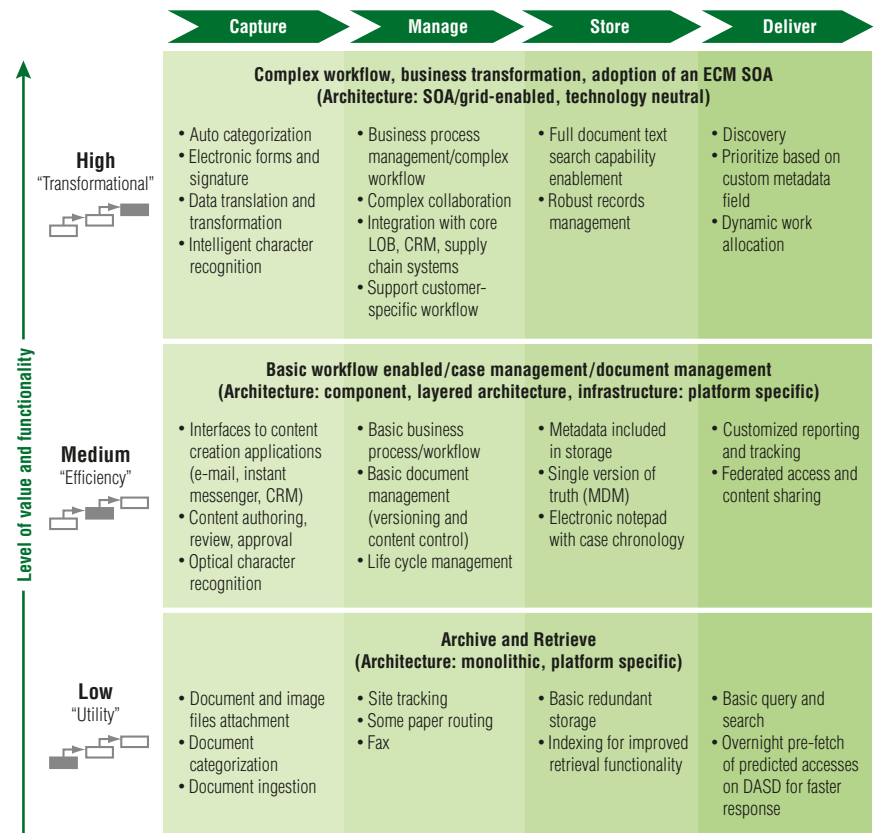**Why integrating process automation and ECM is imperative**

Companies that would not consider implementing an enterprise resource planning (ERP) system without process automation or a transactional system for interacting with customers without integrated automation should realize that an ECM system without process automation is just as incomplete. Separating process automation and ECM should be out of the question—doing so diminishes the value of an ECM investment and fails to take advantage of the synergy that results from combining the functions.

The end result of the event-based infrastructure plus ECM with Active Content architectures is a truly adaptive business environment. By linking enterprise content management to critical business processes and business applications, your business can maximize its investments in your existing enterprise systems, help reduce the costs of your ongoing operations and expedite the right business decisions.

ECM Active Content architecture and its event-driven capabilities can help ensure organizational agility. An enterprise can adapt to changing customer circumstances, market conditions and regulatory issues. It can better seize and profit from promising opportunities and ensure that the right decisions are made. But to do this, an organization needs a responsive event-based information infrastructure in place to react to business opportunities and to make the right decisions quickly.

As the matrix in Figure 1 shows, the greater the degree of automation and the more active the content, the greater the value delivered by an ECM system and the greater its ability to help transform business practices within an organization.

Figure 1: ECM value and the maturity matrix

	Capture	Manage	Store	Deliver
High "Transformational"	**Complex workflow, business transformation, adoption of an ECM SOA** **(Architecture: SOA/grid-enabled, technology neutral)**			
	• Auto categorization • Electronic forms and signature • Data translation and transformation • Intelligent character recognition	• Business process management/complex workflow • Complex collaboration • Integration with core LOB, CRM, supply chain systems • Support customer-specific workflow	• Full document text search capability enablement • Robust records management	• Discovery • Prioritize based on custom metadata field • Dynamic work allocation
Medium "Efficiency"	**Basic workflow enabled/case management/document management** **(Architecture: component, layered architecture, infrastructure: platform specific)**			
	• Interfaces to content creation applications (e-mail, instant messenger, CRM) • Content authoring, review, approval • Optical character recognition	• Basic business process/workflow • Basic document management (versioning and content control) • Life cycle management	• Metadata included in storage • Single version of truth (MDM) • Electronic notepad with case chronology	• Customized reporting and tracking • Federated access and content sharing
Low "Utility"		**Archive and Retrieve** **(Architecture: monolithic, platform specific)**		
	• Document and image files attachment • Document categorization • Document ingestion	• Site tracking • Some paper routing • Fax	• Basic redundant storage • Indexing for improved retrieval functionality	• Basic query and search • Overnight pre-fetch of predicted accesses on DASD for faster response

Level of value and functionality

Key functionality for ECM solutions and Active Content

As ECM has matured and become core infrastructure, the events that Active Content must drive and respond to have expanded and become more granular. Areas that a comprehensive ECM solution must address include:

- **Ability to support composite applications**—Composite applications combine ECM core services with other services available via Service Oriented Architecture (SOA).
- **Flexibility of development environments**—Including Web services, Java™, and Microsoft® .NET, with application programming interfaces (APIs) for application developers and Web development toolkits.
- **SOA environment support**—ECM architecture must provide an SOA approach to the underlying product's capabilities, enabling ECM services to be easily accessed by the enterprise.
- **Real-world, proven content federation**—Access content from numerous heterogeneous repositories and federate this information, providing a single enterprise source for business-critical content.
- **E-mail management**—Manage e-mail content—ideally, by capturing e-mail messages as business records—to ensure adherence to regulatory compliance requirements and improve business performance.
- **XML handling**—Offer XML Web service–based access to provide a new level of platform-independent connectivity and interoperability, and support growing market requirements for SOA.
- **Compound document handling**—Streamline authoring, translation, review and publishing of complex documents and managing them over long lifespans.

- **Unified process management/business process management capabilities**—Create a single repository architecture for managing processes and associated content, e-mail and records throughout the complete life cycle of a document.
- **Link to content-centric BPM**—Control the flow of discrete business objects that comprise Active Content through predefined business processes.
- **Support for multiple basic content services (BCS) environments**—Support Microsoft SharePoint®, Lotus® Quickr™ and others.

IBM industry-leading ECM solutions with Active Content

IBM offers ECM solutions coupled with BPM that rely on the power of Active Content to enable the world's leading companies and government agencies to streamline and automate their business processes, access and manage all forms of content, and automate records management to help meet compliance needs.

The focal point of IBM Enterprise Content Management is IBM FileNet® P8 Content Manager and the IBM FileNet P8 Business Process Manager suite, a highly scalable approach to deploying an integrated enterprise content and process management platform. This combination of ECM and Active Content helps accelerate application deployment, increase operational flexibility and lower total cost of ownership. These solutions provide a flexible and scalable framework for:

- *Managing content*
- *Automating, streamlining and analyzing business processes*
- *Facilitating collaboration*
- *Helping to enable compliance*
- *Simplifying decision-making across business divisions or around the world*

The IBM FileNet P8 ECM architecture combines ECM and process automation, creating an event-driven architecture that triggers the active delivery of enterprise content. As circumstances change, a company's business processes—and the intertwined content that supports them—can adapt. Specifically, IBM FileNet defines ECM as an integrated set of capabilities that combine content, process and connectivity to optimize a company's productivity and operational efficiency. The IBM FileNet P8 ECM architecture shown in Figure 2 encompasses the entire spectrum of capabilities, including comprehensive content management, business process management and connectivity to the enterprise applications that drive the business.

Figure 2: IBM FileNet P8 combines content, process and connectivity
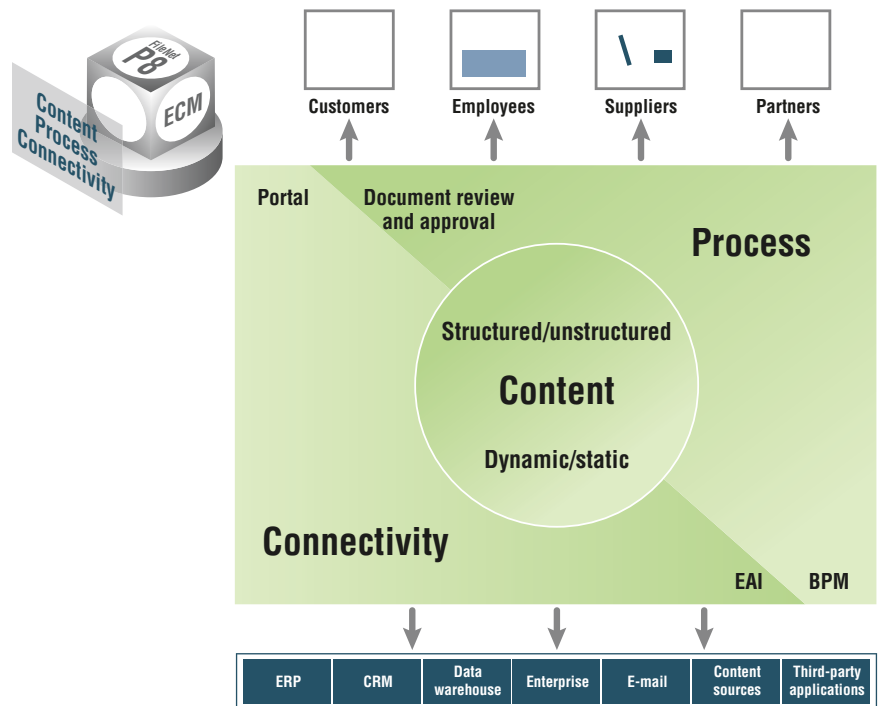
IBM FileNet P8 Content Manager—Powering adaptive, responsive enterprises

Active Content and IBM FileNet P8 Content Manager create an adaptive and responsive applications infrastructure to deliver substantial competitive advantage in a cost-effective manner. Many routine activities can run automatically. People primarily become involved in the business processes at those critical junctures where they can make decisions and add value. They save time and effort by relying on FileNet P8 Content Manager to assemble the essential content for review and approval.

With Active Content, competitive firms will be able to respond more quickly to promising business opportunities, shorten their cycle times to complete transactions and streamline ongoing operations. FileNet P8 Content Manager helps companies lower operating costs by automating high-volume activities while enabling people to easily handle exceptions. Savvy managers can improve the efficiency of their ongoing operations and their firms' abilities to rapidly process individual transactions. Most importantly, company employees can make better and faster decisions as well as improve the quality and flexibility of the firm's customer service while decreasing the bottom-line costs.

Using an open, standards-based Java™ 2 Enterprise Edition (J2EE™) architecture, FileNet P8 Content Manager is designed to operate in an SOA and supports Microsoft .NET environments. It provides interoperability to the widest selection of databases, operating systems, storage, security and Web server environments, thereby maximizing customer choice and helping to reduce cost of integration with existing IT architectures.

Business benefits of IBM ECM solutions

ECM solutions from IBM can help your organization:

- *Capture and manage a range of information formats,* including documents, e-mail, instant messages, Web content and multimedia assets
- *Store, archive, search for, retrieve and deliver information to people across your organization* using a wide variety of access points, including portals, Web browsers, mobile devices and application clients
- *Facilitate collaboration* for enhanced productivity and workflow across your business processes
- *Manage your information assets throughout their life cycle* so you can readily retain the information your organization needs and dispose of the information it does not, in accordance with company policies

How ECM and Active Content deliver a competitive advantage

An Active Content–based ECM solution adds significant value to ECM and is unique among ECM solution providers. IBM FileNet–based ECM solutions offer organizations a powerful means of capturing, storing and managing content; streamlining business processes; helping ensure compliance; simplifying their global IT architecture; and becoming more rapidly adaptable to a changing business environment.

IBM FileNet P8 is the first unified Content, Process and Compliance platform for enterprises that accelerates application deployment, increases operational flexibility and helps lower total cost of ownership. IBM FileNet P8 Content Manager enables your employees to make smart, cost-effective decisions that spark innovation, improve productivity and enhance customer service.

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For more information

For more information about IBM Enterprise Content Management solutions and content-based business transformation, please contact your IBM representative, or visit **ibm.com**/software/data/information/infrastructure-content.html

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