Best Practices in Enterprise Content Management

Enterprise Content Management

Size or Strategy?

By Andy Moore, Editorial Director, *KMWorld* Specialty Publishing Group

"Enterprise" is a badly misused word, unless you're Captain Kirk. Alternately applied to mean both "big" and "integrated," I'm afraid it no longer means either. But beyond parlor-game semantics, does it really matter? Why should anyone care whether "enterprise" means anything at all?

Because the current concepts surrounding what is "enterprise" and what is not have direct implications for not only large corporations, but also mid-size to small organizations. We're well past the point where the term "enterprise content management" (ECM) can be easily dismissed as a nifty marketing collateral adjective.

ECM means something now, and is meaning more and more as time goes by. Recently, I caught up with several executives from companies associated with content management. Their current assignments may be diverse, but their insights added up to an essential portrait of the ECM market past, present and future:

1. *Let's talk about the notion of "enterprise." It IS an overused term, but each of you identify an "enterprise-wide" deployment of content management as a central strategy. First of all, what do we really mean by the word "enterprise," and what are the true value propositions to be gained from an "enterprise" implementation?*

Jeff Klein, First Consulting Group: The term "enterprise" used to refer to size and scale—"how big could it get?" But now, "enterprise" truly means what it should mean—a company-wide strategy. Where ERP and CRM systems were enterprise by their introductory nature, content management has grown into that, from departmental up to enterprise.

Tom Jenkins, Open Text: For the past 20 years, there have been things we called "enterprise something"—EDMS, ECM. But that was a misnomer, because it was almost always actually deployed at a department level. It was quite rare for anything to go right across the enterprise.

Over the past two years, that has begun to change, mostly because of compliance. When you're in a regulatory environment, you can't really leave any part of the enterprise out. Thanks to regulatory compliance, there's been a convergence of document management, Web content management and records. This was probably going to happen anyway, but it's been accelerated. The point is: the promise is starting to match up with the reality.

George Viebeck, Documentum: The equation has changed. There have always been many departmental point solutions that are now being viewed with an overall enterprisewide vision of a platform of services that enables not only individual solutions, but also strives for something beyond that.

Customers are leveraging corporate IT across multiple business problems to get the maximum value out of their content. Perhaps the key issue is the ability to integrate with enterprise-packaged applications. Customers already use an SAP or PeopleSoft or Oracle application to automate business processes...now they need to figure out how to best support those with ECM.

For instance, there is a lot of product-centric information developed upstream, such as R&D documents and tech drawings, that can be re-used downstream for call center support, marketing material, etc. That's the key value provided by ECM—content reusability across the enterprise.

Ethan Eisner, LexisNexis: I agree that compliance is the primary driver. Whenever you have to mitigate risk and there's no other alternative, companies will take action. But the greatest value-addition (brought by CM) is strategic. Whenever you increase efficiency and can share knowledge across multiple business units or departments, the productivity implications are enormous, and often outweigh—in terms of potential dollar value—any other reason to embark on this.

Andrew Pery, Hummingbird: The empirical data tell you that, first and foremost, the driver for ECM is efficiency improvement—organizations are not hiring great numbers of new people, but the amount of unstructured data is growing dramatically.

A closely coupled issue is risk mitigation. You have to have a scalable content repository to house unstructured information in order to comply with today's rigorous standards. Customers are asking: "How

The Cast

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Roger Bradford
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George Viebeck
Senior Product Manager, Documentum

Robert Weideman
Senior Vice President, Marketing & Product Strategy, Productivity Applications, ScanSoft

do I consolidate my distributed content repositories into a single virtual repository? How do I organize it? How do I effectively manage the metadata around it?"

The third business driver is competitive advantage. The typical factors of production—capital, raw materials—are pretty much equally available to everyone. So what they really have to leverage is their human capital. Because of this, there has been a renaissance of knowledge management.

PG Bartlett, Arbortext: Deploying a common IT infrastructure across the enterprise makes sense, and it's all the more critical for the organization's unstructured information, which represents 80% of the volume and 95% of the value. Most importantly, enterprise deployments make it vastly easier to connect disparate parts of the organization, allowing collaboration and reuse to bridge former islands of information.

Johannes Scholtes, ZyLAB: I'm not very convinced that an enterprise implementation is *always* the most cost-effective approach. We've seen very different types of business processes and very different requirements...some of the departments want to do straightforward searching of static archives, where other departments have very complex Web content management requirements and complex workflows. Sometimes it's better to use different solutions for those different applications. If you have a hammer, not every problem is a nail.

Jeff Klein, First Consulting Group: Is it tactical or strategic? Depends. In the R&D discovery phase, the access to knowledge you didn't know existed is important. In the manufacturing and distribution of that product, the ability to have all the knowledge you expect to find is more valuable. It depends on where you are in the cycle...but both are central to the theme of enterprise content management.

Robert Weideman, ScanSoft: "Enterprise" can mean that every desktop in the organization has a particular application. But it can also mean the application *benefits* everyone in the enterprise. Maybe not everyone touches the document management application, but everyone benefits from it.

Dan Ryan, Stellent: There are many more mid-sized companies that are actually doing enterprise content management than large companies, by nature of the fact that big companies are departmentalized and politicized and spread all over the world.

2 *Robert's remark about who "touches" the ECM application begs the question of IT versus business units—who makes the key decisions regarding content management deployment, and why?*

Andrew Pery, Hummingbird: One of the primary drivers behind any enterprisewide

adoption of content management will be the increased role of standards. The ability to expose the content management system as a series of services as part of a service-oriented architecture means you don't have to throw out pre-existing implementations of departmental solutions and preserve those investments. This is an IT concern.

Other content integration standards, such as JSR 170, allow you to map into pre-existing content stores and create a virtual extraction layer so you can continue to store information wherever you store it now, but be able to access it through a standard method. These standards will also become important to IT as a significant cost savings.

Jeff Klein, First Consulting Group: A huge driver for ECM is the incredibly burdensome support costs, from IT resources, from business-to-IT liaison and from custom and specific solutions that don't share any standardization. The costs associated with any of these given functions may not be too great, but added up across an enterprise...they are.

Robert Weideman, ScanSoft: People can generally grasp the benefits that can be derived from ECM, but there have been barriers that have kept them from deploying it—mainly the costs of acquisition, deployment and ownership. Leveraging Web technologies has brought costs down, and those barriers keep falling.

Roger Bradford, Content Analyst Company: There have been plenty of IT innovations that died because users voted with their feet.

Dan Ryan, Stellent: A lot of customers recognize they have two, 10, at extremes *100* different applications running on the same platform. So there's an awareness that there's a lot of content-centric applications. IT and managers are both saying: "let's make a standardized decision on what to use as we roll these out in the future." When customers look at a digital asset management system or Web content management, they realize there's a 50% to 70% feature-set

that's the same. So they ask, *"Why have users learn different systems?"*

Most people are not going into content management in order to replace file servers; they simply realize that the content available to the organization needs to feed applications of all kinds. The common thread is that they're all content-centric. People are beginning to realize that content management is the underpinning technology that supports all those applications.

Johannes Scholtes, ZyLAB: We've seen a lot of sales cycles where an organization bought ECM solutions, and the IT department imposed an architecture on them which might not have been what the users required. So whenever people see an opportunity to move away from the enterprise solution, they buy something departmental...you end up in endless political discussions between IT and users.

Robert Weideman, ScanSoft: If people can't find what they're looking for, they tend to fall back into the old way of doing things.

3 *"User adoption" seems to be a concern that we're just touching on...how do you answer the average user's "what's in it for me?" question?*

Jeff Klein, First Consulting Group: Some people live their entire work day in Siebel—that's their user experience. In that situation, when you need to access documents, content or media, the user experience should still be through Siebel. You do that through connectors and Web services layers.

But there are some people who live their experience in the document management layer, because that's their jobs. Their function is to produce that kind of work product.

Roger Bradford, Content Analyst Company: The nice thing about content management is that it's pretty easy for users to see how it's helping them. For example, resume-

> "Customers are leveraging corporate IT across multiple business problems to get the maximum value out of their content."

Corporate Governance—What Enterprise Content Management Was Meant For

By Eric Stevens, Director, Research and Strategy, Hummingbird Ltd.

Eric Stevens

Eric Stevens has been involved in all aspects of the development and deployment of enterprise applications for over 25 years. He has helped both private and public organizations to understand and automate their business and organizational processes. His background includes imaging, business process automation, enterprise forms and Web-based applications. As director of research and strategy for Hummingbird, Stevens monitors changes in the technology, business and regulatory landscape and helps to define how Hummingbird solutions need to adapt to best serve its clients.

Organizations throughout the world have successfully deployed a range of enterprise content management (ECM) solutions to address many organizational needs. Companies and governments use these solutions to address legal and regulatory compliance issues, to support specific business processes, to archive e-mails and to manage their organizational records. With these solutions in place, organizations are now wondering: *"What is the next major challenge for which ECM can provide real corporate benefit?*

The answer to that question can be found in the solutions that have already been implemented at a departmental level by many organizations. The type of problems that enterprise content management has already addressed provides a critical clue that leads us to the next major phase of ECM deployment. When we review the processes, documents and records currently managed and controlled by ECM-based applications, we can see a common theme—the majority of these applications help organizations improve their control over processes and information that governs the organization and helps to increase the organization's effectiveness, efficiency and integrity.

The general term for the collection of processes that control the organization is "corporate governance." When an organization uses an ECM solution to manage and track contracts, it has implemented one aspect of a governance solution. Every legal or regulatory compliance solution is designed to help improve the organization's ability to manage, track and control its governance-related issues. When a financial services organization uses a combination of collaborative tools and document management to make it easier for their clients and staff to work together on a deal, they are performing activities that may directly affect the overall transparency, and therefore the governance, of the organization.

However, these types of distinct solutions do not provide a complete, end-to-end, enterprise-wide solution to the issues and challenges of corporate governance. To do that, we need to take ECM deployments to the next level and to think in bigger terms about the information and documents moving inside and outside the organization.

Seeking Governance

Corporate governance is a term that embodies all of the process, policies, procedures and records that an organization uses to make decisions and carry those decisions out. The OECD, the Organisation for Economic Co-operation and Development, in *Principles of Corporate Governance (2004)*, defines corporate governance as follows:

"Corporate governance involves a set of relationships between a company's management, its board, its shareholders and other stakeholders. Corporate governance also provides the structure though which the objectives of the company are set, and the means of obtaining those objectives and monitoring performance are determined. Good corporate governance should provide proper incentives for the board and management to pursue objectives that are in the interests of the company and its shareholders and should facilitate effective monitoring."

Corporate governance is not something that is mandated or enforced by governments or other regulatory bodies. It is the set of best practices that provides for the effective, open and visible management of an organization. While compliance with the applicable legal and regulatory rules is critical to effective governance, many of the new rules have been put in place due to the lack, or seeming lack, of visible corporate governance within many organizations. Good corporate governance practices lead to better compliance, but more importantly these behaviors lead to better organizational operation and increased shareholder and stakeholder confidence

Board of Directors

CFO CIO CEO

Shareholders

Employees

Documents, E-mail, IM Reports ERP, CRM, Accounting

Stakeholders

Capture/Create — Manage/Review — Store/Preserve — Distribute/Publish

ECM provides the foundation for improved communication and interaction amongst all groups affected by governance and compliance issues.
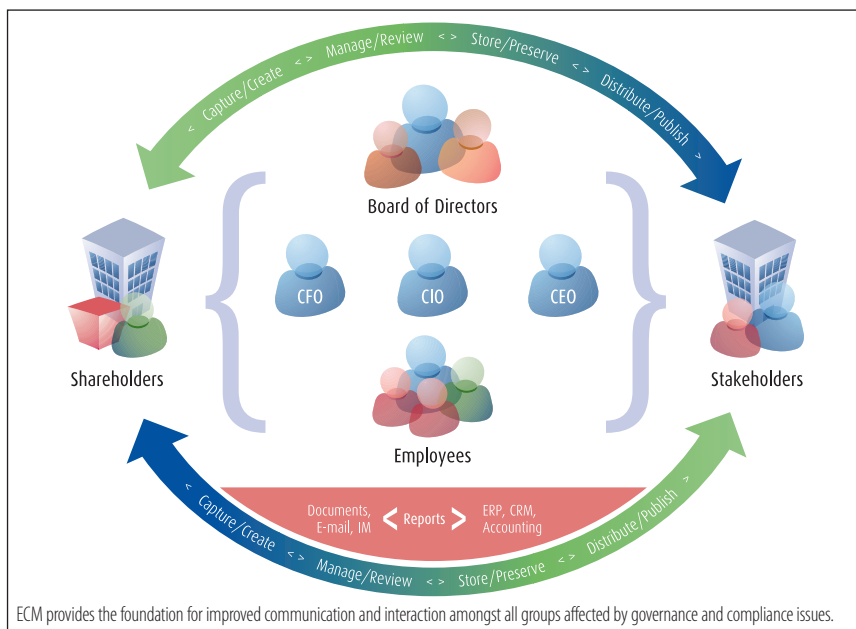
because of the increased visibility and monitoring that is put in place.

An enterprise content management suite has all of the tools to help organizations manage and improve the processes that are the core of corporate governance. ECM-based document repositories, with full audit and access controls, ensure that the organization's documents are secure and available. ECM suites also provide records management— especially disposition—that is critical to the management of the important documents and records that form the foundation of the business. By ensuring that the organization has a set of policies and a process for the identification of records and their subsequent disposition (along with a secure document repository for active documents) the management team and the board of directors can be assured that they have the correct documents and records and that they can communicate their trust in the information that they are providing to all stakeholders.

Knowledge management tools integrated into an ECM solution provide powerful searching capabilities, across many different repositories, in order to assist the organization in finding the right documents, records, policies or procedures. Content-based business process automation tools allow the organization to automate, control and track the activities that support the organization. Automating the processes is critical, since effective corporate governance is embodied in the processes. The intention of automating the processes is not the elimination of the manual efforts, it's the ability to track and log the steps and tasks in the process. This provides the organization with assurance that the right activities are happening and allows for the effective audit of the process.

Good governance involves effective communication, and ECM solutions provide that through collaborative tools that allow different groups, such as management and the board of directors, to share information and produce the documents they need. ECM suites can also provide portal tools to facilitate communication with internal and external stakeholders, such as employees and shareholders.

Finally, a complete ECM suite provides business intelligence and data transformation

"Organizations that use ECM can demonstrate that the organization is above reproach."

tools that enable the extraction and reporting of information from many other organizational business applications and processes. This adds the value of structured information to the unstructured information contained in the documents and ensures that all are presented with all of the information they need, regardless of its source.

ECM-Enabled Governance

Organizations that use enterprise content management to automate, track, manage, control and monitor all of the documents and processes across their entire enterprise have the opportunity to demonstrate that the organization is above reproach. It also allows them to gain significant operational efficiencies. What would an organization look like if it used enterprise content management to address all of the enterprise-wide processes associated with corporate governance? Let's start with the board of directors and the executive management of the organization.

The organization would have in place a completely automated system for the identification of issues and the creation of the agenda for all board meetings. This system would ensure that all board members received the required documents with sufficient time for their review and for any questions to be raised. Management would be able to monitor when documents had been reviewed and auditors would be able to validate that board members had full access to the correct documents.

The organization would have a shareholder correspondence management system in place, ensuring that all messages from shareholders were recorded, tracked and responded to. The system would ensure that the right person is assigned to respond. The designated

responder could use the knowledge management tool to search all the documents and records in the organization to formulate the response. The responses would be recorded and tracked, both in substance and in time, to create a full audit trail. The system would link to the agenda and issues management system so that issues raised by the shareholders could be placed on the board's agenda.

The organization would use one ECM suite to address all of their compliance-related issues, even if the information, documents and records were stored in multiple repositories and databases. The organization would save significant money and time by using one system, but it would also allow for a comprehensive view of the status of all governance-related processes throughout the organization. Because we are dealing with corporate integrity, customer assurances and shareholder trust, it is critical that the executive and board of the organization know the "pulse" of the company, not just those items that may have audit or compliance implications. This complete view of the status of every process would allow the organization to take remedial action before an issue became a shareholder, media or regulatory issue.

The organization would have a complete records management file plan and would always know that their records could pass any audit or review that might be required. The system would also ensure that any document or record required to respond to a shareholder request or to provide a board member with additional information would be available when it was needed.

Corporate governance is important, not only due to the changed regulatory climate that all organizations must function in today, but because letting shareholders, employees, partners and customers know that you have the right tools, policies and processes in place for good corporate governance is becoming a crucial advantage. Applying enterprise content management lets organizations focus on their objectives and increase the value they bring to all of their stakeholders. ∎

"What is the next major challenge for which ECM can provide real corporate benefit?"

Six Ways ECM Can Work for Your Business

By Dan Ryan, Executive Vice President, Marketing and Business Development, Stellent

Dan Ryan

Dan Ryan develops and implements product and marketing strategies to expand Stellent's global presence and market share and is also responsible for business and corporate development. Prior to joining Stellent, Ryan was vice president of marketing and business development for Foglight Software, where he led the product strategy and marketing launch of its application performance management system and championed several key strategic relationships with leading organizations such as Oracle, PeopleSoft, Rational Software, Cisco Systems, eBay and Netscape. Ryan spent 14 years in senior marketing and business development positions at Compact Devices, a leader in the Internet application market, and Sync Research, where he was instrumental in taking them from a start-up to an established wide-area networking company.

The University of California Berkeley School of Information Management and Systems estimates unstructured content, such as spreadsheets, contracts, CAD drawings, digital assets and records, has doubled in the last three years. As a result, the challenge of managing and effectively leveraging this tremendous volume of content across an enterprise continues to grow.

Following are six areas in which an enterprise content management (ECM) system can support and enhance an enterprise: compliance and records management; multi-site Web content management; ECM consolidation; partner and customer extranets; marketing brand management and digital archiving; and streamlined financial processes.

Compliance and Records Management

Companies are faced with two main types of compliance: regulatory mandates—such as HIPAA, FDA and ISO—and financial reporting—such as Sarbanes-Oxley. Tackling compliance challenges in a comprehensive approach results in a focused enterprise risk management strategy and significant operational efficiencies.

Content management offers functionality to address these business requirements, providing the infrastructure to support compliance as well as the applications for managing compliance. Specific content management components that support compliance efforts include: document management, BPM and workflow, reporting and analysis and records management.

Document management enables organizations to easily capture, secure, share, distribute, archive and dispose of digital and paper-based documents and reports via the Web, helping them reduce risk and lower costs associated with legal and compliance processes. Stellent also provides a DoD 5015.2 Chapter 2- and 4-certified system for streamlining the processes of creating, declaring, classifying, retaining and destroying business records—turning records-based activities into ongoing processes conveniently and inherently carried out during the normal course of business.

Robust e-mail management capabilities make it easier for users to seamlessly declare e-mail messages and attachments as records.

Case in point: Reliant Energy, Inc., a provider of electricity and energy services, has streamlined its Sarbanes-Oxley compliance processes by using the Stellent Sarbanes-Oxley Solution to centrally manage documentation and smooth its attestation process. Specifically, the Stellent solution provides Reliant's core compliance team with an enterprise-wide view of the company's internal control makeup, allowing the core team to track control changes and monitor remediation action plans based upon the remediation priority.

Multi-Site Web Content Management

The multi-site Web content management problem is growing. Companies are challenged with creating multi-lingual Web sites; building customer and partner extranets; and developing infrastructures for intranets and portals. Combined, these initiatives create the need to manage hundreds—sometimes thousands—of Web sites.

Examples of critical content management capabilities that support effective multi-site management include: Web content management, digital asset management and document management.

Specifically, Web content management enables organizations to easily create and maintain accurate, timely Web sites—such as intranets, extranets and public Web sites—while ensuring each site complies with corporate requirements and standards. Unique to Stellent's Web content management suite is its Stellent Site Studio application, which

| Applications | Compliance/ Rec. Mgmt. | Multi-Site Mgmt. | Extranets | Financial Processes | Infrastr. Consolid. | DAM/Brand Mgmt. |

Common UIs and APIs
GUIs – Browser | Portal | Email | Windows Explorer
APIs – Web Services | J2EE | COM | Java | .NET | ERP Integration

Optional Application Modules
Records Management
Document Management | Web Content Management | Digital Asset Management | Imaging Management
Collaboration

Stellent® Content Server
Core Services
Repository

allows companies to maintain a desired degree of centralized control over the architecture and presentation of Web sites, while distributing content ownership and site management to each business unit, franchise or geographic location. Site Studio also helps companies create libraries of Web site components, which are then available to users when building their own sites. A single piece of content can be pushed out to multiple sites, making site updates easier and content accurate.

In addition, digital asset management allows organizations to easily manage, share, optimize and re-use corporate digital assets—such as branding graphics and images—and publish these assets onto their various Web sites. Only authorized users have the ability to contribute, update and access specific content.

Case in point: Genzyme Corp., a global biotechnology company, leverages content management technology to ensure its more than 20 unique Web sites are on-brand and encompass Genzyme's businesses, products and geographies. According to META Group, this initiative enabled Genzyme to reap a return-on-investment (ROI) of approximately $3.8 million by the end of 2004 due to the increased efficiencies of creating uniform and branded Web sites, improved employee productivity and reduced costs to launch new sites.

ECM Consolidation

A number of companies use disparate products from multiple vendors to meet their various content management needs, which can result in unnecessarily complex implementations, and high integration, support and maintenance costs. To fully maximize content management investments, customers must implement a solution that provides a standard infrastructure and best practices for all content management applications across its enterprise.

By consolidating all content-related applications into a single architecture, companies can reduce the cost of separate, disparate content management systems. These solutions enable customers to easily deploy multiple line-of-business applications and enterprise-wide content management initiatives.

Partner and Customer Extranets

Many companies provide large volumes of timely and personalized information to external partners and customers. The creation and distribution of this content is often a time-intensive and costly process. By distributing content to these audiences via a secure extranet, companies eliminate substantial shipping, e-mail and printing costs; re-use and publish content from other sources; and provide project and collaboration "workspaces."

Key content management components that power partner and customer extranets are Web content management, document management and collaboration. These solutions allow organizations to easily manage partner- and customer-related content—including content approvals and automatic conversion and publication—through an easy-to-use, browser-based interface and consistently deliver it to partners and customers in a secure, personalized fashion through an extranet.

Case in point: Emerson Process Management, a global leader in helping businesses automate production, processing and distribution practices, deployed a number of extranets in just 15 days to provide global suppliers with Web-based access to more than 800 manufacturing procedures and product drawings. Emerson estimates it saves approximately $20,000 per supplier per year by automating manual processes.

Marketing Brand Management and Digital Archiving

The amount of images and brand assets created and utilized by corporations continues to grow. In order to realize the full value of this content, organizations need to make images and brand assets available enterprise-wide via a Web browser; maintain control over the size and quality of images to comply with brand standards; easily and securely share images and brand assets with outside agencies and other e-business applications; and provide Web-based access to training videos.

Digital asset management and video/image management are content management components which enable organizations to quickly and easily access, manage, share, optimize and re-use corporate digital assets. For example, the system can automatically convert image files from a single source into a variety of formats and sizes, optimizing images for various types of consumption, such as PowerPoint presentations and Web sites, while managing all of the renditions as a single object. The technology also automatically converts large audio visual interleaved (AVI) files into smaller, lower-resolution MPEG files for use on Web sites, and includes the ability to drill down into particular scenes in a video using storyboards.

Streamlined Financial Processes

Many organizations use manual financial processes that lack efficiency and accuracy. To improve this situation, companies must automate financial processes to increase capacity, integrate with enterprise resource planning (ERP) systems, enhance auditing and controls, expedite exception processing and enable continuous process change and improvement.

Capture technology allows organizations to efficiently, cost-effectively turn all paper-based financial documents and reports—such as purchase orders, claims and invoices—into electronic images, which can be easily stored and retrieved. Business process management (BPM) capabilities connect all enterprise systems in order to efficiently manage an organization's entire financial process. This integration enables the automatic routing and management of transaction information, which streamlines work steps and improves communication between all parties involved in financial processes.

Comprehensive tools for document search and retrieval within ERP systems enable users to easily, intuitively move between financial content in ERP systems and content. Additionally, records management capabilities streamline the processes of creating, declaring, classifying, retaining and destroying financial records.

Summary

As the types and volumes of content continue to increase across organizations, the applications of enterprise content management also are expanding and evolving. Today, six of the most vital uses of ECM include compliance and records management; multi-site Web content management; ECM consolidation; partner and customer extranets; marketing brand management and digital archiving; and streamlined financials. And, there are many more business initiatives that technology can successfully power. Content management can generate significant, rapid ROI for customers and help ensure a low total cost of ownership. ∎

ECM Best Practices for the Enlightened Enterprise

By Jeffrey Klein, Vice President Product Strategy and Business Development, First Consulting Group Life Sciences

Jeffrey Klein, vice president, Product Strategy and Business Development for First Consulting Group (FCG) Life Sciences, has spent more than 15 years in product strategy, consulting, program management, systems analysis and software development in the regulatory and clinical

Jeffrey Klein

sides of the pharmaceutical industry, as well as in healthcare and manufacturing. His area of expertise is enterprise content management strategy and approach for pharmaceutical companies. Klein has organized, planned and managed global document management systems and the associated standards, technology and processes. He has built and managed a global delivery organization and product development group that focuses on bringing leading-edge content management solutions to market for the life sciences industry. Klein can be reached at jklein@fcg.com.

Information overload in the life sciences industry is driving a pressing need for better content management. Companies are overwhelmed by content across the business, from clinical trials to regulatory submissions, to manufacturing, to marketing, to sales.

All of this is made even more complex given that the vast majority of content is unstructured: 80%-90% percent, according to analysts.

Life sciences companies have had to navigate complex internal and external pressures that further affect how they gather, store and access content. Among the difficulties besetting the industry are disruptions from mergers and acquisitions, shrinking pipelines, breakthrough technologies in research and development and global regulatory demands.

Despite all this, many life sciences companies have shied away from full-scale enterprise content management, choosing instead to deploy silos of departmental solutions. But today's pharmaceutical enterprise needs to operate without boundaries: between functions, divisions and operations and across the healthcare value chain.

An organization that adopts a collaborative model such as this might be termed the "enlightened enterprise."

Finding Enlightenment

As the name implies, an enlightened enterprise is one that shares information, knowledge and data across the organization and with other partners in the chain. It is an organization that is transparent, extended and intelligent. The underpinnings of an enlightened enterprise include a clear and actionable enterprise content management (ECM) strategy that reflects an enterprise-wide, solution-deep philosophy.

In the enlightened enterprise, ECM takes place in a highly collaborative environment in which everyone benefits from a systematic method of managing, storing and accessing content that reduces total cost of ownership and increases return on investment. It starts with the enterprise's need for content management, knowledge management and collaboration.

ECM is supported by, firstly, a number of enabling technologies and tools; secondly, an underlying electronic document management system that easily integrates with other enterprise systems; and thirdly, supporting processes that can help life sciences organizations achieve incremental and immediate value from enterprise investments—not just departmental or functional benefits. ECM ultimately drives the way the entire enterprise can get smarter by leveraging the information that is hidden in systems spread across functions and around the globe.

Breakthroughs in ECM technologies enable enterprises to devote their time to bringing products to market rather than spending it on non-strategic areas such as data gathering, storage and retrieval. While some companies have taken the first step toward ECM by incorporating data from all of the business units in one repository, few have made the leap to a collaborative strategy that encompasses both internal and external parties or that considers interdepartmental relationships such as how savings in one area might lead to expenses in another.

However, while an ECM strategy will benefit companies in the long term, accomplishing this is neither quick nor easy. Companies must appreciate that ECM is a significant undertaking and there are important lessons to be learned in addressing content management in the life sciences. By taking advantage of the expertise of life-sciences specialists and of the experience of companies that have implemented ECM, companies can draw upon industry best practices as they press forward with efforts to manage their data, documents and knowledge.

Discovering the 10 Best Practices

Though the process of ECM implementation is time-consuming and will vary from company to company, there are several critical steps that an organization should take to facilitate ECM. The steps divide into 10 best practices—gleaned from industry leaders—that demystify the process. In addition, checkpoints should be put in place to ensure that each step is moving forward. A steering, or strategy, committee should be set up to oversee the program and identify bottlenecks, and it should include high-level representatives from throughout the organization, say Forrester analysts.

1. Establish the Vision

Start with an enterprise vision to ensure that the company will be taking a consistent approach to the content management solution. In establishing the vision, the representatives must recognize the importance of acknowledging the organization's pain points and its high-priority areas for the business. By developing an enterprise-wide goal that addresses what the enterprise is looking to achieve, the representatives will be better positioned to set in motion the process of sharing information across the industry silos that have prevailed.

2. Implement a Point Paradigm Approach

With the vision in place, it will be necessary to think strategically about aligning the organization for change. Rather than trying to solve the enterprise's content needs in one fell swoop, a company should start with the biggest pain points in the organization and allow the solution to evolve. At the same time, however, it is important to ensure that the starting points have a broad-enough scope and that there is high-level buy-in to ensure that the organization as a whole embraces the process.

3. Harmonize and Standardize Globally

It is important to build and design solutions step-by-step in a way that best fits the organization's needs and global reach. That will help the company determine the best repository design from an enterprise sales perspective. While harmonizing across the enterprise is the optimum goal, there might be instances when differences in vertical divisions will not make such harmonization

possible. In these cases, those vertical departments should be given latitude to define their specific requirements. Nevertheless, it makes sense to establish a standardized guiding principle that can be built upon and tailored to each vertical team's requirements.

4. Select Enterprise Architecture Tools

Enterprise architecture refers to the data elements the enterprise is seeking to manage; how those elements interrelate—including data and metadata (or data about data); and how they support the enterprise's objectives with regard to the way the information is managed, stored and accessed. The technology suite that will support the ECM solution must be adaptable to the enterprise's needs and should meet end-user training needs. It should also have a tool-set that is predominant in the industry so it can be used not only by those across the organization but also by external partners, vendors and customers. The tools an enterprise selects should be consistent throughout each phase of implementation and as project updates occur. In addition, companies should have a centralized IT function to support implementation and maintain a common platform.

5. Pick Off-the-Shelf, Configurable Products

A series of off-the-shelf enterprise suites, referred to by analysts as smart suites, have emerged in the ECM marketplace in recent years, particularly in the life-sciences market. Analysts from research firm Gartner Inc. recommend that off-the-shelf suites make it possible to substantially reduce integration costs for support of extended enterprise processes for knowledge management, content management and collaboration. Those making the IT decisions should take the time to evaluate the choices available, selecting a package that is flexible and configurable to the enterprise as a whole.

6. Avoid Customizations

Past experiences have left companies wary of expensive and inflexible customized solutions. Not only can implementation, updating and migration to new technologies set a company back tens of millions of dollars, proprietary data formats can also create enormous difficulties with regard to sharing data across different platforms. Over the years, life sciences companies have adopted a mixed bag of information technology solutions from multiple vendors with proprietary data formats, making it next-to-impossible for data to be shared across the different platforms. Standardized systems embrace industry best practices and are designed to meet the growing regulatory requirements that weigh upon the industry.

7. Organize a Shared Service Model

From early on, it is important to bring in support staff who will manage and maintain

FCG Best Practices In Action

A top-10 pharmaceutical company began ECM implementation by building its vision, with a focus on rapid return on investment from an enterprise perspective. The company standardized on an enterprise platform and from that developed a two-pronged approach: (1) Process-centric content management for the core business needs within the organization, including research and development data, submission data, manufacturing for standard operating procedures and marketing and sales material for advertising and promotion; and (2) a "process-lite" approach, or lightweight document management system, for internal operations such as legal contracts, budgetary information and human resources policies.

A leading pharmaceutical company began with a solution for submissions and global manufacturing and quickly found that because the solutions were scalable, they could share information across silos and expand into other arenas without interruption to workflow. In addition, the company has since implemented a content management solution for sales and marketing. The adoption of interoperable solutions across departments has led to savings of more than $1 million a year from cuts to production costs and has improved regulatory compliance through better access to information.

the system after it goes live. Failure to bring such key support staff on board early on is often the reason systems are not embraced after initial deployment. Setting up a shared-services model helps with corporate buy-in and systems standardization, which in turn will help propel the success of the solution.

8. Assemble Well-Defined Teams

Deploying a large-scale initiative to manage a company's documents and data will hinge on the quality and commitment of the people put in place to initiate and carry out the project. It is therefore vital to clarify roles and responsibilities and ensure strong, continuous communications throughout the program. First, the project team is paramount. The deployment teams must understand the geography, where requirements might differ, and whether there are limitations or benefits to certain aspects of the project. Before deployment, it is important to ensure that users are properly trained and that any gaps between the project team and end users have been bridged. Finally, the support team must be well-defined and established before rolling out the ECM solution.

9. Don't Overlook Migration and Deployment

Companies often forget about the migration effort until the very end. This is a mistake because in almost every case, deployment turns out to be more complex than companies anticipated. Failing to plan migration and deployment early enough will mean important content may not have been transferred to the new ECM system, thereby defeating one of the key purposes of an ECM solution, which is to have

centralized access to all of the knowledge, information and data that exist within the organization and with partners. Early on, the decision-makers should determine which tools should be migrated to the new content management system and which should be retired.

10. Keep Ownership at the Business Level

ECM should not be seen as an IT initiative. Despite the huge amount of money an enterprise might invest in an ECM solution, such programs often fail when a project is viewed solely from a technology perspective rather than as a business function that is supported by technology. With ownership at the business level, it becomes possible to derive the drive and passion needed to ensure the solution is embraced across the business.

It's All in the Planning

While ECM as a concept is becoming increasingly recognized for the value it can bring to the life sciences industry, disjointed decision-making and poor implementation have left many companies disillusioned about what ECM can do for their organization. Careful planning that begins at the senior level and permeates throughout the organization as well as adherence to best practices will enable life sciences companies to avoid the pitfalls of systems updates and become truly "enlightened enterprises." ▮

ECM: Making Process Possible

By Tom Jenkins, Chairman and CEO, Open Text

Tom Jenkins is the Chairman and Chief Executive Officer of Open Text, a market leader in providing enterprise content management solutions that bring together people, processes and information in global organizations. Jenkins has served in a variety of technical and managerial positions at computer hardware and software technology intensive growth companies during his career including design engineer, sales manager, general manager, chief operating officer, president, CEO and chairman. Jenkins is the author of "Enterprise Content Management, What You Need To Know," published in October, 2004.

Tom Jenkins
CEO

Over the past few years, enterprise content management (ECM) has emerged as a defined enterprise software category, one that is clearly capturing more and more attention in executive suites. The fact that KMWorld is publishing this white paper about ECM best practices for the fifth year in a row is evidence that ECM is well established. As CEO of Open Text, I recently published the definitive book, "Enterprise Content Management: What You Need to Know," to help business leaders understand the scope and context of ECM and why it is important to the success of their businesses: *www.opentext.com/kmworld/ecm-book*. We're all familiar with the history of market consolidation and the demand for more tightly integrated enterprise applications. The new focus on corporate governance and a stricter regulatory environment has made us aware of the need to define, secure and control the process by which information is created, managed and retained within our systems.

However, ECM is much more than a collection of tactical solutions to solve today's trendy business problems. It is a strategic approach, a powerful intersection of fundamental business benefits that helps organizations turn their content into competitive advantage. Let's examine these benefits to understand the true value of an ECM system.

Considering the evolution and consolidation of content technologies that have shaped and refined ECM, its value proposition is—as you might expect—compelling and powerful. ECM solutions combine people with information to make truly end-to-end processes possible, delivering improvements across the entire business and transparently managing risk while driving performance.

ECM Makes Process Possible

Everything that happens within organizations today is more or less a business process. Some processes (like hiring and ramping up a new employee) are relatively easy to structure and automate, because each instance is much like the previous. Other processes (such as bringing a new product to market) are more difficult to structure because a wide array of contributing factors make each release different. In many organizations, the way in which processes are designed to work is often far removed from the reality of how they actually function.

Like many project-management challenges, launching a new product involves complex groups of interconnected people

ECM enables key processes such as launching a new product to be managed end-to-end.

working independently toward a common goal. The preparation phase of the project involves tasks such as pricing, marketing and a kick-off, and demands creativity, communication and coordination. The implementation phase of the project includes tasks such as promotion, training and the launch itself, and in contrast requires structure, precision and flawless execution.

The business case for ECM begins with the fact that the traditionally independent technologies that enable these activities, like program management, team support and sales force automation, can now be combined on a secure, integrated platform. This unification enables key processes—like a product release—to be managed from beginning to end. Promotion, for example, which can span both the preparation and implementation phases of the product launch, can be closely managed in relation to other activities.

When a last-minute change in channel strategy is required, the planned promotional activities must also be changed. The dissemination of the right information to the right people at the right time is an inherent part of the change-management process. The ability to tightly manage and execute processes translates directly into shorter cycle times and reduced costs. After all, if you can avoid a print run of user manuals because a last-minute change wasn't identified and sent to the translation agency, you can see immediate and significant savings.

ECM Improves the Entire Business

What differentiates ECM from the content technologies that it eclipses is its widespread relevancy. A robust service-oriented architecture—in simplest terms, a two-tier model of foundation and application services—ensures that organizations can deploy a targeted solution now, and easily extend it to an enterprise-wide deployment later. In other words, ECM not only makes
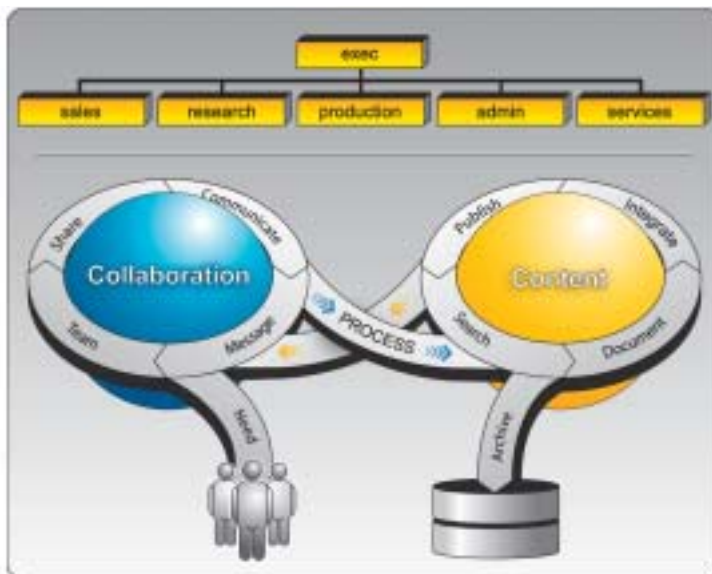
process possible, but it makes it possible for every part of the organization.

A comprehensive ECM system comprises foundation services upon which specific application services are built. The foundation services are relevant to a wide range of business problems and include enterprise search, records management and archiving. Application services, alternatively, target a very specific business need, such as accounts payable processing, customer service optimization or employee accreditations. This two-tiered structure allows ECM to be a shared platform on the one hand and deliver targeted, customized solutions on the other. By combining the necessary application services and delivering a solution with a targeted, consistent interface, businesses can easily deploy multiple, even divergent solutions on top of a single, shared platform.

Consider the finance and marketing departments within an organization. Although tasks are very different, they share certain fundamental requirements. Both departments:

◆ Create and consume tremendous amounts of information;
◆ Require significant coordination between individuals; and
◆ Exercise tight control over the materials they produce.

The foundation services provide a common set of functionality to address these shared needs, such as storage management, records management and document management.

But when it comes to addressing department-specific needs, the requirements diverge sharply. The accounts-payable function requires integration with ERP systems, invoice scanning capabilities and workflow for exceptions handling. The field-sales support function in the marketing department requires shared workspaces, offline synchronization and discussion groups.

Because every ECM solution is built upon the same robust foundation services, companies may begin by deploying a specific application today—such as accounts payable processing or field sales support—to meet an immediate business need. Later,
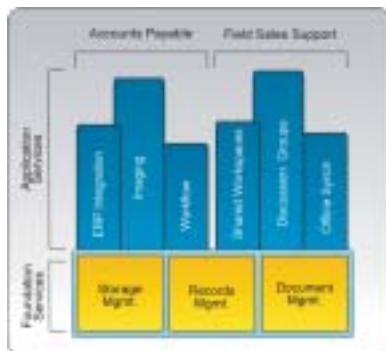
ECM makes process possible for multiple, even divergent, parts of the organization.

Real World Case Examples

BT, a UK communications solutions provider, turned to Open Text to develop an integrated communications network for every stage of product development, from discovery to post-launch evaluation. BT's ECM solution enabled the organization to capture, store and reuse its intellectual assets, and establish virtual communities for collaboration. The enhanced levels of communication throughout the organization ensured a clearly communicated company position, improved employee productivity and satisfaction, and enhanced corporate governance through increased process visibility.

Siemens AG, headquartered in Munich, Germany, with more than 400,000 employees and a presence in more than 190 countries, has one of the most geographically complex and comprehensive ECM deployments in the world. Deployed in a single department more than a decade ago, their ECM solution from Open Text now extends to partners and customers while providing streamlined processes, collaborative workspaces and shared content to eight unique business areas, including power, transportation, medical, lighting, finance and real estate and more.

Genzyme Corporation, to ensure the careful management of FDA submissions information, relies on Open Text ECM solutions to help project teams work together, manage and share information, and provide processes and controls to ensure careful management of that information. Robust document management capabilities support the company's compliance with the FDA's mandate for electronic records requirements, and has quickly become a fundamental part of the way that Genzyme does business.

they can leverage their investment in the underlying foundation services to deploy additional targeted applications and ultimately to deploy ECM enterprise-wide.

ECM Manages Risk While Driving Performance

The two-tier structure of ECM solutions provides a unique and extremely significant business benefit. Because ECM solutions are built on this robust foundation of shared services, compliance capabilities can be transparently embedded into business processes. When compliance becomes an integrated, indistinguishable part of daily operations, organizations can manage risk while driving performance. The goal of every business, after all, is not to be compliant, but to be successful.

Consider e-mail. Recent court rulings and emerging regulations demand that e-mail content be managed and retained like other corporate records. But rather than imposing changes in system behavior upon users, an ECM system can transparently insert compliance capabilities into the standard e-mail service. E-mail content is archived and managed as required, while users continue to work as they always have.

ECM accelerates the natural progression of IT from routine processes to the real world of complex, often chaotic, business operations. Without ECM, processes such as product launches and e-mail management require specialized point solutions that duplicate a host of similar services, in a fragmented and costly system environment.

By measuring the improvements in business processes, organizations can identify the direct benefits introduced by an ECM solution. Providing better access to information enables customer support calls to be resolved immediately, eliminating the need for costly call-backs. Interconnecting project activities to streamline go-to-market activities accelerates product releases. Offloading e-mail content to cost-effective storage hardware enables organizations to reduce e-mail server investments, without sacrificing user productivity.

We believe that the next great idea, the next breakthrough, the next innovation resides with the collected knowledge of connected people. That's why we established the Open Text ECM Leadership Forum: *www.opentext.com/kmworld/ecm-events*. This ongoing series of events across North America gives you the opportunity to meet with our sponsors, customers and our own ECM experts, to receive your copy of "Enterprise Content Management: What You Need to Know," and learn how you can begin turning your content into competitive advantage today. ∎

Maximize User Satisfaction: Five Steps to ECM Success

By Ethan Eisner, VP of Marketing and Strategy for Corporate & Federal Markets, LexisNexis

Ethan Eisner

Ethan Eisner works in the Corporate & Federal Markets business of LexisNexis. He is responsible for leading the market development and marketing strategy teams for the Enterprise & Library division. Eisner has more than 15 years of experience in marketing and consulting with organizations such as Worknowledge, The Franklin Mint and Bain & Company. Ethan holds an MBA from the Wharton School of the University of Pennsylvania and a BS in Quantitative Analysis from The Pennsylvania State University.

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Implementing an enterprise content management (ECM) system to capture the ever-increasing number of documents produced by your organization can be a daunting task. We have all experienced, or heard from colleagues, the horror stories of limited end-user acceptance, poor search results, missing data, irrelevant archives and widespread confusion surrounding internal content repositories. The good news is that we can learn from these past experiences.

The time is ripe for companies to take a step back and look at their ECM strategy from a more holistic view. The ultimate goal for any ECM system is to increase efficiency and productivity through end-user satisfaction. Too often this objective is obscured by a focus on aggressive release dates or "bleeding edge" technology. The technical features of an effective system and the speed at which you deliver that system to end users are both factors in determining the success or failure of an ECM release. However, these requirements are merely a means to an end—specifically, end-user adoption and endorsement.

To truly deliver a return on the significant investment necessary to build an effective ECM system, you need to first develop an understanding of the information workflow within your organization, including team structures, knowledge sharing, analytical techniques and fiscal compliance deliverables. Far more than merely manipulating and storing data, content management is about the bottom line. And you will positively impact the bottom line once you've grasped the concept of the interconnected nature of your ECM system within and around your organization's workflow.

A Five-Step Approach

To develop such a holistic view and to create a successful roadmap for managing, organizing, integrating and delivering content, this five-step approach can help:

1. Establish a cross-functional implementation team, with one clear leader, to develop a broad, representative ECM strategy. Regardless of which cost center owns ECM deployment, team members should include representatives from all business units/departments, including IT, the information center/corporate library, an executive sponsor and, if possible, an outside advisor to provide perspective and mediation. The multifunctional nature of this team ensures a varied approach to knowledge management that targets the needs of broad user groups and avoids the often lopsided, one-size-fits-all solutions that really don't fit anyone.
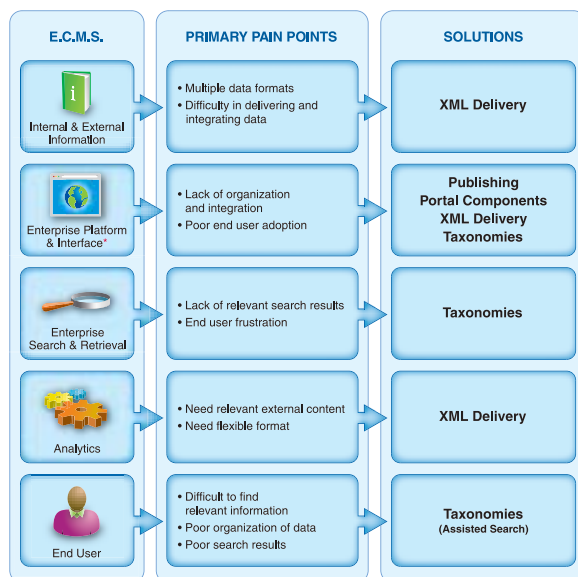
2. Survey your end users prior to, during and after investigation and implementation of the ECM system. It is critical to survey at multiple points to establish benchmarks and build an ROI story. Treat internal customers just like you would external customers—their satisfaction with the final "product" is the true measure of your success; their adoption of the ECM system ultimately impacts the bottom line productivity and profitability of your organization.

3. Clearly identify all aspects of the overall ECM system so that each basic element is adequately incorporated into the final release—even if it is not delivered in a single stage. Include applications and systems, such as e-mail, shared directories, existing portals, etc. Keep in mind this is the ideal. Unfortunately, many ECM systems are developed piecemeal, which leads to disjointed implementations and poor overall performance. Although developing a strategy at the mid-point instead of the beginning is a big challenge, it isn't too late. At whatever point you find yourself, define the blueprint of the entire system before trying to build any one piece of it.

Your ECM blueprint should also include the known "pain points" connected with each piece of the system, so that these issues can be adequately addressed before release. Conduct *discovery* during the initial phases of strategy development to identify:

◆ Sources of content (both internal and external);

ECM System Pain Points and Solutions

E.C.M.S.	PRIMARY PAIN POINTS	SOLUTIONS
Internal & External Information	• Multiple data formats • Difficulty in delivering and integrating data	XML Delivery
Enterprise Platform & Interface*	• Lack of organization and integration • Poor end user adoption	Publishing Portal Components XML Delivery Taxonomies
Enterprise Search & Retrieval	• Lack of relevant search results • End user frustration	Taxonomies
Analytics	• Need relevant external content • Need flexible format	XML Delivery
End User	• Difficult to find relevant information • Poor organization of data • Poor search results	Taxonomies (Assisted Search)

* For example: Internet, Intranet, Portal, Document Management System, CRM, Supply Chain Management,

◆ Processes for content integration and linking;
◆ Interface and display options;
◆ Search and retrieval capabilities;
◆ Advanced analytics; and
◆ End-user acceptance.

Discovery Questions—*Existing Solutions, Platforms and Systems*

◆ What types of content (both format and focus) do you create/store? How much data do you have in your personal/team archive? How much new data is created each month/week?
◆ How do you/does your team currently manage these documents? Do you store them in a shared directory or database?
◆ Who uses/reuses these internal documents? Who should be using them?
◆ Do you have a document retrieval process?
◆ Do you have a team portal or intranet site?

Discovery Questions—*Potential Pain Points*

◆ Do you have duplication of effort in document storage?
◆ Do you have masses of unorganized text documents (i.e., reports, training, presentations, press releases) that you want to store and reuse as a team?
◆ Would it save you money/time if you could retrieve past information? That is, would access to archived information allow you to get your product to market faster, save hours per employee in relation to normal workflow or decrease ramp up and training time for newer employees?
◆ Do you need to quickly retrieve documentation to answer inquiries, such as for government compliance? Does this monopolize your department's time without adding value?

If you answer these questions in the early stages, it will help direct vendor selection and development efforts.

4. Develop quantifiable ROI measurements and benchmark those metrics prior to system development and roll-out. ECM implementation involves a variety of software applications, crosses different business units/departments and requires very large organization-wide investment, often reaching into the millions of dollars. Despite this significant investment in time, resources and funding, many organizations do not develop metrics for determining end-user adoption, usage and preference—measures which would clearly demonstrate the success or failure of the system, as well as identify areas for improvement. Beyond anecdotal evidence, metrics should include:

◆ Search and response times;
◆ Database access statistics;
◆ Spend amounts on content creation versus content management; and
◆ Overall user satisfaction.

Also, when calculating against an investment, don't forget to include support costs

Example Solutions

Organizing Data

Background/Challenge: A media company needs to streamline its indexing process. The library division realizes that its manual indexing process is draining resources and creating a lag time of content delivery to aggregators.

LexisNexis® Solution/Benefit: With the LexisNexis SmartIndexing Technology™ and taxonomy solution, the library now automates its indexing process to free up the library staff's time to focus on other critical projects and reduces the time it takes to deliver content to aggregators.

Knowledge Sharing

Background/Challenge: A purchasing department of a global consumer packaged-goods company needs to improve the effectiveness of its intranet site and knowledge management process. The current system is affecting productivity because materials are not always archived and employees cannot find the right information quickly. And a lot of information about vendors is not being shared across the different purchasing groups.

LexisNexis Solution/Benefit: With the LexisNexis SmartIndexing Technology™ the purchasing team improves its knowledge sharing. Enhanced document linkage and indexing within its portals allows it to consolidate spending pools. Now, the team saves money by taking advantage of bulk discounts with vendors. Also, the amount of time spent searching for information is reduced dramatically. The LexisNexis® Publisher tool allows a company to customize and display current news topics for different end users via different platforms, including its Web site, intranet, portal and even BlackBerry Wireless Handhelds™. Now, the right information is delivered to the right people at the right time.

such as maintenance contracts, additional software updates and other hidden internal IT costs (network and hardware) beyond those associated with the initial ECM software and implementation costs.

5. Identify and evaluate "ECM secret weapons"—third-party content and analytics products that will increase the value of your ECM system, thus driving up ROI. Relevant external content and robust analyses provide actionable information that complement internal data, creating a richer knowledge environment for end users. Again, when adopting a holistic ECM strategy, it is best to consider these features before roll-out. However, they can also serve to rejuvenate an existing underutilized ECM system. Often, these added features provide the hook to engage end users and create preference for—even dependence on—the ECM system.

The ECM secret weapons include:

◆ Current awareness content customized to fit the needs of specific departments/teams and end users. Delivers updates directly to the ECM system, resulting in a truly integrated, content-rich experience for the end user.
◆ Integrated analytics incorporating information from both internal and external data to offer not just facts but true answers to end users. Facilitates the process of turning data into actionable knowledge.
◆ Metadata and structure applied automatically to categorize and filter content. Metadata created via a controlled vocabulary and managed within a taxonomy produces the

structure upon which to build advanced functionality, such as alerts, directories and links.
◆ Advanced search and retrieval, built on rich document metadata, ensures access to the most relevant content. Effective retrieval eliminates duplication of effort while promoting information discovery and extraction across departments/teams.

Ultimately, by using this five-step approach, your holistic ECM strategy will encompass all aspects of the content and information workflow of your organization. Rather than paralyzing your end users with information overload, your system will liberate them through comprehensive, effective and immediate access to pertinent, up-to-date and actionable knowledge. ❚

Better PDF for Business

By Robert Weideman, Senior Vice President, Marketing and Product Strategy, ScanSoft

The single greatest challenge to streamlining document-based processes in business is the fact that there are two incompatible dominant electronic document formats—Microsoft® Word and the Adobe portable document format, or PDF. Both of these formats are pervasive because they each deliver value within different phases of the document lifecycle—Microsoft Word is a superior tool for creating and sharing documents, while PDF has distinct advantages for the sharing and storing of documents.

Microsoft Office provides millions of corporate, government and academic professionals a rich environment for document creation and collaborative authoring. Unfortunately the editable Microsoft Word file format is not well suited for electronic publishing and online document storage.

On the other hand, PDF has expanded from its traditional roots as a design and pre-press tool to an electronic file sharing standard providing business users with a format that is well suited for the distribution, viewing and archiving of documents.

Nearly every professional office environment uses Microsoft Word and PDF at different points during the lifecycle of a business document. The incompatibilities of these two dominant formats create inefficiencies.

The pervasiveness of Microsoft Word (400 million) and Adobe Acrobat Reader (500 million) gives rise to the need for document management solutions that enable the seamless movement of documents between the two dominant formats. This may sound simple enough, but the many challenges to finding the right solution for your organization can be daunting.

Cost of Manual PDF Conversion

Average knowledge worker salary = $80,000

◆ 1/3 of productive time is spent recreating documents and information (Coopers & Lybrand);
◆ 5% of that time is tied to PDF productivity issues (ScanSoft estimate);
◆ Yields a PDF inefficiency cost of approximately $1,300 per year, per employee; and
◆ If PDF files could be automatically converted into Microsoft Word—complete with text, columns, tables and graphics—a 500-person organization could recover as much as $650K annually in lost labor.

Nearly all business documents are created and edited using Microsoft Word because it augments powerful authoring capabilities with efficient revision tools. With Microsoft Office, teams of people can easily participate in the creation of documents because changes and comments are tracked automatically.

However, the recipient not only has the ability to change the document, they can also see hidden information within the source file itself. For example, the Track Changes feature in Microsoft Word retains the draft's or drafts' text and data in the Word document, providing others with a way to learn perhaps more than the author really intended to share.

Sharing documents as PDF overcomes this issue because the conversion of Word and PowerPoint files into PDF "flattens" the document, stripping it of hidden and potentially sensitive information in the process. This is just one of the reasons that PDF has become a popular way to share and store business documents.

Sharing electronic documents as PDF provides professional offices with other significant benefits. PDF documents are compact and easy to e-mail, can be universally viewed on the Web and print just as if they came from the original application. PDF files have compressed file sizes, password security, 128-bit encryption, and support watermarks, bookmarks, hyperlinks and more. PDF files also allow others to view and print a document without the need for the original authoring application. This is especially valuable for sharing documents from highly specialized applications, such as photo editing, layout, CAD, drawing, accounting and contact management.

The portable document format (PDF) has indeed become the digital equivalent of physical paper. With over 500 million downloads of Adobe Reader, and more than 1,200 vendors delivering solutions based on the industry standard, PDF is certainly pervasive.

PDF does things that you can't do easily—or at all—with the Microsoft Word (.doc) and other source formats.

◆ PDF files can be smaller than the original file. Converting PowerPoint and other formats into PDF often enables the sharing of documents that otherwise would be too big for e-mail servers that have size limits on attachments.
◆ PDF is less susceptible to viruses than other formats. Word and other applications can carry harmful viruses that are not as easily attached to a PDF file.
◆ PDF "flattens" a document. Converting to PDF removes hidden information contained in the source format, adding an important level of security to sensitive documents.

> *"Nearly every office uses Microsoft Word and PDF at different points. But the incompatibilities of these two dominant formats create inefficiencies."*

Robert Weideman leads the global marketing, product marketing and product strategy teams for ScanSoft's Productivity Applications division. From 1999 until 2001 Weideman was vice president of marketing for the Adobe Systems' portfolio company Cardiff Software, playing an instrumental role in the invention of LiquidOffice™ and establishing the W3C XForms XML standard. From 1991 to 1999, Weideman was vice president of marketing for TGS.com, helping to establish the Internet 3D standard VRML, and to deliver the world's first 3D browser, WebSpace™ Navigator. Weideman holds a B.S. in Business Administration, Computer Information Systems from San Diego State University.

Robert Weideman

- PDF is not an editing format. PDF enables business documents and forms to be shared in a way that prohibits changes to the original.
- PDF documents look the same online as printed. Web pages will print differently from browser to browser and system to system.
- PDF documents can be secured more easily than other formats. The ubiquitous Adobe Reader and growing number of third-party PDF products enable the use of secure PDF documents.
- PDF allows others to view documents without needing the authoring application. While Word, Excel and PowerPoint are ubiquitous, drawing, CAD, accounting and other specialized applications are not. Sharing as PDF removes the dependency of the recipient to have, and know how to use, specialized applications.

What Business Wants in PDF

ScanSoft conducted a survey of business professionals, and found that 44% felt that being able to create PDF files from Microsoft Office was "extremely important," with an additional 28% saying that it was "important." In the same survey, 33% felt that creating PDF files from other PC applications was extremely important, with an additional 34% stating that it was important. If more than 60% of business professionals surveyed have a strong need for creating PDF, why are fewer than 10% of business desktops empowered with the ability to create PDF files? In the survey, ScanSoft discovered that business users wanted a solution that has the price, features and performance designed specifically for office professionals. Existing solutions, including Adobe Acrobat Standard ($299) and Adobe Acrobat Professional ($449), had robust features needed by design professionals, and lacked features needed by business, such as converting PDF into fully formatted Microsoft Word documents.

Fortunately, the file format for PDF is an open standard, meaning that companies that want to develop PDF solutions independent of Adobe can do so. This has led to an ever-increasing number of PDF products; many designed specifically for professional office environments and priced to enable PDF on every business desktop.

Turn Your Paper into Gold

Using paper is a real drag—one that reduces personal productivity, increases operating costs and inhibits an organization's ability to excel. This, of course, is not news. Industry experts have told us for more than 10 years that billions of dollars are spent each year manually routing, storing and managing paper-based processes. Over those same 10 years we have seen a growing number of

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ScanSoft Solutions

Challenge #1

Address the historical incompatibility between the two leading electronic document standards, Microsoft Word and PDF, which causes unnecessary and costly manual re-keying of information and slows down the document creation process.

ScanSoft solution #1

PDF Converter, a utility created through a collaboration between ScanSoft and Microsoft that instantly converts existing PDF files into fully formatted Microsoft Word documents, forms and Excel spreadsheets.

Challenge #2

Deliver the ability to create PDF files to every business desktop—affordably.

ScanSoft solution #2

ScanSoft PDF Create! is the fast and reliable PDF way to enable PDF creation from any PC application, with the price, features and performance that allow it to put the power of PDF on every business desktop.

Challenge #3

Replace manual paper processes with electronic documents—but without the expense and complexity usually associated with paperless systems.

ScanSoft solution #3

ScanSoft PDF Converter Professional is a complete solution for creating, converting and editing PDF documents. It enables form filling, document assembly and annotation—as well as digital signatures.

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organizations leverage dedicated production document capture systems to process contacts, loan applications and invoices. But what can be done about the larger problem? What can be done to automate the tons of paper used by every office worker, in every office, every day?

Until recently, significant technology barriers have made it impractical for organizations to put paper document routing at the fingertips of every office worker. The need to acquire and connect scanning devices to each worker desktop was costly, limiting access to desktop scanning to specific departments or job functions. Some organizations tried to apply comprehensive distributed production capture products to address the problem, but quickly found that the cost of training every office worker in complex "batch classification" and "metadata" constructs made the proposed solution unworkable.

In the mid 1990s, advances in network infrastructure (the Internet), desktop clients (browsers) and application connectivity (TCP/IP) combined to make digital document sharing a universal productivity tool—via e-mail, the Web and more. A parallel can be drawn today in technologies and products that have come together to finally allow every organization to "turn paper into gold." These include advances in:

1. Network infrastructure
- Universal scanning via network multi-function devices

- One-button "Scan-to-Desktop"

2. Desktop clients
- Easy-to-use office productivity applications, integrated with Microsoft Office
- Paper and PDF document conversion solutions—for document repurposing, OCR indexing or archiving
- PDF-based document annotation and assembly tools

3. Application Connectivity
- Drag & drop document routing—to people, applications and devices
- XML data sharing
- Affordable document management

Digital copiers and networked multifunction devices—yes the ones you already own—deliver the power of document capture to every worker. Easy to use and affordable desktop applications, such as ScanSoft PaperPort and OmniPage, add the desktop capabilities needed to make scanning easy and productive, while Microsoft Office and PDF provide the formats needed for collaboration, publishing and archiving. The paperless office has arrived. ∎

Affordability in Content Management and Compliance

Johannes Scholtes, President & CEO, ZyLAB North America

Dr. Johannes C. Scholtes is the president and CEO of ZyLAB North America LLC and is in charge of ZyLAB's global operations. Since Dr. Scholtes took over the leadership of ZyLAB in 2002, ZyLAB has enjoyed double-digit expansion as well as consistent annual growth in profitability.

Johannes C. Scholtes

Before joining ZyLAB in 1989, Dr. Scholtes was an officer in the Intelligence Department of the Royal Dutch Navy. Dr. Scholtes holds a M.S. degree in Computer Science from Delft University of Technology (NL) and a Ph.D. in Computational Linguistics from the University of Amsterdam (NL).

The impetus on organizations to be transparent and fiscally prudent continues to intensify, motivated by the constant drive for more competitive efficiency and the need for compliance with corporate governance initiatives. Therefore, most organizations have moved to implement some type of content management system (CMS) to handle their data, such as RMA, DMS, Web-content management or a combined solution.

Because the types and volume of information continue to expand, CMS complexity and sophistication have grown in parallel. As a result, organizations can become overwhelmed when evaluating solutions to address their specific content management needs, particularly considering the hundreds of vendors offering a wide variety of content management tools. To compensate, potential users often end up evaluating CMS quality based upon its capacity to handle what is perceived as the most complex and/or "hot" item in their suite of information materials—such as massive e-mail collections, Web content or digital rights management—rather than addressing the straightforward core capabilities the organization typically requires. Content management is a modular process, which should be developed to support new media in the same functional way that has for many years been used to handle paper files.

Complex Content Management Debunked

Focusing on complex data types can lead organizations to assume they must overspend on large, overly complex systems to handle all information processing activities. Organizations can feel like there's no choice but to endure the significant associated costs: long implementation and training times, huge IT infrastructure costs, significant maintenance requirements

and so on. E-mail management, for instance, can be especially intimidating because it is often positioned as operating under different guidelines than other information that companies archive, particularly in terms of significant and expensive storage requirements.

This perception leads to another point: why, for instance, do so many vendors' e-mail solutions focus on mass storage of e-mails if this type of narrow approach has long been viewed as inappropriate for other kinds of archived data that companies need ready access to? For any type of data, a "just store everything" approach can give the impression of being well-positioned for information retrieval in case of audits, for example, but it deflects attention from critical concerns about efficient, timely and accurate retrieval of specific, relevant information.

Moreover, "just storing everything" increases the chance that information repositories become *liability vaults*: in other words, information is retained that doesn't, by law, need to be kept, which increases risk, and overall competitiveness diminishes in terms of search accuracy, retrieval efficiency and cost-effectiveness. In addition, because compliance regulations view all company information equally, it's counterintuitive to process one type of data differently from others. Compilation and retrieval of information slows down and assurances of accuracy are compromised.

Because some organizations become so intimidated by what they see as overly complicated content management factors and an imposing breadth of accountability, they may view the need for a CMS as a catalyst to reorganize their entire IT infrastructure. This attitude assumes that the full range of content management needs is readily apparent and that resources are in place to tackle it in

one go. ZyLAB argues that a scalable, incremental approach is preferable in nearly all instances because it anticipates the "organic" adjustments organizations must routinely make as their needs fluctuate. Organizations and compliance regulations are so dynamic that change must be accounted for, and any selected CMS must have the adaptability to minimize the cost implications of those changes. Scalable approaches are also better positioned to handle one type of content that many complex CMS systems cannot: paper.

Simplicity as a Driver for Scaleable CMS

This viewpoint is not an advocacy of *dumbing down* CMS functionality or, worse, converting everything to paper—far from it. Multifaceted organizations operate in complex ways, requiring solutions that support a variety of processes, essential activities and associated data. If the evaluation criteria for the most complex components in CMS are viewed differently than other content management components, the level of complexity required by most organizations, particularly small- and medium-sized businesses, is overstated, and the importance of favoring simplicity as a reference point is underestimated. At the core of any simple and effective solution lies its ability to address the straightforward, yet challenging, issue that still affects many organizations: how to efficiently archive, search, organize and retrieve information from thousands of pages of paper. The fact remains: the paperless office still does not exist and will not.

Corporate governance regulations consider (paper) records management very important. Users can be trained to make proper compliance-based decisions about keeping and destroying paper, and the logic driving these decisions is generally consistent with long-held approaches to handling paper. Users can save relevant documents within set retention periods, and they can decide if they

Key Considerations for Evaluating Content Management Systems

For over 20 years, ZyLAB has worked alongside organizations with immense data repositories to develop the best archiving, searching and retrieval solutions. This experience has shown that, although attention to specific types of content management issues may ebb and flow, core concerns remain constant and need to be addressed:

◆ Just because e-mail is, according to a recent IDC report, the "elephant in the corner," doesn't mean its management should be intimidating or viewed as exceptional within a larger content management context. In fact, efficient and targeted (project-based) storage solutions—focused on exporting PST files into an open, XML-based ZyIMAGE Webserver, for instance, rather than on wholesale dumping of Exchange servers in large database repositories—enable users to efficiently conduct a breadth of integrated searching and records management activities within their entire content management infrastructure. Security and back-up activities are not compromised.

◆ The paperless office does not exist nor will it any time soon. The fact that paper still exists in mass quantities demonstrates that organizations still realize the multiple benefits offered by paper documents. ZyLAB has long specialized in retaining all the benefits of paper while relieving the burden of paper (storage, transportation, accessibility, and so on), as well as also allowing digitized paper to be searched at the same time as other archived data types, such as e-mail.

◆ Good CMSs require open technology and open formats, such as XML and TIFF. Regardless of documents' original file types,

information contained within them must be secure and available for their entire lifecycle. Organizations need assurance that their information is always accessible without having to worry about upgrading or continually revamping their systems.

◆ Expectations for efficiency and cost-effectiveness are as high as they are for system performance. Efficiency-focused organizations demand software that is easy to use, install, deploy, support and maintain. Users no longer tolerate spending weeks in training courses; solution deployment should take days, not weeks or months.

◆ Meeting compliance requirements is a cost factor, so CMSs must be flexible and integratable, supported by fast and usable searching, retrieving and organizing capabilities. Being able to leverage the wealth of records information makes organizations more competitive and cost effective, particularly in terms of secondary costs like legal fees and staffing.

◆ A key to effective and affordable solutions is being able to buy only what you need. Vendors need to do a better job of respecting organizational understanding of content management wants and needs, and how to address those needs, particularly in terms of scale (i.e. lower upfront costs, quicker deployment and ROI and better positioning for incremental future growth, if necessary).

◆ Integration with existing systems is preferable to comprehensive overhauls. Replacing significant parts of existing systems is costly and time-consuming. New CMS components should also quickly and seamlessly integrate into specialized tooling (such as case management tools for legal professionals).

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want to store printed documents in a CMS. But certain "high-end" CMSs do not provide this expected level of control and flexibility for all of the content types they manage.

Overcoming Intimidation: Electronic Media and E-mail

The primary concerns that drive a CMS's suitability should be the same that organizations have used to manage paper: efficient, secure storage of archived data, fast and accurate searching and retrieval of targeted information, use of open-technology for long-term stability and flexibility, and scalable and integratable construction for easy deployment and usage. If the expectations for managing paper are used as the primary criteria for judging how all data (including e-mails and Web content) should be managed and utilized, organizations can simplify their content management expectations and not lose sight of the larger content management context. In other words, "complex" data like e-mail doesn't have to be treated as a wholly separate item needing a management approach different than that typically used for other types of information.

How and why any information needs to be stored and used in the first place is primary to evaluating a CMS. All forms of retained data, whether they are paper-based documents, e-mails and attachments, presentations, video conferences and so on, are all parts of the larger, integrated content management arena and need to be addressed as such. The role of paper cannot be underestimated; in many organizations, the burden of paper is still their key content management challenge. Data is retained for a reason—to have the retrieval of information readily available—so it should be supported by a CMS that makes all information accessible and searchable at the same time, in the same way, in a secure environment, and at an affordable price.

Organizations can perform all of their content management tasks effectively without having to purchase monolithic, feature-heavy solutions that can adversely affect overall affordability and usability. Scaleable, flexible and open solutions, which enable organizations to handle paper, electronic files and e-mail at whatever level of complexity they actually need, are readily available.

The bottom line: long-established criteria for managing paper is also relevant for managing other types of information. Paper is still a primary factor for many organizations, and

for these organizations, the manner in which they handle paper should provide the foundation from which all other CMS capabilities refer. By taking care of the paper records and then gradually moving to more complex media types, an affordable and controllable implementation process can be realized. Using such basic functionality as the defining criteria for evaluating suitable CMSs enables organizations to not only focus on what their users really need but also enables them to view the scale in which they need it. Doing more with less is always better than defaulting to the biggest and most complex solution just because there doesn't seem to be any other choice. ▮

Rising to the Real-World Challenges of ECM

By Robert Liscouski, CEO, Content Analyst Company, LLC

Robert Liscouski is the CEO of Content Analyst Company, LLC. Content Analyst technology automates human activity traditionally associated with understanding, organizing, prioritizing and retrieving relevant information from large sources of unstructured data. Prior to joining Content Analyst, Liscouski served as the first Assistant Secretary for Infrastructure Protection for the Department of Homeland Security. He also served in senior management positions at The Coca-Cola Company and ORION Scientific Systems, and was founder and CEO of PoliTech Research, Inc., a provider of business intelligence services. In addition, he has more than 15 years' prior experience with the Intelligence Community and in law enforcement investigation. To learn more about Content Analyst, visit www.contentanalyst.com.

Robert Liscouski

Much has been written about the promise of enterprise content management (ECM). Initial efforts to implement ECM systems already have demonstrated the potential for achieving significant benefits. Organizations can achieve competitive advantage by making faster, more informed decisions. They are recognizing the potential for improving processes and increasing efficiency, and many companies are looking to ECM to help them better comply with Sarbanes-Oxley regulations.

As with any area of strategic promise, however, ECM was bound to experience growing pains as implementations met with certain tactical real-world limitations. As noted by KMWorld editorial director Andy Moore in the 2004 edition of this white paper, ECM is at an awkward stage. Much of this awkwardness stems from the sheer complexity of managing content in modern, large-scale organizations with complex operations.

In general, the problem stems from the fact that ECM is rising out of the convergence of markets for tools designed around simplified world models. These tools include electronic document management (EDM), records management (RM) and business process management (BPM) technologies—each of which limit ECM's ability to address the variety of content encountered in the enterprise environment.

The good news is that today's ECM technologies are overcoming these limitations. While new security and administration capabilities address the "enterprise" portion of the ECM equation, exciting developments are improving the "content management" side as well. Organizations now have an opportunity to further improve the returns on their ECM efforts, thanks to content management capabilities that address key real-world challenges:

Challenge #1: Content Comes in a Wide Variety of Forms from Multiple Sources

One of the most important issues that must be addressed in the next wave of ECM implementations is that of flexibility. Because of their genesis, current ECM systems tend to be based on relatively simplistic world models. For example,

there may be an underlying assumption that all content is managed internally to an organization, from creation to destruction. Although this can be a workable assumption in some cases, it does not represent the actual situation in most large organizations.

Managing internally generated material as "content" and externally generated material as "something else" is a nonstarter in many situations. Content that arrives from outside often is both high-volume and high-importance, and comes in a wide variety of forms: letters, e-mails, invoices, surveys, etc. The rigid formatting, version control and even vocabulary control expected by many ECM systems is completely inappropriate for such material. Attempting to pigeonhole information into rigid, predefined structures can be a major impediment to companies' ability to respond to change.

> ## "Organizations now have an opportunity to further improve the returns on their ECM."

Efficient processing of these kinds of content requires tools that automatically examine each item and make accurate decisions regarding subject matter, emphasis and even sentiment. In the real world, businesses need to continually deal with information on a content-driven basis, not according to preconceived notions of how that information should be organized.

Fortunately, powerful and proven technologies are now enabling much greater flexibility in the next generation of ECM systems. These tools can quickly determine

the conceptual content of arbitrary documents with an accuracy rivaling that of humans. They are even capable of determining sentiment—*Does a given e-mail reflect a customer that is mildly displeased or one that is ready to sue?* These tools can provide an answer.

Recent advances allow information to be dealt with in a totally concept-driven fashion. It is possible today to take arbitrary input such as letters, e-mails and survey responses and, in a completely automated process, detect major themes and sub-themes and organize them accordingly. Automatically generated understandable labels can be applied to these themes and sub-themes. Such on-the fly taxonomies can be generated at the rate of millions of documents per day. This frees organizations from the myriad limitations placed on them by rigid, pre-defined structures such as static taxonomies.

Challenge #2: Content Contains Errors that Can Hinder the Effectiveness of ECM

One of the most common shortcomings of many new information-processing technologies is that they ignore the effects of errors in the material being processed. In the world of ad-hoc and externally generated content, errors are a significant factor.

For some ECM systems, a significant portion of content is processed through optical character recognition (OCR) equipment. Unfortunately, OCR technology generates a non-trivial number of errors and correcting such errors is very labor-intensive. E-mail also is replete with errors, including misspellings and text that is

ungrammatical and often not in the form of complete sentences.

Existing ECM systems tend to rely heavily on keyword-based text processing capabilities that are adversely affected by spelling errors. Although vendors incorporate workarounds such as wildcards and fuzzy searches, these produce varying degrees of irrelevant information in affected business processes. Systems reliant on linguistic processing can yield erroneous results when dealing with ungrammatical source material.

Today, tools exist that can deal effectively with content that contains significant amounts of errors in spelling and grammar. Content containing misspelled words can be dealt with in a manner that does not generate extraneous results. Content can be processed directly at a conceptual level, without requiring laborious and error-prone linguistic processing.

Challenge #3: Content Comes in Many Different Languages

The United States only accounts for approximately one-third of the world economy, and less than one-third of Internet users worldwide speak English as a native language. For many businesses, the ability to deal with information in multiple languages is a necessity.

While many ECM vendors have incorporated capabilities for multilingual document processing, multilingual processing (i.e., the ability to process content in more than one language) in and of itself is not sufficient for most global organizations. What really is needed is *cross-lingual* processing: the ability for a user working in one language to automatically carry out search, categorization and analysis activities involving content in other languages. There have been attempts to address this need using machine translation software. However, the state-of-the-art in machine translation is simply not adequate to support most business objectives.

A new class of cross-lingual information processing tools enables much-improved multilingual content applications. For example, users can create a query in one language that can search content in multiple languages without requiring translation of either the queries or all of the content. They can create exemplars in one language that can be used to accurately categorize content in other languages. They can immediately understand the context of an unusual foreign word or acronym and can organize and prioritize multilingual content in order to re-purpose it.

The tools that make cross-lingual information processing possible employ conceptual representations of content that

work directly in the native languages. This avoids the inaccuracies and inconsistencies induced by contemporary machine-translation systems.

Challenge #4: Organizations Must Balance Security with the Need to Share Information

Although most discussions of security for content center around access to particular items, access control is only one part of the information sharing story. Legitimate considerations of privacy, legal, regulatory or national security issues often preclude providing some users with direct access to specific content. Implementing only an access-control scheme will limit organizational effectiveness in such environments.

"Users do not want to carry out time-consuming tasks to overcome deficiencies in ECM systems."

Recent mechanisms of information sharing exploit the ability to automatically determine the conceptual nature of content and to holistically extract relationship information from collections of documents. These capabilities allow the use of restricted content in new and exciting ways. For example, restricted content can be used in a background mode to greatly improve user efficiency and satisfaction in dealing with non-restricted content. This is a win-win situation: the restricted content is completely protected while, at the same time, the implicit and high-order relationship information contained in this content can be leveraged in business processes.

Challenge #5: Users Do Not Have Time to Organize Content or Create Vocabularies

Perhaps the most important metric for evaluating an information system is user acceptance. The nature of the user experience is critical to the future of ECM

systems. Users do not want to carry out time-consuming tasks to overcome deficiencies in the underlying world models of ECM systems, and they do not want to deal with rigid structures defined by others. Subject-matter experts do not want to craft and maintain taxonomies, ontologies and other auxiliary structures needed to propel system performance. No one wants to use controlled vocabularies in order to exchange information. Most users have neither the time nor the inclination to manually create elaborate metadata headers and complex markup for content.

Thankfully, the need for users to spend large amounts of their time accommodating software limitations is rapidly passing. Software capable of dealing with content on a conceptual basis eliminates the need for excessive manual intervention in the most irksome of activities. Such software allows a much higher degree of automation of routine content-processing functions. Users can then focus on value-added activities that exploit the unique pattern recognition, abstraction and planning capabilities of the human mind.

Mature Solutions Are Now Delivering on the Promise of ECM

As noted by Forrester Research VP Connie Moore, the "administrative" aspects of content management are being assimilated onto operating infrastructures. The basic functions of access, administration and security are increasingly being addressed within operating systems and storage architectures. This will greatly facilitate the advent of a new generation of ECM implementations capable of addressing the problems of modern enterprises. Combined with the advent of concept-based tools that account for the complexities of content management, the situation is extremely promising.

The pioneers in the field have established the basic business case for ECM. Incorporation of modern tools will allow implementation of ECM systems capable of addressing real-world problems in even the largest organizations. The highly developed state of such tools will speed the progression of ECM to an elegant, mature solution that plays a crucial role in enabling key processes across the enterprise. ∎

Champagne Tastes on a Beer Budget

ECM for the Rest of Us

By Vernon Imrich, CTO, Percussion Software

Enterprise content management (ECM) is one of the most widely used terms today in the market for software applications. Industry analysts consistently put it right behind security in terms of interest from their customers. In fact, you've probably been told that you need an ECM solution if you've been charged with any of the following tasks:

◆ Create a centralized place for corporate documents, enabling end users to easily search and retrieve information;

◆ Find faster ways to update Internet, intranet and extranet sites without sacrificing accuracy;

◆ Ensure the correct use of logos and corporate brand elements;

◆ Provide compliance with legal and regulatory requirements for retention and retrieval; and

◆ Create electronic versions of paper documents (e.g., invoices).

Each of these challenges points to lost opportunities that organizations face daily, as is evident from the following statistics:

◆ 81% of business activity is content-driven;

◆ 90% of customer communication (and hence customer satisfaction) is content centric;

◆ 60%-80% of knowledge workers can't find the information they need; and

◆ 90% of the creative work done by knowledge workers is actually recreating work that already exists.

"Re-Evaluating" Content Management

It's likely that your organization stands to get a lot out of ECM, but what should you look for in an ECM solution? Today, many ECM solutions claim vast feature sets that promise to increase efficiencies, save costs and drive revenues. For instance, there are many higher-end ECM solutions that: provide common library services to multiple corporate repositories; support most types of unstructured content; provide extensive customization to meet specific needs; enable business users to find and reuse content quickly; provide a library of applications tailored to specific industries or business issues; and provide extensive scalability and high performance, availability and reliability.

Higher-end ECM solutions promise champagne-class feature sets. However, these solutions can carry hidden costs that impose new infrastructure on IT staff, require high, ongoing professional service fees, and force business users to endure long implementation periods before the system is usable. In fact, if you can't spend seven figures, you're unlikely to get the attention you deserve from many of these vendors.

On the other hand, lower-end ECM systems can offer limited out-of-the-box features for a beer budget, but they often lack both the flexibility and scalability to keep pace with your specific, evolving needs.

Therefore, if you seek a champagne ECM feature set, most vendors will tell you to either pare down your requirements or come up with a bigger budget. However, neither of these options is appealing. Luckily, you don't need to sacrifice one for the other. The key to getting a champagne feature set at a beer budget lies in considering *how* an ECM solution is delivered in addition to what features it advertises.

ECM for the Rest of Us: Balance is Critical

A new category of ECM products has emerged to satisfy those organizations that have the champagne tastes for comprehensive and customizable ECM capabilities, but demand the fast implementation and affordable price required by a beer budget. These products, such as Percussion Software's Rhythmyx™ Enterprise Content Management System, balance substantial out-of-the-box feature sets with the customization flexibility to meet evolving needs using in-house skill sets.

Balanced ECM solutions deliver out-of-the-box features for immediate value, offering the following benefits:

◆ Deployment is rapid, since the system ties into your existing infrastructure rather than adding a new platform.

◆ Business users enjoy fast results without relying on customization services to make the system operational.

◆ Users adopt the system quickly, with little training, by leveraging familiar interfaces as well as features that are integrated with popular products such as Microsoft® Office.

◆ Business-focused capabilities allow for extensive content reuse across delivery channels.

Balanced ECM solutions also provide the customization flexibility required to achieve future goals. Customization capabilities are placed in the hands of your IT organization, allowing them to adapt the solution to changing requirements and new projects. When you need to further customize the system, a standards-based architecture allows IT to leverage their existing skill sets to meet specific requirements. An extensible ECM foundation sits on a single code base to support all facets of content management.

If you seek fast time-to-value and comprehensive, extensible capabilities, selecting a balanced ECM solution is a wise decision. In other words, with balanced ECM, you can have "champagne tastes on a beer budget!" ■

The Balanced ECM Solution

◆ Out-of-the-box capabilities for immediate results;

◆ Scalability to support all enterprise content across multiple delivery channels; and

◆ An extensible foundation that sits on a common code base to address all facets of content management.

Automated Publishing is More Than ECM

By David White, VP of Product Strategy, Arbortext

What defines a formal publishing process? When should an organization consider not only adopting ECM but also adopting an automated approach to publishing? You should consider evaluating the benefits of replacing traditional desktop publishing or word processing software if your content has one or more of the following characteristics:

◆ **Multichannel delivery**—When you have to deliver content in print, on the Web, in online help, to wireless devices, or to additional formats and media types, traditional publishing software requires you to assign someone to manually format your content for each different media type.

◆ **Large volume**—The more content you create, the more costly the use of traditional publishing software (where an author can spend as much as half the time formatting—a waste of time and money).

◆ **Repeatable processes**—The more frequently you create and publish documents of a particular type, such as datasheets, technical manuals or regulatory submissions, the more consistent the documents should be in style and structure.

◆ **Customized content**—Consumers of information increasingly expect information to be tailored to meet their needs. They want all the content that is relevant without any information that does not apply. Using traditional publishing software to produce tailored publications is too costly and time-consuming to be practical on a medium or large scale.

◆ **Dynamic content**—If portions of the content change frequently (such as prices or availability), or if the content is assembled on demand based on individual consumer requests, traditional publishing software contains little or no support for such requirements.

◆ **Interactive Content**—The Web—and to varying degrees other electronic delivery media—are great at providing an interactive experience to the consumer. Features such as advanced navigations aids, hyperlinks and dynamically showing or hiding content engage the consumer and provide a faster, more satisfying experience. However, when you convert a word processing or desktop publishing document to a Web-friendly format, you must manually add these features. Web usability experts have pointed out that PDF documents usually offer an inferior interactive user experience and that your customers vastly prefer HTML, the Web standard for information delivery.

ECM alone does not address the issue of how your organization creates the majority of your content and only partially addresses the need to automate and improve the content publishing process.

But I Thought My ECM Vendor Provided it All

Many ECM vendors promote their products as "solving the content problem," so it's understandable that many people believe that ECM provides all of the technology they need. Moreover, many ECM systems provide content creation and dynamic publishing capabilities, which make such systems look, at first glance, like complete solutions.

For example, some ECM systems provide Web-based forms for controlled content creation and some include in-place editing of HTML pages in a browser. These applications, while useful for some types of content, cannot solve the needs of publishing to a wide variety of formats and are poor at handling longer, more complex content.

More advanced ECM systems provide some features for automated publishing such as batch conversion of word processing documents to HTML or PDF. This capability can be useful as a quick—but limited—way of getting your documents distributed electronically. But this approach does not easily or automatically provide Web output that is customized, dynamic and interactive.

Why not? Because the automated process of converting word processing documents to HTML or PDF is, by necessity, unsophisticated. For example, an ECM system can automatically publish word processing files to the Web by using the word processor's "Save as HTML" capability. The resulting HTML document looks very much like the original word processing document, but the process does nothing to enhance the content to take advantage of interactive Web features. Such enhancements could include automatically breaking up long documents into shorter Web pages, providing hyperlinked tables of contents and indexes and automatically enhancing part numbers in the document to become hyperlinks targeted at an e-commerce site to allow easy purchasing. ∎

Why Desktop Apps Fall Short

Companies store their financial information in databases because a database provides security, data verification and a single source from which a variety of reports can be automatically generated. This enables companies to ensure their financial information is always accurate, up-to-date and consistent wherever it is used.

Using desktop publishing software to manage your organization's intellectual content is like implementing a financial reporting application using spreadsheet files stored on individual users' desktops. Without constraining data entry through input forms that interactively guide the user and prevent errors, the data input into this financial system would require manual interpretation and clean-up every time you changed or added data. If each user could modify the spreadsheets as they see fit, the data embedded in those spreadsheets would quickly become impossible to automate, difficult to use and inflexible to meet new needs. Without the ability to automate calculations and report generation, the system would collapse.

New Realities for Mid-Market Content and Document Management

Bill Rogers

A solid foundation in product and business development has allowed Bill Rogers to co-found three successful businesses. At Zydacron Inc., Rogers led the organization's transition from a systems consultant to a leading desktop videoconferencing development firm.

As a co-founder of Global Telemedix, Rogers spearheaded key strategic relationships with companies such as Hewlett-Packard Medical Products Group, IBM and British Telecom.

In his most recent initiative, Ektron, Rogers has assembled a team to offer authoring tools and content management solutions, including first-of-their-kind applications that enable organization-wide, Web content management by non-technical professionals.

By Bill Rogers, CEO and Founder, Ektron Inc.

Mid-size organizations have frequently found themselves in the rather awkward position of being "stuck in the middle" when it comes to finding the right solution for effectively managing, publishing and sharing online content, digital documents and other mission-critical assets.

Large content management solution providers have proffered solutions that—though they may be sized appropriately for the Global 2000—don't always effectively scale down to meet the needs of organizations with finite IT resources, limited budgets and tight integration timelines.

Conversely, lightweight tools that let knowledge workers publish content to the Web are available in abundance. However, they simply don't provide the robust functionality such as security, workflows, versioning and compliance support necessary to bring order and accountability to information-management processes.

However, new options exist for mid-size organizations as well as small business and even departments within large enterprises. These entities should carefully evaluate and choose content and document management solutions.

Software designed specifically to meet the unique requirements and preferences of mid-market organizations have matured, while price points have dropped. These products now provide true alternatives to complex and costly solutions that have prevented many organizations from confidently taking the next step to solve their information management challenges.

CM/DM Realities

Consider your ideas about content and document management solutions and measure them against these new realities:

◆ It's no longer a $500,000 proposition, or even a $50,000 proposition, to adopt an effective, standalone or integrated content and document management solution. Scalable solutions, built on industry standards with out-of-the-box functionality, are within reach of most organizations.

◆ As technology has evolved, user complexities have been overcome. The tasks associated with creating, editing and publishing content and documents, supporting collaborative projects and managing dynamic Web properties are being automated and distributed to many people inside organizations. This is enabling new efficiencies and cost-savings, without burdensome upfront training or ongoing support—while removing the threat of project failure due to lack of adoption.

◆ To support rapid implementation and use among mid-market companies, content and document management solutions are delivering environments familiar to IT staff (such as the Microsoft Windows operating system, the .NET Framework, Microsoft databases, application servers and developer tools) and also to business professionals (such as Microsoft Word, Outlook and Windows Explorer).

◆ Finally, mid-size companies can take advantage of advanced features once associated only with enterprise-level content and document management solutions. These include support for translation and localization to reach new global markets; compliance support to meet government or industry mandates; and structured information indexing that provides powerful search options to reduce the time it takes knowledge workers and site visitors to find information.

The "Solution Evolution"

This all amounts to good news for any mid-sized organization seeking to better manage Web content and document strategies. Solutions such as Ektron's, built with the mid-market in mind, have evolved to yield significant and measurable benefits, letting you gain competitive parity and even an advantage against larger, more resource-rich organizations.

Integrated content and document management solutions provide new reasons to consider adopting a solution that can help leverage your information assets. Consider these benefits now within reach of mid-size organizations.

Standards-based interoperability: Relying on non-proprietary, industry-standard approaches ensures integration timelines and cost limits can be met, while also reducing long-term burden on IT.

User adoption: When distributed knowledge workers can easily contribute to Web site and document management strategies, project success is more assured.

Value: Solutions that respect real-world IT budgets and deployment timelines, while also delivering a solid depth of functionality, offer high value to mid-size organizations.

Multiple content and document delivery options: This enables your organization to support new modes of distributing information, including RSS feeds, blog publishing and multi-site content management.

Globalization: Robust multilingual capabilities support requirements to enter new markets and leverage new business opportunities.

Corporate automation: Not just a passing buzzword, efficiency is a mid-market mandate to ensure maximum employee output and long-term profitability. (Ektron solutions support Web-based collaboration to help organizations meet this imperative.)

Compliance: Sarbanes-Oxley, HIPAA and other legislation put pressure on organizations to ensure appropriate internal controls and reporting systems. The mid-market can answer this call with a compliance-friendly content and document management solution. ∎

Managing High Volumes of Data in SAP

By George Viebeck, Sr. Product Manager, EMC Documentum

Companies are deluged by application data and documents. Some analysts say this data is growing at 80% per year. This rapid data growth complicates IT issues such as system availability, performance and resource utilization. It frustrates strategies for corporate and regulatory compliance. In response, many companies are consolidating their IT environment, reducing the number of SAP R/3 instances, networks, application servers and databases. Consolidation reduces total cost of ownership (TCO) across the entire IT infrastructure by simplifying software version upgrades and reducing backup and recovery windows, thus improving system availability. Consolidation also makes the underlying storage infrastructure more efficient.

One aspect of consolidation consists of archiving SAP data including structured data—essentially rows and columns in the database, backing the SAP R/3 system—as well as unstructured data. Unstructured data comprises all types of supporting electronic documents and content such as Printlists, SAP-generated documents, scanned images, Web content, e-mails, instant messages and audio and video files.

SAP archiving enables better SAP application performance, IT consolidation and increased compliance. Using a document management infrastructure, such as Documentum, companies are able to archive SAP structured data using the SAP Archive Development Kit (ADK). They are also able to archive SAP unstructured data, such as Printlists and generated documents, using Documentum's integrations to SAP's Archivelink.

A Tiered Strategy for SAP and EDM Integration

A comprehensive SAP archiving and EDM requirements strategy should be targeted at a specific level of archiving or EDM user requirements, yet be expanded incrementally by adding higher-value yet more complex archiving or EDM capabilities:

◆ **Essential SAP Archiving.** An essential archiving strategy addresses pure SAP data, report and document archiving requirements. It should include both manual and high-volume automated archiving, using SAP ADK and Archivelink interfaces. Installation and configuration effort should be minimal and benefit users who may not have a defined EDM or storage strategy.

◆ **Enhanced SAP Archiving.** An enhanced archiving strategy should add a layer of intelligence by classifying and categorizing archived files into folders and by replicating SAP data as descriptive metadata. This enables files, reports and documents to be used for retention, storage management or broader EDM needs.

◆ **SAP EDM.** EDM requirements require a significant layer of EDM functionality and client applications for improved SAP business process efficiency, such as the finance, plant maintenance and HR.

Two ways in which an EDM platform enhances SAP:

1. Contextual access to SAP documents and content. Easy access to supporting documents from within the SAP application, module and business object streamlines business processes, reduces costs and increases service levels. It's enabled by background automation services, linking documents to specific SAP objects.

2. Powerful repository services and workflow from within SAP. Users need to interact with supporting documents, such as viewing, editing and approving them. For example, a circuit board designer using SAP Product Lifecycle Management to work on a subassembly of a BOM may want to modify or reference the circuit board drawing. The design process is made more efficient by giving the designer easier document access and powerful repository services, such as the ability to search, browse, edit and view the circuit board drawing, using the appropriate applications.

A comprehensive archiving and EDM strategy must incorporate a modular design which allows IT and SAP administrators to tackle critical SAP archiving requirements and then add additional, higher value EDM applications for SAP. An example of an EDM application would be invoice processing, which would use Documentum's document management infrastructure, along with scanning and imaging solutions, to streamline SAP finance accounts payables and receivables. Another example would be managing engineering documents to streamline SAP plant maintenance. Yet another example, would be using a consolidated employee document folder to streamline SAP HR benefits processing. ∎

To learn more about EMC Documentum Content Services for SAP, visit us at www.documentum.com/sap.

Tiered Approach to SAP Archiving and EDM Applications

An early innovator in SAP archiving, EMC Documentum released its first SAP archiving application in 1997. EMC Documentum® Content Services for SAP enables customers to safely and securely archive SAP data, Printlist reports and documents into a safe and secure document repository. And it enables these assets to be consolidated, managed, accessed and reused by both SAP and non-SAP users.

Content Services for SAP EDM utilizes a comprehensive set of Documentum EDM services that can be assembled to create simple and complex EDM applications. Examples include invoice approval, report generation, engineering design approval, marketing content development, contracts management and call center applications. When used alongside the corresponding SAP application, significant business process efficiency can be achieved.

EMC Documentum Content Services for SAP offers a unique package of tiered, modular, fully supported solutions that support a variety of SAP archiving and EDM scenarios. SAP archiving enables better SAP application performance, IT consolidation and increased compliance. EDM applications help streamline existing SAP applications through tightly integrated document management.

A Service-Oriented Architecture for Better ECM

By Charles Hough, Vice President, Field and Platform Marketing, Interwoven

New business requirements are changing the way companies think about enterprise software. Initiatives and objectives increasingly cross traditional boundaries to involve multiple departments, data stores and business processes. In response, the old model of self-contained applications is giving way to a new paradigm based on independent services brought together in dynamic, highly-efficient composite applications. The impact of this service-oriented architecture (SOA) is only now beginning to reach the enterprise content management (ECM) market—but its transformative implications are already clear.

To date, ECM has typically consisted of separate applications for managing Web content, revisable documents, e-mail, collaboration, rich media and archival records—each with its own dedicated server, capabilities, workflows and user interface. As long as a company's processes remain confined within these islands of automation, all is well. But once the need arises for cross-functional business integration, so do numerous problems. Business applications incorporating multiple content types—not to mention those that integrate with external systems—are difficult to develop and deploy, requiring custom code to bridge different APIs, interfaces and platforms. Agility and responsiveness suffer, while costs rise.

The service-oriented paradigm fundamentally alters this picture. With SOA, business applications and systems are no longer self-contained monoliths, but collections of independent services that can be provided upon request to users or other applications. Using open standards, these services cut across disparate platforms, object models and programming languages to integrate the data and actions of multiple backend systems within a single end-user solution.

SOA also enables business-process solutions that automate multi-step processes—for example, tracking the activities of the participants in a process, or synchronizing data across multiple backend systems.

Unlike painstakingly coded custom solutions, SOA-based composite applications can be designed, deployed and maintained quickly and easily—and inexpensively. New solutions can also leverage existing systems, which are "wrappered" to provide a service-oriented interface to their data and actions.

As embodied in Interwoven's current ECM platform, the SOA makes it possible to replace a suite of separate content management applications with a unified content application framework. The full range of core ECM functionality can be exposed as services, allowing content type-specific capabilities to be invoked seamlessly from composite applications, external packaged applications, third-party portal servers and business process automation systems. Freed from the constraints of a dedicated interface, users would not need to be "in" an Interwoven application to submit Web content, approve a media asset, archive a document as a corporate record or provision code and content to a production system. Integration becomes a simple matter, often requiring no code at all.

The business benefits of SOA-based ECM are broad and compelling. Content solutions can become larger in scope, integrating a wider range of content types. Development and integration become more agile, flexible and responsive to the needs of trading partners.

Consider the case of marketing campaign management: The campaign manager first reviews past campaigns in the CRM system for audience and success criteria. Extracted data and content then become the starting point for the new campaign, supplemented by new text, graphics and rich media content. This content then goes through a cycle of review, revision and approval, partner collaboration, testing and then deployment. Finally, the new campaign is logged into the CRM system for tracking and analysis.

With an SOA-based composite application, this entire process can take place within a single Web interface—including multiple content types in separate repositories, as well as in external business systems. The solution is fast and simple to deploy, and easily maintained over time. And this is only one example. As the SOA-based ECM solution makes enterprise content and ECM functionality available to additional solutions throughout the company, the cost savings and business impact are multiplied many times over.

SOA is still a relatively new idea in ECM; its benefits are more easily understood by IT personnel than the line-of business managers who make purchasing decisions. From an enterprise standpoint, adopting SOA can seem

> *"As the ECM solution makes content and functionality available throughout the company, the cost savings and business impact are multiplied many times over."*

daunting. But trends in both business requirements and enterprise technology point clearly to SOA as the future of ECM. As its adoption spreads, a new generation of composite solutions will bring new levels of productivity and efficiency to companies—and forever change the way we think about ECM. ∎

Charles Hough is Vice President of Field and Platform Marketing at Interwoven. He leads the company's ECM platform marketing, field training, technical marketing, product management, and the Interwoven Developers Network (DevNet).

Interwoven provides enterprise content management (ECM) solutions for business, enabling organizations to unify people, content and processes to minimize business risk, accelerate time-to-value and sustain lower total cost of ownership. With blue-chip customers in every major vertical market, Interwoven leads the industry with a service-oriented architecture and delivers ECM solutions designed to address specific business processes such as e-mail management, intranets, enterprise Web content management, deal management, marketing content management and more.

ECM for Accounts Payable: It Pays—Faster!

By A. J. Hyland, President and CEO, Hyland Software

Why would I want to pay my bills faster? That's the question some people ask when we talk about the value of using ECM software, such as document imaging and workflow, to streamline accounts payable (AP) processes. Maybe the better question is: What is it costing me to continue business as usual? According to PayStream Advisors, a technology research and consulting firm, whether an organization is processing 100,000 invoices a year or two million, automated invoicing cuts costs by an estimated 59% over manual processing. Regardless of the size of an organization, manual invoice processing tracked with a spreadsheet makes it difficult to remain competitive while meeting costly internal or external compliance requirements.

On the other hand, the benefits of applying ECM technology to AP processes include:

◆ Shorter cycle times, increasing early-pay discounts and decreasing late-pay penalties;
◆ Better information sharing with authorized employees;
◆ Improved customer service;
◆ Significant labor reductions; and
◆ Visibility into liabilities and process history that support regulatory compliance and corporate accountability initiatives.

Process Improvements Pay Off

A good ECM solution for AP should mirror the most effective elements of your AP process while eliminating the most tedious. Automated workflow, for example, can be designed to reflect and optimize your current business rules for invoice approval, routing invoices to appropriate managers and kicking off related business tasks. The resulting process improvements can reduce cycle times and create measurable benefits. For example, automated workflow enabled one multi-billion-dollar communications company to save more than $13 million in less than one year by enabling its AP shared-services group to consistently take advantage of early payment discounts.

Workflow can significantly improve accountability as well. The risk of lost documents in the black hole of inter-office mail is eliminated and an audit trail is created that can contribute to best practice and compliance initiatives.

Improving access to documents can also support more efficient interaction throughout distributed locations and allow companies to consider strategies for operational changes that reduce costs. For one company, this meant the ability to create a shared-services group that supports 50 business units. This allowed them to take advantage of economies of scale in an area where labor is less expensive and still apply specific rules for each business unit and involve thousands of users around the country in the approval process.

These operational enhancements can be extended to business partners as well. As

> *"A good ECM solution for AP should mirror the most effective elements of your AP process while eliminating the most tedious."*

technology evolves, organizations are changing the ways they share information. An AP solution that handles only paper invoices may not account for electronic transactions, faxes and e-mails in the future.

Fundamentally, an ECM solution should support continuous process improvement, both from the solution itself and the knowledge it provides. For example, one Florida county agency processing 10,000 invoices a month used workflow tools to gain unprecedented information about employee strengths. The visibility into the actual process showed that some clerks were better verifiers, while others excelled at data entry or decision-making associated with exceptions. Based on that information, administrators were able to assign work more appropriately with a few simple configuration changes.

Content + Data = Better Decision-making, Faster

Throughout AP processes, access to both content and data are necessary to make decisions and take appropriate action. Integrating ECM technologies with data-centric AP line-of-business (LOB) applications enables AP staff to access supporting documents through the interface of the business application where they perform most of their daily work.

A sound ECM solution should be able to content-enable LOB applications in a manner that is totally transparent to users. As one end-user put it, "Our AP clerks didn't know it was a separate product. They thought it was an imaging enhancement to SAP."

Be advised, however, content-enabling AP applications shouldn't be a long-term commitment to services or even the solution itself. Any solution that requires a significant amount of custom coding is going to be expensive to implement and to maintain. What happens if you upgrade or replace your core application? Don't buy an AP solution that puts you at the mercy of a vendor or imprisons you to a certain way of doing things.

Plan Strategically, Proceed Tactically

Experts agree that most organizations are moving toward standardization of enterprise platforms, and there is virtually no department that can't benefit from ECM technology. ECM for AP is a cost-justifiable way to establish a beachhead for an enterprise-wide content management strategy.

Implementing point solutions within the strategic framework that an ECM suite provides reduces the complexity and cost of content management and can enhance communication and collaboration. For instance, if invoices are used for pass-through billing in industries such as construction, couldn't accounts receivable (AR) benefit from the solution? Would salespeople like to be able to view invoices from CRM or call-center applications?

Just as your ECM investment should add value and contain costs throughout your AP operations, it should quickly and inexpensively roll out across other departments, processes and applications to deliver maximum value across your organization. ∎

What You DON'T Know About Web Content Management

By Todd Peters, Founder & President, PaperThin, Inc.

As digital content continues to grow at an exponential rate, organizations increasingly struggle with ways to affordably and efficiently create and manage content on the Web. Issues pertaining to content timeliness and quality, content duplication, content organization and content retrieval are challenges that continue to plague many organizations. Finding a solution that addresses these challenges is, for many, a top priority, and requires a closer look at today's available Web content management offerings.

Many people think that Web content management is just about putting easy to use authoring tools into the hands of content owners to empower them to quickly and easily publish content to the Web. Features like WYSIWYG editing, template-driven pages, workflow and approval processes and version history are attributes of any content management system that purports to break down the Webmaster "bottleneck" and create efficiency in the Web publishing process.

But the truth is, today's advanced Web content management systems (WCMS) have evolved into more robust solutions. They are delivering benefits and a level of functionality that's beyond what buyers have come to expect from early WCMS solutions. Advanced features like flexible metadata and taxonomy classification, dynamic content generation, content objects and content reuse are redefining content management, delivering greater value and introducing better efficiencies in how content is created, classified, organized, presented and retrieved.

Classify Your Content: Metadata & Taxonomy

The manner in which content is created, organized, presented and retrieved has a direct influence on how much value can be derived from the content. As the sheer volume of digital content continues to grow, managing it becomes increasingly problematic. To address this challenge, organizations must rely on metadata (information about information) as a powerful way to classify and identify content so that it can be presented and displayed in a timely, targeted and meaningful way for users. Effective use of metadata will enable an organization to significantly increase the findability, readability and usability of site content while also enhancing its overall value. Classification of content also affords the benefit of data discovery, which is often equally important to users.

An excellent complement to metadata, taxonomy-based content classification provides a way to record relationships that exists between a collection of terms or subjects. When content is associated with one or more terms, it inherits the properties and relationships of those terms, thus reducing the time and expense involved with categorizing new content. Once you've efficiently categorized your content, you will be in a position to dynamically display and reuse it throughout your site.

Invigorate your Content: Dynamic Pages & Navigation

Web content is increasingly becoming dynamic as organizations strive to deliver more up-to-date and relevant content to site visitors. Managing changing or dynamic content has been and continues to be a daunting task. Today's WCMS's are stepping up to the challenge of maintaining content that is fluid in nature by offering tools that allow you to automatically generate, display and update content based on its categorization and metadata criteria. Through content scheduling, content repurposing, content expiration and personalization you can quickly and easily make site updates, increase user productivity and ensure that content is always timely, targeted and accessible to your audiences.

Extend the Value of Your Content: Content Objects & Content Reuse

The ability to structure content into reusable "content objects" and separate presentation from form, adds significantly to the value of content and offers several compelling benefits beyond the obvious of simplified publishing and increased user productivity. Content that is now structured can easily be reused and repurposed across a Web site, and/or syndicated and consumed in multiple formats (XML, RSS/Web Services) across disparate systems. This not only improves the quality, accuracy and consistency of content, but also greatly reduces Web content creation and maintenance costs.

Implementing a WCMS to empower users to quickly and easily manage their own content continues to offer significant benefits to organizations: reduced strain on Web and IT staff, more efficient staff utilization, reduced costs, and streamlined Web maintenance processes. However, there is much more to be gained. Metadata and taxonomy, dynamic content generation, content objects and content reuse offer organizations the ability to:

- More efficiently and affordably create and manage Web content;
- Repurpose and reuse content;
- Deliver timely, targeted and accessible content;
- Improve content value;
- Further reduce ongoing operational costs; and
- Realize rapid ROI.

If your organization is considering an enterprise or Web content management system implementation, you'll want to be sure you know everything there is to know about today's available WCMS solutions. And, you'll want to make sure you arm yourself with the functionality to help you manage your content in the most efficient and cost-effective manner. A clear understanding of the benefits of today's advanced and next generation WCMS features will ensure you select a solution that's best aligned with your content management strategy. ■

handling. A big company with 15,000 employees can get 250,000 resumes a year. Handling these electronically in a centralized system is "triply" valuable: there are hard dollar savings; there's competitive advantage by cutting response time; and you can show that you're treating people fairly in your hiring practices. Different people in the organization see these different sets of value. Managers with P&L responsibilities see the dollar savings; hiring managers know they can get good people right away; and the legal department can point to a good track record. Everyone can see right away how content management benefits them.

Ethan Eisner, LexisNexis: We look at user adoption in two ways: first is the acceptance of our content and the value perceived there; and secondly, the overall adoption of content—both internal and external—across the board. Whether you're looking at our platform alone, or ECM across the organization, user adoption is probably the most critical success factor. Everything we do is there to increase adoption and satisfaction.

Johannes Scholtes, ZyLAB: Enhancing user adoption is a step-by-step process. For instance, paper is still a major problem. If you take away the problems of paper and leave the convenience of paper, you solve a lot of problems for end users. Having done that, you can demonstrate the advantages and get great user adoption. Then you go onto electronic files, and then to e-mails. At the end of the day, it evolves into an enterprise solution, without having to buy a large database solution upfront and figure out how you want to deploy it over the long term.

Andrew Pery, Hummingbird: Specific solutions will drive this market. Managing contracts, for example—there's a lifecycle to a contract that includes a lot of integration with applications, such as supply chain from SAP or Siebel. In contract management, for every transaction that occurs, there are about 10 to12 separate interactions. In a Fortune 1,000 company, there are anywhere from 20,000 to 40,000 contracts pending at any given time, distributed all over the map, with very few people to administer them. End-user solutions will be driven by this kind of specific business problem. There will be a series of these specific solutions that have enterprise-wide implications in how you deploy them.

George Viebeck, Documentum: In life sciences, the management of clinical trials and FDA requirements is very acute. Product recalls by the FDA in the pharmaceutical industry have underscored not only awareness of content management, but that there's

a corresponding set of requirements downstream. There are many physicians using drug companies' products, and you have to provide detailed product information in a user-friendly way-via e-mail, or a personalized portal or even through wireless communications. The distribution channels (for content) are very broad these days, and that's another role for ECM to play.

PG Bartlett, Arbortext: Publishing—which includes creating, reviewing, approving, assembling, formatting and delivering document information—is one of the most important processes that relies on ECM. By automating this process and integrating it with other business systems, enterprises can vastly improve the quality of the information they deliver to their customers, employees, investors or regulators, while also cutting costs and time-to-market. It's an irresistible combination of benefits that our customers already enjoy, and most of them build their enterprise publishing systems on top of an ECM system.

Dan Ryan, Stellent: We make a distinction between the users of intranet portals, and those who create and publish the content. We want the dozen or so actual users of content management to know they're interacting with the ECM system as little as possible. We want the viewers of content to NOT know they're interacting with the ECM system AT ALL.

There are tiers of users. First, there are the great masses who have no knowledge they are interacting with the system...they have a folder metaphor where they drop content in and magic happens. That's the largest number of users, so if you want to succeed in enterprise content management, you need to get those people using the product day-to-day. After that are the much smaller numbers of power users (who DO interact with the metadata and applications) and then there's IT and information architect planners. You need to address *down* that pyramid as far as you can...that's how you get people onto the system.

4. *What are the economic factors driving ECM today? Does ROI rule the purchase of content management as it does other applications?*

Tom Jenkins, Open Text: About 55% of our recent business has been driven by a combination of demand for productivity and the need for compliance. Customers are trying to find a silver lining in the cloud. They're required to adhere to regulation, but at the same time they're trying to get productivity gains from that same investment.

The ROIs are much, much greater at the enterprise level than the department level. People are starting to realize that. The irony

is, they're being forced into it by compliance—they're creating enterprise-wide knowledge repositories that, later on, are going to be very useful.

Ethan Eisner, LexisNexis: Customers are looking for ways to enhance their investment in content management. We're a content provider, but customers want to bring us in as a value-add to the investment they've already made in their CM system. For example, better ways to organize information, better ways to push it out to the right audience at the right time, etc.

PG Bartlett, Arbortext: Implementing technology while promising zero impact is just foolish—the whole point is to get the organization to change its behavior in order to gain the benefits that ECM promises. Enterprise publishing software offers great benefits only to organizations that are willing to endure significant changes. It's vital to show the users that if they are willing to change, they will increase their value to the organization in significant and measurable ways.

Tom Jenkins, Open Text: Clients often do an ROI analysis before making an investment in ECM, but once it's up and running, the payback is so self-evident, they stop measuring just how much value they're getting! That, of course, makes it difficult to demonstrate what these ROIs are over many years...

At the end of the day, enterprise content management is not all that mysterious, but it is also not as ubiquitous as you might think as you read these pages. As Stellent's Dan Ryan points out, "A broadly deployed intranet is probably the closest thing to an enterprise-wide deployment of content management there is."

But the inescapable common theme that runs through these experts' comments and the essays that follow is this: Whether you view it as a tactical solution or a strategic imperative, enterprise content management has entered the corporate lexicon. Don't worry too much if you haven't given content management enough thought. You will soon enough. ∎

Andy Moore is a 25-year publishing professional, editor and writer who concentrates on business process improvement through document and content management. As a publication editor, Moore most recently was editor-in-chief and co-publisher of KMWorld Magazine. He is now publisher of KMWorld Magazine and its related online publications.

As Editorial Director for the Specialty Publishing Group, Moore acts as chair for the "KMWorld Best Practices White Papers" and the "EContent Leadership" series, overseeing editorial content, conducting market research and writing the opening essays for each of the white papers in the series.

Moore has been fortunate enough to cover emerging areas of applied technology for much of his career, ranging from telecom and networking through to information management. In this role, he has been pleased to witness first-hand the decade's most significant business and organizational revolution: the drive to leverage organizational

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