

Enterprise Content Management Solutions

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IBM **Information Management** software

**Transforming your
enterprise information
into business value**

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The challenges of Enterprise Content Management

Businesses today need to deliver trusted information in context to people, processes and applications. They need to cost-effectively manage that critical information. Perhaps most importantly, they need to leverage information to maximize its business value throughout its lifecycle. These requirements have rolled together over the past decade to create a new world of corporate technology, commonly called Enterprise Content Management (ECM).

For many companies, the idea of ECM has become painfully familiar. Organizations worldwide are facing business challenges that highlight the need for better management of information across the enterprise, including:

Data overload. Digital content creation has now reached exabyte levels—that’s billions of gigabytes—each year, and the growth rate is expected to continue to zettabytes within a few years. This continuous content explosion leaves organizations struggling to find solutions for data storage and intelligent data management to help unlock the value contained in the newly created content.

Legal compliance and business process requirements. Legislation such as the Sarbanes-Oxley Act, the Health Insurance Portability and Accountability Act (HIPAA) and the Basel Accord, has propelled ECM to front-burner status. These legislative demands have forced organizations to focus on adapting business processes that govern how, when and why content is utilized, thereby forcing the need for better records management while reducing task duplication, manual errors and unnecessary expenses.

Legacy infrastructure and data inaccessibility. Millions of pages of existing information often reside in far-flung silos on disparate IT platforms that employ a variety of communication standards. Furthermore, much of this content comes from diverse line-of-business applications run from geographically dispersed business units. Not surprisingly, users are often unable to find the data they need—when they need it—because existing storage systems and databases do not communicate well across the enterprise. Organizations are now faced with the challenge of achieving content integration without forfeiting the investment in their existing technologies.

Content diversity. Enterprise content represents a company's collected corporate intelligence, amassed in a variety of formats, including images, text documents, Web pages, spreadsheets, presentations, graphics, CAD drawings, e-mail, video and other multimedia. Companies tasked to integrate content are also in need of new repository approaches that enable data to be managed in context, regardless of format.

User resistance. End-user adoption of an ECM implementation is absolutely necessary to its success. The problem? Human beings are undoubtedly creatures of habit. Even users who support ECM in principle will not embrace a system unless it integrates nicely with their current work habits, while answering their needs for rich functionality. Companies are growing desperate for ways to encourage users to manage, access, share and leverage content on their own—intuitively, accurately and with minimal IT involvement. Simply stated, ECM solutions must be easy to use and provide value in order to be adopted.

Inability to use data productively. Enterprise data holds a wealth of value because it represents past, current and even future business practices. The problem, however, is that most users have difficulty extracting content so it reflects this meaning. Knowing the context of a customer interaction is as important as the actual content-centric transaction—such as submitting a form or invoice—whether you are a customer service representative or a senior decision maker. Organizations are laboring to improve the way users locate and collaborate with data so that it provides optimal value for the business.

A comprehensive approach to ECM from IBM

To solve these challenges, today's businesses must leverage information on demand to achieve real innovation and insight. Toward that end, IBM provides an integrated solution portfolio based on open industry standards that helps maximize your current heterogeneous investments while driving the most value from corporate content.

Built to support all phases of information lifecycle management, an ECM infrastructure solution from IBM includes components that help reduce costs and increase productivity and efficiency by:

- *Leveraging your existing technologies and structures to empower users and keep IT burden low*
- *Integrating the right tools and technologies to unify enterprise-wide data, so search and accessibility are easier and more intuitive*
- *Automating critical business processes related to information storage and management to improve productivity by minimizing user error and eliminating task duplication*

- *Providing an enterprise-wide development platform for content-rich applications, including emerging XML-centric solutions to promote automation and collaboration*
- *Supporting the migration to a Service Oriented Architecture environment*
- *Helping to ensure high security, reliability and availability*

Putting it together: IBM solution components provide end-to-end ECM

Like a living entity, information demands ongoing care. For example, after its creation or acquisition, information regularly needs to be classified, accessed, archived and often re-accessed again and again before ultimately being revised or deleted. Our ECM solution is designed to approach information from this dynamic perspective, offering components that work together to address the end-to-end needs of valuable enterprise data.

Content repository infrastructure: Deploying the foundation of ECM

A reliable ECM starting point for many enterprises is the IBM® FileNet® P8 platform, which is the first of its kind designed to unify content, process and compliance needs for maximum operational flexibility, accelerated application deployment and lower total cost of ownership. IBM FileNet P8 leverages an open standards-based, Java™ 2 Platform, Enterprise Edition (J2EE™) architecture to interoperate with the widest selection of enterprise technology—including databases, applications, operating systems, portals, security, servers, storage, systems management tools and Web server environments. This helps companies promote greater cost-efficiency from the outset of an ECM deployment. Because of its breadth of capabilities, the IBM FileNet P8 platform is ideal for enterprises looking to implement a robust, full-featured ECM strategy.

One of the most prominent advantages of the IBM FileNet P8 platform is its ability to provide single-point content management, as opposed to requiring less efficient isolated content creation and management. With the help of the IBM FileNet P8 Content Engine, a key component of the FileNet P8 platform, you can create a secure and reliable object-oriented metadata repository that will scale to billions of objects and hundreds of thousands of users. This enterprise catalog holds an array of content—including processes, records and e-mail—from creation to final disposition, regardless of where the information is created.

Using this centralized repository, you can begin to explore the vast potential of an ECM strategy based on IBM FileNet P8 Content Manager. For example, you can utilize policy-driven movement of content throughout the storage lifecycle. This allows for more dynamic and intelligent management of information throughout the entire content, process and storage lifecycle. In addition, it helps you more efficiently map content to appropriate storage devices based on the overall value and context of the content. Taking various data and process attributes into consideration—including the type of content, user practices and regulatory requirements—content can be automatically moved to the storage media type that provides the most optimal price/performance.

FileNet P8, the underpinning for the IBM FileNet family of products, is used by thousands of organizations and government agencies seeking to capture, store and manage content, streamline business processes, ensure compliance and simplify their global IT architecture.

IBM ECM solutions at work

Mired in documentation associated with a formal ISO 9001 process, a full-service engineering contractor for the oil and gas industry recognized a growing disconnect between its process requirements and its ability to manage documents efficiently. The company turned to IBM FileNet for a content management solution that would accommodate very rapid growth while continuing to attract Tier One clients.

The company first deployed basic IBM FileNet content services and later upgraded to the full IBM FileNet P8 platform. FileNet P8 has since integrated well with the organization's established engineering process rules and work requirements, while enabling the company to manage and transmit 100 percent of its documents electronically.

The advantages of the IBM FileNet P8 platform have been tremendous. Not only has the company improved document creation, access and version control, but it has also accelerated document processing and transmittal while achieving a cost savings of 35 to 40 percent. In addition, the organization has standardized on a single document design tool and dramatically enhanced job scheduling and delivery. These benefits have led the company to build the substantial competitive advantage required to reach larger, more prestigious clients.

The organization's manager of information systems applauds the IBM FileNet solution, saying the "content engine has an extremely flexible and powerful architecture that supports all of our commodity content management requirements and frees us to focus our development energies on the bigger picture—data integration and work process integration. That provides even greater return on investment to our organization."

IBM ECM solutions at work

When a major American state government needed to provide reliable citizen services to its large, dispersed population, officials looked to modernize the state's information management efforts by centralizing access to all records across state departments and locations. This unified approach, officials believed, would optimize the government's limited budget without sacrificing much needed improvements in service and operating efficiencies.

Impressed with the proven track record of IBM FileNet solutions, officials chose to deploy IBM FileNet P8 across more than a dozen state government agencies. The IBM FileNet P8 platform now helps to streamline the management of a wide variety of records and information, ranging from unemployment applications and vehicle registrations to tax filings and flexible benefit records.

Within six months of implementation, the state achieved complete payback on its investment in the IBM FileNet P8 platform. Electronic filing and management of tax returns, for example, has reduced the costs of paper storage while minimizing processing times substantially—allowing state employees to boost productivity. Furthermore, centralized repository storage has improved access to critical government records. And the number of state officials using the platform continues to grow. “Those who use [IBM] FileNet today want more, and those that don't are waiting in line to get it. More users and applications are constantly coming on board,” says the state's enterprise electronic document management system coordinator.

Content federation: Unifying existing repositories

Sometimes the relocation or duplication of data into a single repository is not feasible. The volume of content might be too great or the storage requirements too costly for an enterprise to justify. In these situations, businesses need an efficient means of managing data from wherever it resides across the enterprise. Content federation addresses this challenge by unifying information from numerous heterogeneous repositories to create a single enterprise source for critical business content. Depending on your ECM deployment objectives and the infrastructure currently in place, either IBM FileNet Content Federation Services or IBM WebSphere® Information Integrator Content Edition can provide content federation services.

Not only does content federation help you preserve existing investments in content management, but it also works to provide a consolidated view of content in a single, master enterprise catalog—without requiring content to be moved or copied. In this manner, IBM content federation offerings help reduce the complexity of content management while providing more in-depth understanding of critical information to help drive future development efforts. Further, you can often expand upon content federation to apply the full breadth of IBM ECM capabilities over any item of content, in any repository, to drive any process or inform any decision anywhere in the enterprise.

Content Federation Services (CFS) is one of the key elements used by IBM FileNet P8 Content Manager to manage content. CFS enables IBM FileNet P8 Content Manager to build a single, unified and integrated master catalog of business content. This CFS-enabled master catalog can server as a single version of the truth, thereby simplifying how users and applications access and utilize content.

Unlike most other content integration offerings in the market that are limited to merely searching repositories, IBM FileNet P8 and CFS provide capabilities to leverage full data management resources—including the ability to search, catalog, classify, secure, retain, comply, and business-process-enable content across the enterprise. Content federation through IBM also makes content an active part of an organization's business processes, helping to streamline processes, improve performance and enable better, faster decisions throughout the enterprise. CFS can be even further extended with IBM WebSphere Information Integrator Content Edition, discussed below.

In addition, the products help organizations maximize compliance and records management initiatives. Content federation allows for the centralization of audit logs that manage compliance across systems. You can also enable a virtual records management application that applies retention and disposition policies as necessary to content stored in external systems. Moreover, IBM content federation products work to provide greater infrastructure flexibility, leveraging open standards to help ensure compatibility with a wide range of platforms and Web services.

IBM ECM solutions at work

When one of the largest financial services companies in the United States grew frustrated with trying to access data across disparate content repositories, the organization knew it needed an enterprise-focused solution for content integration. In addition to swelling the employee population exponentially, numerous mergers had tied together a variety of systems and data sources, making timely document access and customer responsiveness extremely challenging.

To address these difficulties, the company selected IBM WebSphere Information Integrator Content Edition. This comprehensive solution provided a single, bidirectional interface to all disparate content repositories within various departments across the merged organization, thereby enabling the company to leverage all of its diverse business information, from transactional data to unstructured content, as part of a common data model.

Within just two years of deployment, the company amassed US\$2.3 million in savings for a 64 percent return on investment. The company also estimates US\$1 million in savings for each additional business unit that implements WebSphere Information Integrator Content Edition, with each new deployment showing decreased time to value as the efficiency of rollouts continues to rise. Additionally, employees have seen a fifty-fold increase in the number of content requests, indicating a dramatic improvement in customer service.

“This project went 100 percent better than we expected. Looking ahead, we hope to move imaging up earlier in our business process, and IBM WebSphere Information Integrator Content Edition will play a key role in enabling that,” says the company’s imaging project manager.

WebSphere Information Integrator Content Edition can be deployed as a point solution with custom application development or in conjunction with IBM FileNet P8 CFS to enable a single master catalog of business content across the enterprise.

Actionable search: Finding relevant information with ease

To use data productively, users first need to find specific content fast. IBM offers customers advanced—yet easy-to-operate—search tools through both IBM OmniFind™ Enterprise Edition and the IBM Classification Module.

OmniFind Enterprise Edition is a highly customizable, scalable, out-of-the-box search application that locates relevant enterprise content—regardless of format or where it is stored within the enterprise—and helps maximize its business value. OmniFind is built on the Unstructured Information Management Architecture platform, an open framework for processing unstructured information that facilitates semantic queries and helps organizations extract concepts, facts and relationships from text to gain more insight and value from content. Because enterprise content is highly sensitive, OmniFind Enterprise Edition supports single sign-on authentication and native document-level security.

Supporting more than 200 file formats and pre-built integration to IBM FileNet, IBM DB2 Content Manager and more than 25 other enterprise sources—including EMC/Documentum, Microsoft® Exchange Server, Oracle, UNIX® and Microsoft Windows® file systems—OmniFind Enterprise Edition creates a single, easy-to-use portal search interface to all enterprise content, allowing you to minimize total cost of ownership while reaping greater return on existing investments in portal and collaboration applications. (For a complete and current list of supported data sources, please visit ibm.com/common/ssi/fcgi-bin/ssialias?infotype=AN&subtype=CA&htmlfid=897/ENUS206-299&appname=USN)

Based on the IBM Content Discovery technology, IBM Classification Module can efficiently categorize and tag data appropriately from a wide range of applications into IBM FileNet P8 Content Manager. IBM Classification Module automatically assigns categories, contained in metadata, to existing documents in bulk or to newly authored content as it is added to IBM FileNet P8 Content Manager. It thereby invokes the Active Content capabilities of FileNet P8 Content Manager to automate content handling and automatically invokes enterprise policy enforcement specific to the type and nature of the content that has been classified. IBM Classification Module can also identify entirely new categories of content while adapting the enterprise content classification system—or taxonomy—to business changes.

IBM ECM solutions at work

When a leading healthcare provider in the southeastern United States needed a consolidated view of claims and provider information across its business, the company first faced the challenge of unifying a vast quantity of disparate data stores, some of which were external to the organization.

Already an IBM FileNet customer, the healthcare provider then worked with IBM to deploy an intelligent ECM solution that would centralize its claims and provider data to help maximize information value. The solution included IBM WebSphere Information Integrator Content Edition, as well as IBM OmniFind Enterprise Edition.

Following the IBM solution implementation, the healthcare organization now has a single viewpoint into all data across multiple programs, allowing users to harvest valuable business intelligence from both structured and unstructured data. The organization is also able to quickly and easily generate meaningful content reports that were impossible to produce with the previous flaws in accessibility. Not surprisingly, the company now provides improved customer service and has greater insight into sales statistics when re-negotiating service agreements.

Overall, the client's management team is enjoying the new capabilities of the selected solution, finding the IBM deployment to be both more affordable and more effective than any competitive solutions they considered.

IBM ECM solutions at work

When Chicago Bridge & Iron, one of the world's foremost engineering, procurement and construction companies, realized a need for more effective content management, it sought a heavy-duty solution to several daunting challenges. In particular, the company wanted to improve global data-sharing and reduce business process errors while increasing employee efficiency and reducing project delivery costs.

Chicago Bridge & Iron selected IBM OmniFind Enterprise Edition to enable company-wide searches of its extensive Lotus Notes® and Domino® repositories, providing worldwide employees with fast, easy access to relevant business documents.

The resulting benefits have been overwhelmingly affirmative. Staff productivity has increased substantially, with 100 percent positive feedback from users, who praise the application's simplicity, speed and intuitiveness. With collaboration on the rise and improvements in service delivery already apparent, the company is also reducing costs while increasing responsiveness to customer needs. Says John Shaull, senior technical analyst, "With OmniFind software, we can now provide our staff with fast access to documents that they might not have even known existed . . . Employees have told us that this is making their jobs easier, which, in turn, is increasing staff productivity and efficiency."

In addition to allowing FileNet P8 Content Manager to activate new content, the IBM Classification Module organizes content in ways that make it more accessible and more leverageable. That's because content that is catalogued more efficiently and more accurately is easier to find via any access mechanism related to ECM, including enterprise search. By automating classification tasks, however, you extend the benefits further, helping to rapidly accelerate the time to value of new ECM deployments and increase the value of existing deployments. That is, by improving taxonomy management with the IBM Classification Module, you optimize your ability to perform actionable searches.

User collaboration: Making information work harder

IBM Lotus® Quickr™ is team collaboration software that helps you leverage content to better share and utilize enterprise data across organizational, geographic and application boundaries. The application supports a variety of content repositories and operating systems, making integration cost-efficient and collaboration a transparent and natural process for workgroups. In addition, a set of intuitive connectors integrates Lotus Quickr with numerous popular Microsoft and Lotus desktop applications to promote user acceptance of better content management. In 2008 customers will be able to deploy Lotus Quickr with connectors to IBM FileNet P8 Content Manager so users can benefit from information in the ECM backbone.

Solution snapshot: Collaboration potential with Lotus Quickr

For companies looking to improve content management across the enterprise, collaboration—or the ability to share and work together with documents regardless of a team’s time and geographical limits—is an absolute necessity. Facilitating that collaboration means enabling workers to communicate using the applications they already know. That’s why Lotus Quickr includes a set of intuitive connectors that integrate with numerous popular desktop applications to promote user acceptance of better content management. With these connectors, users can stay in the application they are using and save files to their Quickr content libraries. For example:

- *A **Microsoft Windows Explorer** connector allows you to navigate content using the familiar Windows Explorer or “My Documents” interfaces, where you can drag and drop files or entire folders as needed. You can also perform actions that let you save, check-in and check-out files from a Lotus Quickr content library.*
- *The **Microsoft Office** connector enables you to open and save documents directly into a library or team workspace using integrated menu action items. Check-in and check-out capabilities promote document security by allowing users to lock files, block specific user edits and help ensure version control during a collaborative editing process.*

- *Seamless integration through a **Lotus Notes** connector helps users better manage overflowing e-mail inboxes and reduce content overload. You can open and save e-mail attachments directly into a Lotus Quickr document library or team workspace, so information can then be shared by sending links to files—rather than the actual attachment files.*
- *The **Lotus Sametime**[®] connector is built on Eclipse community technology, which leverages an open source development platform to deliver interchangeable plug-in software components. This connector lets you easily navigate Lotus Quickr libraries to locate and share content during an instant messaging session.*

Lotus Quickr software also provides a set of out-of-the-box application templates designed to help users extract greater value from data through more efficient team collaboration. For example, a “Project” template helps organizations keep track of task status and progress toward completion.

Storage hardware: Archiving made useful

Ultimately, information that has been acquired, classified and managed in an ECM infrastructure will need to be archived through the right hardware solution for cost management and in some cases to help ensure legal compliance. Archiving also enables timely document deletion, as well as the ability to reactivate content as necessary. IBM enables reliable archiving capabilities through the IBM System Storage™ DR550.

Operating in conjunction with a number of IBM and non-IBM ECM applications, IBM System Storage DR550 helps enable centralized content management by providing a single interface to support storage allocation and address application demands. DR550 is designed for enterprises of all sizes. It can help you store, retrieve, manage, share and protect a wide variety of regulated and non-regulated data—including e-mail, digital images, database applications, instant messages, account records and contracts.

DR550 helps companies maximize existing infrastructure investments with preconfigured integration solutions for a range of technologies. The solution also provides upgrade options for connectivity and storage space, helping manage up to 89.6TB of physical disk storage capacity, with additional external tape or optical storage capacity in the petabyte range per system. This powerful solution supports the ability to retain data without alteration throughout its designated retention period.

In addition to offering archival and retention, DR550 also provides synchronous and asynchronous replication capabilities (also known as Metro Mirror and Global Mirror) that help organizations address emerging government and industry-related regulatory requirements and corporate governance practices.

An end-to-end ECM industry scenario: Insurance innovation

Insurance companies base their strategies, products and pricing on the micro-segmentation of customers. But because micro-segmentation decentralizes critical information, there has long been a gap for insurance providers between their strategic business intelligence and their operations. That's because successfully managing innovative insurance products often depends on the ability to access the right customer or market data at the right time in order to make the right management decisions.

The bottom line: Many insurers will not be able to realize the full value of their corporate data unless they can implement an integrated, rules-based information system capable of analyzing data from a multitude of sources.

For example, a company might be interested in developing a unique auto insurance product targeted to an unusual mix of age and driving experience, vehicle combinations, garage and work locations, and specific credit requirements. In cases like this, the company would need fast access to data from across the value chain to determine the viability of the market, the right price point and the timeframe for the offer. A central data repository, such as that provided by the IBM FileNet P8 platform, is a crucial component in a service-based insurance processing environment because it allows data to be unified for easier accessibility. At the

same time, the FileNet P8 platform would enable standardized product definitions and rules, as well as the availability of those rules for use with other core insurance system components and internal operations. Couple those advantages with the capabilities of IBM OmniFind Enterprise Edition, and an insurer could locate vital content quickly in order to better manage new products throughout their lifecycles.

If the company's idea for the new auto insurance product proved viable, various agencies would need to collaborate in order to share related documents and market the offering successfully. Lotus Quickr would help ensure rapid and easy communication between numerous employees across the country.

This scenario is simply one of many potential situations where IBM ECM solutions can work together to tackle specific industry challenges and ultimately extract greater business value from your corporate information.

Optimizing the value of critical information with IBM

The IBM ECM strategy supports end-to-end management of critical enterprise data, with a proven understanding of unique business requirements and a flexible solution set to address today's most pressing ECM challenges. Only IBM provides the breadth of world-class software, hardware, services and financing necessary to help businesses deliver and capitalize on trusted information. IBM Global Services also helps companies maintain current strategies for archival and information on demand with various strategy, design, implementation, onsite software upgrade and warranty offerings. Unrivaled in its depth and breadth of consulting and implementation capabilities, IBM combines these capabilities with its deep industry experience to offer a combination of both technology and experience available only from IBM.

Perhaps the greatest benefit to the IBM approach to ECM, however, is the importance it places on optimizing the value of critical information throughout its lifecycle. By putting information to the best use at the right times, IBM customers are already demonstrating marked increases in productivity and responsiveness. These benefits, in turn, can be linked to greater potential for future innovation. Not surprisingly, the companies that best leverage information through effective ECM today are the ones that will dominate the business landscape tomorrow.

For more information

To learn more about IBM initiatives for Information on Demand and Enterprise Content Management, contact an IBM marketing representative or visit

ibm.com/software/data/cm

For additional information about specific products, please visit:

IBM FileNet P8: ibm.com/software/data/filenet/process-management

IBM FileNet Content Federation Services: ibm.com/software/data/filenet/content-management

IBM WebSphere Information Integrator Content Edition: ibm.com/software/data/integration/db2ii/editions_content.html

IBM OmniFind Enterprise Edition: ibm.com/software/data/enterprise-search/omnifind-enterprise

IBM Classification Module: ibm.com/software/data/enterprise-search/omnifind-discovery/class.html

IBM Lotus Quickr: ibm.com/software/sw-lotus/products/product3.nsf/wdocs/quickr

IBM System Storage DR550: ibm.com/systems/storage/disk/dr/features.html



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TAKE BACK CONTROL WITH **Information Management**