

Buying & Deploying...*Digital Content*

Andy Moore 2 **Overture Article: The Surround Stuff**

Jesse Kornbluth is the content director for AOL, and thus influences the most-read online resource in the world. I heard him address a conference, which he started this way: "I propose we find the guy who first coined the term 'content,' and kick the living %\$# out of him."*

It's a funny line. Everyone cracks up. And then he proceeds to talk about the difficulties in talking about "content" as though it were a single identifiable substance. It's not, and if there's any better proof necessary, take a look at the assorted lot we have in this "content" white paper...

Peter R. Tierney, Sawyer Media Systems 4 **The Competitive Advantages of Rich Media**

The world we live in is visual—but most business communication isn't. Think about the following facts:

- Studies show that people retain only 10% of the information they read, 20% of the information they hear, but 50% of the information they see and hear;
- According to a 1971 study by UCLA professor Albert Mehrabian, body language and facial expressions represent about 55% of the information that people interpret;
- Three generations of business users have been raised watching television, so they intuitively understand the way stories are presented in a visual medium...

Mike Tansey, Thomson Scientific. 6 **Intelligent Content and Technology Integration**

To create a unified digital library environment, information managers can no longer select database products based purely on content. Instead, they must seek out implementations from leaders who can also offer new technologies for organization, searching and links navigation.

Meeting the challenge of content management, therefore, means selecting the right content, and ensuring that the tools and technologies that accompany it build on the research environment already in place...

LexisNexis 8 **Premium Content Integration: Capitalize on the Opportunities Now**

Organizations today face unrelenting pressure to achieve greater productivity, higher revenues per employee and smart responses to clients and competitors. To realize these objectives, business professionals need access to content resources that enable them to answer questions and to quickly make informed decisions. While there is a staggering amount of content available from different sources and in different formats, all the content in the world is of little value unless it is trustworthy, easy to access and integrated into the user's work flow...

Phillip L. Green, Inmagic. 10 **Sound Content Management Starts at the Local Level**

As the ocean of information deepens every minute of every hour of every day, leading-edge thinkers in the world of corporate content management are coming to realize one inalienable truth: One size does not fit all. Information-intensive organizations are just not well served by strictly enterprise-level content management solutions. While it may be convenient for businesses to think of content management only in terms of the enterprise, the fact of the matter is the different business units of an organization have uniquely distinct information needs, so the most effective content management solution starts at the local level...

Sponsored By:



The Surround Stuff

Today's content providers go in search for the true source of value

By Andy Moore, Editorial Director, Specialty Publishing Group

Jesse Kornbluth is the content director for AOL, and thus influences one of the most-read online resources in the world. I heard him address a conference, which he started this way: "I propose we find the guy who first coined the term 'content,' and kick the living %\$*# out of him."

It's a funny line. Everyone cracks up. And then he proceeds to talk about the difficulties in talking about "content" as though it were a single identifiable substance. It's not, and if there's any better proof necessary, take a look at the assorted lot we have in this "content" white paper.

As if to mock me in my futile search for a central theme to the content marketplace, the three executives I spoke with provide three distinct and unique views of this stubbornly difficult-to-pigeonhole marketplace.

One message is fairly constant, though: The challenge faced by content providers today has little to do with the content itself. Oh sure, they each have a great "quality" story to tell. Their ability to create proprietary, exclusive, important stuff is one of their hallmarks. And the editorial component—the skill with which they verify, aggregate and concentrate relevant information—remains a competitive necessity.

"The challenge faced by content providers today has little to do with the content itself."

But the real value, they all agree, is not only the product itself, but what my old boss used to call "The Surround Stuff." How can the content add meaning to a business process? How completely and

seamlessly can it be combined with other information? To what degree is the content delivered intuitively, as though the provider could read your mind and seem to know exactly what you wanted? It's another way of saying customer service, I suppose. But it's more than that. It's something deeper, more meaningful...

If I had to identify the single most impactful trend among the content market leaders today, I would say, thankfully, that "the Surround Stuff" really matters to them.

At the Customer's Threshold

Wendy Beecham is senior VP for LexisNexis, Enterprise & Library division. Because the E & L division is responsible for the corporate, Federal and academic markets, Wendy is focused on a diverse set of market segments that don't immediately seem especially compatible. And because she's only been at the job since February, Wendy is also focused on learning right now...especially when the subject is the cross-leverage potential of her various content resources.

"The statistical and government information we provide can be very valuable as back-up to create proposals, or to do a business analysis, for example, on cost-of-goods sold," she explains. "We also have very valuable information to help with risk assessment across countries, for instance. There are some real hidden gems in there. We've just never packaged it that way before."

Other examples of cross-pollination emerge from the overlap between the academic and business segments. LexisNexis produces a business-news service ("LexisNexis Universe") that, with the exception of a Yahoo!-type service—is the only service that provides access to news for the academic community. Now they plan to re-purpose some of the business services they currently package for the corporate market and make them more applicable for use by the key business schools.

(And by the way, this is premium content that goes way beyond run-of-the-mill



Andy Moore

Andy Moore has held senior editorial and publishing positions for more than 25 years. As a technology writer and editor, Moore speaks with dozens of senior executives and industry experts each month. In his role as Editorial Director for the Specialty Publishing Group, Moore oversees the

contributions to the series as well as conducting market research for future topics of interest for the series.

In addition to the various Specialty Group projects, Moore is an editorial consultant and has most recently acted as *KMWorld's* editor-in-chief.

Web content. "This kind of data isn't available publicly. If you're going to make strategic business decisions that have revenue impact, you need to go beyond Web sources," stresses Wendy.)

Seeing the value in existing content, and thoughtfully considering how to help customers use it to greater effect, is part of the Surround Stuff ethos. Wendy uses this example: "We have domain experts who can get into such levels of detail with our customers' taxonomies that we help make sure they don't miss any future trends or opportunities. And we continue to keep them updated, working together."

So the role of the information provider, already evolved beyond that of a mere general-reference source or database service, is showing more promising signs of maturity and complexity. Take high-value, original information, add a precise and application-specific search methodology and present it with an irrefutable validation of accuracy and trustworthiness, and a provider such as LexisNexis starts to look a lot like a business partner versus just another cost-of-business vendor.

Stressing "Provider" Over "Content"

The gradual evolution of the typical commercial content provider from monolithic information resource to value-added information partner can also be seen in another, more data-intensive provider, Thomson Scientific. Mike Tansey is the CEO of TS, which now includes the Institute for Scientific Information (ISI), ISI ResearchSoft, Derwent Information, Derwent-Wila and Current Drugs. Tansey views the shift in emphasis from the "content" part toward the "provider" part as central to his business,

and his worldview. "Over time, we've come to look at our database as a starting point for people who are managing a whole series of related information assets," says Mike, and adds that this is "a path we're still exploring."

In describing the value-add proposition that TS and companies like it provide, Mike lists three critical discriminators, and—interestingly—the actual content is only tangentially related to any of them:

"One is the navigational database, and how much guidance you provide in the initial determination of what's relevant;

"The second is how deeply connected that result set is to OTHER content that you can find to bring to the table; and finally,

"How seamlessly you can integrate all the above with internal business data." For Mike, the richness of the relationship between content provider and customer is much more than just the quality of the content itself—it's how well and how easily it can be put to use in the business process.

I think it's the reality of our time. In the past, when research or patent information was delivered in print form—"pull up the forklift"—there was little alternative for the content provider except to accept that

the Surround Stuff includes the technical interfaces and underpinnings, too. Mike talks about the "validation and the precision of search" that Thomson Scientific strives to provide. At LexisNexis, Wendy stresses ease-of-use: "the extent to which the *complexity* is masked from the ultimate consumer," they write, determines how well their products help the ultimate consumer, the knowledge worker.

From a whole 'nother plane of "ease-of-use" comes our third example, Sawyer Media Systems. Best known (if known much at all) as the company co-founded by TV news anchor Forrest Sawyer, Sawyer Media has made "masking the complexity" practically an art form.

"Yes, that's right," says Peter Tierney, president and CEO. "We do try to hide the wires." And wires aplenty there are. Sawyer Media works with customers to develop broadcast-quality streaming video and audio for all sorts of "communications" applications—marketing, sales training, investor relations, for instance.

The central message of Sawyer Media comes from an observation that Forrest used to get this company off the ground, and that is: *Why is it that you can watch a 22-minute news broadcast and remember*

Wrapping the two missing pieces—production expertise and deployment platform—around the basic business problem of communicating effectively became their mission.

"To start with, rich media is not very well produced," says Peter. "We can help there, but secondly, streaming media today has a lot of exposed wiring." By that he means, in part, that the RealPlayer or QuickTime media players interrupt the experience of the viewer, distracting and isolating the content from the rest of the data on the user's screen. "In the same way that web sites have become the platform for publishing information, this is a platform for publishing rich media."

Picking a Partner

To the degree that publishing useful information on behalf of your customers and partners is *central* and mission-critical to your business, companies like TS and LexisNexis and Sawyer Media all have a permanent seat at the table. For some, these companies will be the only game in town, and thus will always be thought of as more of a "have-to-have" than a "want-to-have."

But to the further degree that they can enhance the experience you have with customers, playing a part in providing the all-important Surround Stuff, these companies are among the indispensable partners in your futures.

As I suggested at the beginning, the articles in these pages will do nothing to clarify the definition of "content" for you. But they do elevate the conversation past the raw materials of communication, and into the realm of service and partnership. And that's a pretty good place to start the process of thinking about your strategies for buying and deploying "content."

Whatever that is. □

Andy Moore is a 25-year publishing professional, editor and writer who concentrates on business process improvement through document and content management. 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 knowledge assets (documents, records, information and object repositories) to improve performance and improve lives.

Moore is based in Camden, Maine, and can be reached at andy.moore@adelphia.net

"The role of the information provider...is showing more promising signs of maturity and complexity."

one-size-has-to-fit-all, and the best business model was to simply keep on doing what you're doing. But Mike and the rest understand the concept of Surround Stuff. Mike puts it this way: "We used to sell a database, and this is what it's going to do for you. Now, we're talking more with customers about what the entire process looks like: What can we do to improve your intellectual property/digital asset management activities? Can we provide something that fits better into your workflow? Can we do something that is a better value proposition for you?"

These are Surround Stuff questions.

Hiding the Wires

Both Wendy and Mike would agree that their respective companies' ability to compete and thrive will depend on customer-awareness, but this emphasis on

practically everything, but you can sit through a two-hour business meeting and remember practically nothing? It seems intuitive that business communications can learn a lesson from 50 years of news production expertise, and create a new way of delivering important content.

But it's not as simple as putting a talking head in front of a camera. "Companies have been making videos for years," points out Peter. "And they spend months creating them, untold dollars distributing them, and nobody watches them."

It became clear that the answer was two-fold: One, there's more to communications than talking heads—production expertise plays a part. And, secondly, Sawyer Media felt there was no software platform in place to publish streaming video in the same way that software existed to build Web sites, for example.

The Competitive Advantages of Rich Media

By Peter R. Tierney, President & CEO, Sawyer Media Systems

The world we live in is visual—but most business communication isn't. Think about the following facts:

- Studies show that people retain only 10% of the information they read, 20% of the information they hear, but 50% of the information they see and hear¹;
- According to a 1971 study by UCLA professor Albert Mehrabian, body language and facial expressions represent about 55% of the information that people interpret²;
- Three generations of business users have been raised watching television, so they intuitively understand the way stories are presented in a visual medium; and
- The rapidly increasing penetration of broadband in both homes (79% of US Internet homes by 2008)³ and businesses (80% of Global 2000 companies by 2006)⁴ means that rich media can take advantage of the Internet's reach and interactivity to deliver video, voice, data and animation on a scale never seen before.

That's quite a lot of detailed information to digest. What it boils down to is this: as a business communication vehicle, rich media can engage, entertain and inform business audiences faster and far more effectively than *any other* type of communication.

But the question remains: Why aren't more companies using it?

Rich Media Barriers are Falling

To date, businesses have used rich media primarily as a vehicle for sales and marketing initiatives such as streaming e-mails, online ads and Flash animation on the corporate Web site. Although these initiatives have generally been successful, the difficulty in storing, presenting and re-purposing this media for other uses has limited its effectiveness and minimized its return on investment.

Several factors are changing that. First is the digital revolution—with the prices for digital still cameras, digital video cameras and digital editing equipment falling rapidly, rich media is increasingly within reach of companies with even the leanest budgets. Second, the growing broadband penetration, noted above, presents the opportunity for companies to re-think the way they're communicating with customers, prospects, partners and employees. As McKinsey & Company found in a recent report:

"[Broadband] is already changing the architecture of many companies...as universities drive their curricula on-line, for instance, remote-learning services will improve greatly and new educational possibilities will arise...in a variety of areas, including financial services, health care, the public sector, and retailing, we are beginning to see broadband deployed in ways that, on a larger scale, could alter the way markets work. The use of interactive video to deliver professional banking-advisor services is one such example..."⁵

The third factor allowing companies to effectively use rich media is a new model called the Enterprise Media Network (EMN), a combination of technology and services that allows companies to not only store and archive their media but distribute it via a Web-based interface. An EMN can also measure how that media was viewed, allowing companies to read and analyze key data from their rich media initiatives.



Peter R. Tierney

Before joining Sawyer Media, Peter Tierney spent four years as president and chief executive officer of MarketFirst Software Corporation, a company that specializes in maximizing the effectiveness of marketing programs. Within three years he led the company to a leading position in the enterprise marketing automation field.

Prior to MarketFirst, Mr. Tierney was president and CEO of Inference Corporation, a vendor of knowledge management content tools. There he reorganized the company, shifting it from a consulting-based expert systems supplier to a leader in the knowledge management market.

It's useful to think of the EMN as sitting in the center of the enterprise, supporting key departments with rich media communication that engages, entertains and informs key audiences, increasing their retention and converting it to potential revenue. But besides serving as a revenue-generator, an EMN will also immediately start saving companies thousands—and sometimes millions—of dollars, by doing away with the all-too-common "silo" approach to rich media production.

Media-enabled Business Processes

With digital costs falling, the broadband channel enabled and EMNs available to make storage, delivery and reporting hassle-free, companies are finally able to adopt rich media as an essential tool for improving business processes across the enterprise—including marketing, sales, human resources, employee training, customer service and partner relationships. It's a shift in thinking away from media projects to *media-enabled business processes*, and here's how it could look in your company:

- **Product launch**—Perhaps the most important factor in a successful product launch is a prepared, educated sales force. A Web-based media portal that accommodates 24/7 access by remote sales teams can get them there fast. Such a portal can host both media files and more traditional print collateral, enabling companies to train sales teams with diverse learning styles. When training is complete, the company can use the same portal to provide the teams with the mixed media they need, like product demos, sales presentation, print collateral and promotional material, to hit the ground running in support of a successful launch;



- **Partner relationships**—Competing channel partners often have difficulty getting the right information from the company they're supporting. But with an EMN, the company can continually upload media files such as customer testimonials, analyst interviews and corporate overviews that channel partners can leverage to more effectively promote the company. Equally important, the company can set different levels of security for each file to control access among competing partners. Reporting features allow companies to determine which partners are most actively using the media, and which media is the most effective for each partner, helping the company increase revenue through its channels; and
- **Crisis communication**—In a crisis, time is of the essence. Business executives know they've got to get the right information to the right people as quickly as possible to restore consumer confidence. Certainly, it can be done with text. But the importance of seeing and hearing a company's leader during trying times

simply can't be underestimated. Integrating a reliable enterprise media network enables companies to rapidly respond to crises with targeted rich media communication, and also lets them protect their most important asset—their reputation.

Benefits That Go Beyond Dollars

As important as quantifiable cost-savings are, the benefits of shifting from project-based rich media to strategic media-enabled business processes go beyond dollars. According to research done by the Yankee Group, companies using rich media have reported significant enhancements in areas that are sometimes difficult or impossible to quantify precisely, such as:

- Faster time-to-market;
- Increased sales force and partner productivity;
- Increased customer satisfaction and loyalty;
- Decreased customer service time;
- Competitive positioning;
- Greater market share;
- Shorter sales cycles;
- Higher-quality sales leads; and

- More efficient employee training and education programs⁶

The evidence is clear—the competitive advantage goes to companies that embrace rich media. Not the rich media of yesterday, but strategic rich media that enables business processes, creating a more streamlined, more productive and more cost-effective business. The next generation of business communication is here. □

- 1: D.G Treichler Research, 1967
- 2: Bowman, John (2001, January 24). Analyst view: The emergence of rich media, Red Herring (Web).
- 3: King, Peter (2002, December). Residential Broadband Modems and Gateways: Global Market Forecast—Strategy Analytics (Web).
- 4: Gartner Group, 2001
- 5: Beardsley, Scott; Doman, Andrew; & Edin, Pär (2003, Number 2). Making sense of broadband, The McKinsey Quarterly (Web).
- 6: Ritter, Paul (July 2002). Evaluating streaming media technology investments: The importance of examining strategic benefits as well as financial returns. The Yankee Group Internet Business Strategies, p. 8.

“You Can’t Ignore Visual Media”

Silicon Valley-based Hyperion, the global leader of Business Performance Management (BPM) software, has been growing steadily since its founding in 1991. Hyperion's products and services have benefited more than 6,000 customers in dozens of countries, supported by Hyperion's 2,100 worldwide employees. But recently that same widespread corporate population was becoming increasingly difficult to reach.

Kathi Fox, Vice President of Corporate Marketing for Hyperion, knew that she needed to change the way the company communicated to keep employees both informed and interested. She also knew that rich media was the way to accomplish that. “Visual communication is memorable,” explains Fox. “If you send somebody something to download, print and read, it's not as engaging. You can ignore attachments, but you can't ignore visual media.”

The first priority for Fox was to engage the field sales and field marketing groups. As the most geographically distant groups in any organization, sales and marketing employees in the field are also the most in need of a constant stream of information. “I've worked with sales folks, and they always remember Web stuff, videos, visual presentations,” Fox says.

But Fox also knew from experience that rich media vendors would not provide what Hyperion was looking for—not only high quality media, but an understanding of how that media could be used across the enterprise to meet business goals. As Fox recalls, “With the vendors we'd used in the past, they could only do a small piece, like the production, and then I would end up putting the other pieces together, like distribution or testing or reporting. We needed more.”

That's when Fox met Sawyer Media Systems, an Enterprise Media Solutions company that brought a unique combination of rich media production, consulting and technology. Sawyer Media was able to produce the high quality programming that Hyperion needed, while also providing expert consulting on how to get the best results out of that media. Sawyer Media also brought to the table its flagship platform, MediaPresenter, which allowed Hyperion to create a customized Web-based interface that would serve as a central location for all the new media being produced.

“The interface—which we're calling the Hyperion Zone—is a wonderful blend of information and entertainment. We've created an animated character called Harry Hyperion to host and guide people through both the rich media and the text-based PDFs on the site,” Fox explains.

Asked what types of information Hyperion will be communicating, Fox replied, “Everything! Corporate information, customer stories, product information. We're also working on a project now where we've done some research to get an outside perspective on the BPM category and how we're viewed. It's really valuable for our employees to see how our company is viewed from outsiders.” Fox also notes that the rich media used in conjunction with this project is a great way to reinforce the company's new brand look and feel.

Hyperion will also be leveraging the Sawyer Media solution for several large upcoming rollouts, including Siebel, Documentum and a transition from Lotus Notes to Outlook. “When we do a big launch it's hard to rally the troops and the Hyperion Zone will be part of that rally,” Fox says.

With the filming completed—filming that included success stories, vision pieces, analyst interviews, thought leadership pieces and a corporate montage—the Hyperion Zone is expected to roll out in the spring of 2003. But Fox is already planning for future quarters. “Going forward, I can see using media for employee training,” Fox says. “And I also want to hear from our executives. Our CFO has great insights so let's hear from him about the obstacles we need to overcome and our quarterly results. Let's hear from our CIO, who is terrific, about what he's thinking about this month. I've got a lot of ideas.”

Though the Sawyer Media solution is still in pre-launch mode, Fox is happy with the results so far. “Ease of use was our primary criterion, followed by an interesting and entertaining look—and we got that. The Sawyer Media solution was easy and comprehensive—it wasn't just one piece. I've got only one person to call if something doesn't work and that's very nice.”

Intelligent Content and Technology Integration

By Mike Tansey, President and CEO, Thomson Scientific



Mike Tansey

Mike Tansey is the CEO of Thomson Scientific. Previously, Mike served as the President and CEO of ISI. He has been involved with the evolution of electronic publishing for almost 20 years. Prior to becoming President of ISI,

Mike was responsible for all product management and was instrumental in the development and launch of the *ISI Web of Science*. Before joining ISI, Mike was responsible for all technology operations at BRS Information Technologies and prior to that he was responsible for all technical publishing activities at Aspen Systems Corporation—a leading supplier of information management solutions to the Federal Government and Legal Markets.

To create a unified digital library environment, information managers can no longer select database products based purely on content. Instead, they must seek out implementations from leaders who can also offer new technologies for organization, searching and links navigation. Information providers are developing fully integrated solutions, including links management systems and non-traditional search technologies. Meeting the challenge of content management, therefore, means selecting the right content, and ensuring that the tools and technologies that accompany it build on the research environment already in place.

Linking Gateways

In the Web world, the first piece of the digital library technology puzzle is the links infrastructure. Information managers have a daunting task: to ensure that links management within specific vendor platforms offers the best value-added benefits, and that those same vendor platforms work seamlessly with any portal-level, context-sensitive linking system in use by the library.

A well-conceived vendor platform is one that allows a researcher to follow an idea wherever it may lead, allowing the underlying linking system to integrate, extend and organize the research environment. A successful linking infrastructure acts “behind the scenes” to ensure that the natural relationships between content sources are highlighted for the user. The ISI Web of Knowledge platform is an example of how a linking infrastructure can provide those connections.

Interproduct links: Connect a record in one content source to the same record in another. By seeing how one article can be found in numerous resources, researchers are able to explore a set of related databases in a targeted way, and to quickly and easily gather the unique information provided in each. A researcher has a variety of ways to explore a topic within an individual database, but with interproduct links the possibilities increase dramatically. The ISI

Links infrastructure within ISIWeb of Knowledge permits this type of exploration by automatically showing special link buttons whenever a paper appears in two or more platform resources. ISI Links manages the connections between content—within the context of the institution’s subscriptions—so that a researcher doesn’t need to.

Shared Citation Links: As serendipity is as much a part of the research process as effort, vendors must find new ways to help researchers along the discovery path. For us, this means using the ISI Links management system to “share” citation information across platform databases. Special buttons have been added to the full record of hosted content sources to allow novice users to “stumble” upon the benefits of citation indexing information. Direct links to full bibliographies, lists of citing articles and even a “find more like this” feature (called Related Records, formerly only available in Web of Science) are now available within hosted databases such as BIOSIS Previews and INSPEC.¹

Full Text Links: For vendor platforms based on bibliographic databases, management of full text links is critical. The role of bibliographic databases is to provide an efficient way to filter an ocean of information down to a pool of relevant articles, papers and patents needed at a given moment. The next step is to locate the full text of those items—and in a well-designed platform, doing so is a matter of a few mouse clicks.

Here again, the ISI Links management system comes into play within the ISI Web of Knowledge platform, offering full text links via direct publisher feeds and a unique pre-verified algorithmic linking called “RoboLinks.” Link resolution is always assured through this stable yet extensible system that has been specifically designed to ensure reliable links to the appropriate copy of an institution’s full text.

Context Sensitive Links: A final consideration for the information professional wrestling with the evaluation of a vendor

platform is that of links compatibility with the greater library mission. More institutions are realizing the importance of a context-sensitive link package, or “links server,” to a digital library. A links server offers a way to provide a “menu” of ideas to help researchers decide the best next step in the research process. For example, it can identify which databases index a particular journal, direct a user to all the places where the full text of an article can be found, or to work directly with a document delivery system. The sophistication of links servers range from basic (focusing on relationships between standard electronic resources) to comprehensive (focusing on complete serials management).

To fully support a digital library, a vendor platform must be able to seamlessly integrate with an institution’s context-sensitive linking package. To this end, the ISIWeb of Knowledge platform has been enhanced to offer the integration of OpenURL-based links servers. Web of Science is currently OpenURL-enabled, and all other content sources within the platform will soon follow suit.

Beyond the Traditional Search

The second piece of the digital library technology puzzle is the search infrastructure. Whereas links offer the opportunity for content relationships to be highlighted, search options offer the researcher a way to use those relationships in a personal, targeted context for precise information retrieval.

A well-developed vendor platform allows different types and levels of searching to meet the needs of different types of research methods. In today’s digital research environments, traditional (Boolean) searching is complemented by new relevance-based

natural language searching, cross-search technologies and even new portal-level cross-collection discovery tools.

Natural Language Searching: With the development of search engines specifically designed to meet the needs of Web-based information, there has been a shift away from the traditional Boolean search paradigm towards a probabilistic model. When retrieving information, a traditional search system manipulates the exact algebraic relationship between the terms entered by the user. In contrast, probabilistic (or “natural language”) search systems focus on the concept behind the terms, by weighting each term and then applying relevance to select documents. Natural language searching complements traditional searching. A platform that provides both greatly enhances the research experience.

“With the advent of federated searching, portal-level search technology options are about to change dramatically.”

Within ISI Web of Knowledge, the MuscatDiscovery probabilistic search engine supports two tools: Current Contents eSearch and ISI CrossSearch. In a single search, Current Contents eSearch allows users to retrieve journal articles through a traditional engine and evaluated Web sites (and individual Web documents) through a probabilistic engine. The researcher enters terms into the Current Contents Connect search interface, which queries them against a set of journals. Current Contents eSearch then transforms the Boolean search into a probabilistic one by adding weighting and relevance criteria. The resultant query is matched against Web sites and Web documents in the Current Web Contents database; relevant hits are returned. Because this second search is completed “behind-the-scenes,” the user can uncover valuable Web documents and Web site reviews as a natural extension of a typical journal search.

Cross-Searching: Cross-searching of multiple resources comes into play when there is a need to complement individual database searching (whether traditional or natural language) with a next-level discovery tool.

ISI CrossSearch provides a way of discovering relevant documents—journals,

proceedings papers and patents—found in the databases produced by Thomson as well as those hosted within the platform through partnerships with other information producers. A researcher has a choice between conducting a traditional cross-search or a natural language cross-search. For the latter, the easy-to-use “concept” box welcomes users to enter a phrase, sentence, or entire paragraph. This allows the user to approach the research process in a different way, starting with a general idea or concept rather than a specific set of words. The concept CrossSearch is run against the databases chosen by the user, and returns a de-duplicated results list sorted by relevance. From there, a researcher decides which individual resource to drill down into by selecting whichever individual database best suits his/her needs.

Federated Searching: Enabling true cross-collection discovery, however, demands even more than a cross-search mechanism. It requires a meta-search mechanism at the portal level, a system referred to as “broadcast,” “multi-protocol,” “meta-” or “federated” searching.

Federated searching provides a single search interface for all of an organization’s electronic resources. Unlike in a cross-search system or a single protocol-based system (such as Z39.50), each database remains in its native format and is not expected to be enabled with a certain query language. Instead, a federated search system houses a set of translators to complete each search—one translator for each database. The system takes the user’s search terms, translates the search string into the proper syntax for each electronic resource the user has selected, and then sends each query out separately to the appropriate content source. The federated search system has no search engine of its own—it relies upon the capabilities of the search engines found within the individual databases themselves to retrieve results.

Designed to complement rather than replace the searching within individual databases, this discovery system offers powerful benefits for a digital library environment. It allows a content manager to facilitate easy access to an organization’s electronic resources—acting as a bridge to lead researchers from the library or organization portal homepage quickly and easily into the electronic resources they need most for their day-to-day information gathering activities. It provides a new tool for both novice and experienced information users in a way that allows a library professional to direct them to the proper resources in an efficient and

focused manner. A federated search system also aids e-resource managers by increasing usage of their underutilized resources in order to increase return-on-investment for those content expenditures.

We have chosen to incorporate federated searching in two distinct ways. First, a proprietary federated search infrastructure is a fundamental part of ISI Web of Knowledge. Using the ISI CrossSearch feature as a foundation, a researcher can opt to have a search query automatically translated into the syntax necessary for two external content sources: PubMed and AGRICOLA. Other free resources in various disciplines will be added in the future, as well as optional subscription-based resources. Second, we have entered into a partnership with WebFeat, Inc., a leader in federated search systems, to offer solutions directly on the library or organization portal.

Future Directions

With the adoption of the OpenURL standard, the information industry has the foundation it needs to improve and extend linking infrastructures in new directions. Information vendors are OpenURL-enabling their products so that a library’s context-sensitive links server can be easily integrated with their product offerings.

With the advent of federated searching, portal-level search technology options are about to change dramatically. NISO has already formed a “MetaSearch” standards initiative, and this new type of resource discovery will certainly become an important part of any digital library environment.

The bottom line is that content managers are no longer thinking purely about database content, and information technology specialists are no longer thinking simply in terms of systems. Instead, they are working together to look at the bigger digital library picture, and are taking a comprehensive approach toward the development of electronic resource environments. The only way to ensure intelligent integration within the research organization is to choose content from information companies that offer value-added linking and searching with the larger digital library environment in mind. □

Thomson ISI products and features mentioned herein are trademarks, service marks and registered trademarks used under license. Thomson ISI has no proprietary interest in the marks or names of others.

1. BIOSIS Previews is from the publisher of Biological Abstracts. INSPEC is produced by the Institution of Electrical Engineers.

Premium Content Integration: Capitalize on the Opportunities Now

By LexisNexis

Organizations today face unrelenting pressure to achieve greater productivity, higher revenues per employee and smart responses to clients and competitors. To realize these objectives, business professionals need access to content resources that enable them to answer questions and to quickly make informed decisions. While there is a staggering amount of content available from different sources and in different formats, all the content in the world is of little value unless it is trustworthy, easy to access and integrated into the user's work flow.

For the past 30 years commercial search services have invested tremendous resources to license a broad set of content and fine tune the search software, so that professional researchers can obtain either a specific answer to almost any business question or background information to support business decisions. They have successfully built large repositories of premium content underpinned with solid information architecture. Development continues in both of these arenas—more high value content and advanced technology to store, search, and deliver that content.

Now these commercial search services also face the dual challenges of helping client organizations identify a manageable amount of content pertinent to their business to feed into enterprise work flow processes, while making the search interface even easier to use for a client base comprised of knowledge workers cutting across all industries and all functional areas. The extent to which the *complexity* of a myriad of information acquisition and integration tasks is masked from the ultimate consumer of the information will determine how much of the publisher's or aggregator's content actually surfaces at the desktop of the user and is evident in his/her work products.

A recent Deloitte Consulting study, "Enterprise Content Management: Taming Content Chaos," claims that "the average corporate database carries 100 terabytes, the same amount of space required to archive

all the pages posted to the World Wide Web between 1996-2001." The same study also notes: "Smart organizations have realized that success rests not on getting content *into* a database, but on *getting the right content out*—to the people who need it, when and how they need it."¹

Understanding Organizational Information Needs

What is the principal cause of failure to achieve the expected return on investment (ROI) for information services? It is the lack of focus on needs of users in the initial selection and deployment of resources or services.

Content buyers may understand information needs of certain functional groups, but it is increasingly difficult to have a handle on the needs of all potential consumers of premium content in an organization since their needs may vary drastically. In order for users to perceive content as strategically valuable, buyers must be disciplined about probing for specific needs before acquiring and launching external content; they must be equally as disciplined when checking utilization rates and user satisfaction when it is time to renew subscriber agreements.

At the same time, content buyers should be active participants on a team or teams responsible for the enterprise content strategy. Why is content being amassed? What are the costs involved? How will it be used? Who will use it? How will it be maintained? Is the infrastructure scalable?

The enterprise content management strategy should define content requirements for employees, business partners and public Web sites. At one time, principal content buyers were information professionals; now, content acquisition is a critical business strategy and necessarily involves many departments. This team must develop a rigorous methodology for evaluating content quality, vendors and technology solutions so that the tools and resources selected actually fulfill

the promise of enabling distinct user groups to access and use content they need.

For these reasons, content buyers have every right to anticipate working with vendors who understand content in context, understand how it fits into the workflow of various user groups and understand technology options for delivery and integration.

As an example, LexisNexis has several groups of specialists outside of the sales organization dedicated to helping clients with the challenges of providing access to the content set that best meets their needs. They have worked closely with various functional groups over the years to understand how these groups buy and use content. Their insights and direct customer input fuel the bulk of product development efforts today.

With an increasing number of platforms, software packages, standards and interfaces deployed for content management, it may be in the clients' best interest to work with a content vendor who trains and certifies integrators that are intimately familiar with its content structure and with enterprise applications and technology platforms. Rather than building an integration department and developing competencies to cover all aspects of integration, some aggregators are choosing the training and certification path. As part of the methodology content buyers use to evaluate information provider partners, they must carefully assess whether or not they will have access to the technical support they need either directly from the vendor or from partnerships certified by the vendor.

Content Acquisition

Information aggregators need to consider content acquisition from two perspectives:

- What high-value content sources must still be added to the core service in anticipation of ever-changing user requirements and to round out its global offering?
- How can aggregators help clients select and acquire slices of content to meet requirements of specific subsets of users?

In years past, the corporate philosophy of the traditional search services appeared to be an effort to acquire *everything* in terms of digital business content. With a substantial base of key publications across a range of industries, the strategy has now shifted to focus on licensing global content in multiple languages and content sources in particular areas that align with a more narrowly defined corporate strategy. Current initiatives at LexisNexis, for example, include licensing

more business and financial sources as well as enhancing public records data.

Clients today expect help from vendors to select and acquire slices of unstructured content matching particular business processes to feed corporate portals or intranets. They also expect that vendors have negotiated broad distribution rights, enabling them to serve up the content in various ways once it is in the client environment.

Content Integration

One of the beauties of current technology stems from the ability to line it up with human processes to expedite business processes. It can be matched up with cognitive functions of humans (via graphical user interfaces) and applications to help users find answers based on what they are doing or work processes in which they are engaged, such as finding company information to complement internal information in CRM, ERP or knowledge management systems.

Content integrators are just scratching the surface in terms of learning how their content can be integrated into enterprise applications. It can be:

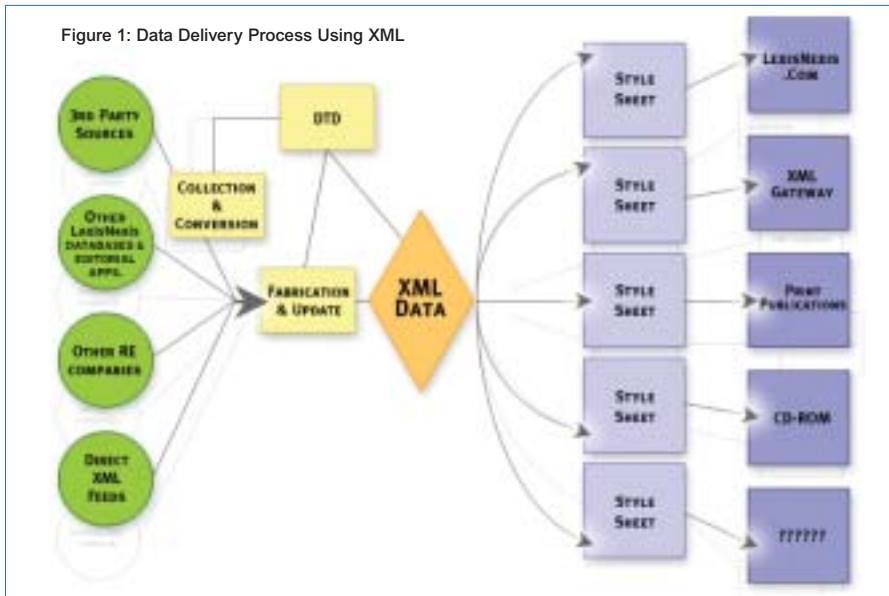
- Packaged topically—e.g., any news about the oil industry—and quickly pushed via e-mail or wireless devices to a user or group of users.
- Tailored to information needs of a business unit, practice area, corporate-wide department or geographic location and easily delivered to intranets and portals with XML coded records.
- Prepackaged for industry or functional areas with search forms, templates and plug-in search interfaces or interface screens customized for the client.

It is certain that many more integration techniques will be imagined and created as storage options are simplified, as clients demand access to multimedia formats, as bandwidth increases and as users begin to realize a positive impact to their productivity.

Some questions remain: What information resources do mass markets really need? What are the opportunities in those markets? What is the value proposition for the client?

Commercial search services have some of the answers. It is clear that back-end preparation and structuring of the data are extremely important to the customer—even though the customer may never see or understand how much care is taken with these processes and how much leading edge research is applied.

The client needs to be able to sort through overwhelming amounts of information to find



what is relevant, authoritative, timely and actionable to perform his or her work or to share with a team of individuals working in related areas. The user does not particularly care about the source of the information as long as it is trustworthy and accurate, so some answers may come from internal content repositories and others from external services. To help with obtaining answers and then navigating within the answer sets, information users can expect to see increased use of:

- Linking technology (e.g., Smart Tags)
- Taxonomies for indexing and categorization of content (e.g., SmartIndexing). Taxonomies must be carefully developed and maintained to accurately reflect the substance of content published in various languages to a global audience. Classification schemes or taxonomies will come to be essential for managing structured data as well as unstructured content if users are to successfully search across content repositories.
- XML tagging of records for platform-agnostic delivery of content to the user for on-site customization or personalization (e.g., LexisNexis Direct).

XML tagging, which explains both the content and structure of a document, has quickly become the standard for enabling data exchange between business systems; in fact, it is now considered the common denominator format for sending and storing data and information. XML promises greater flexibility for formatting documents being requested and viewed in a Web browser, on platforms such as mobile devices or in other enterprise applications. Published business and news items with XML tags can

be transferred to various internal repositories and customized for display in portals, corporate intranets, electronic collaboration workspaces or other knowledge sharing—giving buyers of this type of content much more value for their investment in the content and giving IT departments more return on their investment in portals or other content distribution destinations (see Figure 1).

Evolving content management and deployment technologies provide wonderful career development opportunities for information professionals. Where information professionals once primarily pulled documents and content from commercial services, they can now also apply their expertise to help with navigation. They can take advantage of tools provided by content providers or aggregators to analyze and categorize content for internal systems, prioritize, add editorial comments, push appropriate content to specific user groups, monitor use and train their colleagues on specific applications to maximize agreements with vendors. In addition to helping a single user at a time make a good business decision, they can extend their reach to helping their companies gain seamless access to a wealth of resources that enable good business decisions. □

1. Deloitte Research, "Enterprise Content Management: Taming Content Chaos" ©2002 Deloitte Consulting and Deloitte & Touche LLP. All rights reserved. ISBN 1-892384-21-7. <http://www.dc.com/research>.

SmartIndexing, Smart Tags and LexisNexis Direct are registered trademarks of LexisNexis. For more information about these and other LexisNexis products and services, contact your LexisNexis sales representative or call 1.800.227.4908.

Sound Content Management Starts at the Local Level

By Phillip L. Green, President and CEO, Inmagic, Inc.

As the ocean of information deepens every minute of every hour of every day, leading-edge thinkers in the world of corporate content management are coming to realize one inalienable truth:

One size does not fit all.

Information-intensive organizations are just not well served by strictly enterprise-level content management solutions. While it may be convenient for businesses to think of content management only in terms of the enterprise, the fact of the matter is the different business units of an organization have uniquely distinct information needs, so the most effective content management solution starts at the local level.

Consider the specific information needs of the marketing and R&D departments in a world class technology company. While the marketing department may need access to internal competitive intelligence reports, external industry analyst reports, and the metrics of a recently completed promotional campaign, the R&D department requires access to scientific journals, a link to the United States Patent Office, and an internal intellectual property database.

Providing Actionable Information

Decision makers in these and other departments need the most up-to-date and applicable information to make the best judgments possible. And the only way they

will have access to such information is if the content is managed at the local level where individual information requirements can be acknowledged and rapidly fulfilled.

For example, this same technology company has a project team comprised of members of new business development and R&D. They are charged with making a recommendation on whether to enter a new market. Local self-managed content management systems allow the team to set up a new knowledgebase, fill the knowledgebase with internal and external information, build custom reports, deploy it to the intranet—and accomplish all of this with the speed necessary to help make a decision in 60 days.

In contrast, imagine how long it would take to customize the enterprise-wide corporate portal, never mind the wait to get IT's response to your request.

Content that is Relevant and Timely

So while local control is the place to start when discussing sound content management policy, there are other issues that are crucial in the deployment and implementation of a highly effective content management solution.

Content should be well organized so that business users can put their hands on significant and disparate content sources without experiencing a complicated technical integration. The concept of well-organized information dovetails nicely with the idea of local control, because at the local level users are better able to organize and understand the content sources that are most important to their business efforts.

A local, well-organized content management solution must also combine relevant internal and external content. To make this possible, the content management system must be supple enough to create common information formats and share both the format and the data on the World Wide Web, intranets, and elsewhere. Consider the product management group within a multinational pharmaceutical company that delivers actionable information to the desktop by contextually merging existing internal business intelligence with streaming e-content. This provides end users with up-to-the moment

snapshots on the subjects of their choice. Because the group employs a self-managed, local content management solution, it is able to deliver this kind of information to its users 24/7/365 via the corporate intranet.

Similarly, for an eminent niche biotechnology firm, staying abreast of the latest developments in a cutting edge industry can be a daunting task. So, the marketing department designed a Key Competitors application. This database provides their employees with basic information about competitors, and then allows them to link to Web sites for publicly available information such as Securities and Exchange Commission filings, stock prices, news, and competitors' Web sites. The result is that business users have access to the most current information on competitive initiatives.

Standards Facilitate Integration

Finally, the leading content management systems are constructed on a scalable and reliable platform, and incorporate current standards for operating systems, databases and open programming interfaces and approaches. Standards such as XML and SOAP increasingly allow organizations to develop local content management solutions that complement and interface with larger, enterprise-wide systems. Both Forrester and Deloitte Research support this view, suggesting that large, organization-wide solutions are more likely to succeed when implemented as local activities that then connect to the corporate-wide system via standard XML formats.

By adhering to all of these key content management principles—implementing local control, providing well-organized content, effectively integrating internal and external data, and building a system on a scalable and open platform—an organization can have the best of all possible worlds: The distinct business units will have access to self-managed content for their specialized information needs, and the enterprise system can aggregate data from within these more local knowledgebases to ensure corporate-wide access to all of the content that exists within an organization.

In the world of content management, it doesn't get any better than that! □

Inmagic® is a global provider of content and information management software and services that organize and deliver enterprise content, seamlessly integrate both internal and external content sources, and deploy business-critical information to corporate portals, intranets, extranets, and the Web. Specific applications include market, business, and competitive intelligence, library automation, litigation support, and Web publishing. Inmagic's information management solutions are installed in more than 8,000 organizations in over 50 countries. For more information about Inmagic and its products, visit <http://www.inmagic.com> or call 800.229.8398, Ext. 255 or 781.938.4444, Ext. 255.

Inmagic® Content Server

Inmagic Content Server combines the advantages of a robust and flexible database management environment with high speed search and categorization, making finding relevant information fast, easy and precise. Built-in Web publishing capabilities allow content to be published to a corporate intranet or the Internet. And, unlike more complex content management systems, Inmagic Content Server is a system that can be deployed for use quickly and cost-effectively with only minimal support from the IT staff. By taking advantage of the unparalleled scalability and reliability of Microsoft® SQL Server™, Inmagic Content Server is able to provide a breadth of content management solutions—from the single department or workgroup to global deployment of an enterprise-wide system. Utilizing industry standards for connectivity such as SOAP and XML, Inmagic Content Server is ideally suited to manage unstructured content with maximum flexibility and complete local control.

<http://www.inmagic.com/contentserver/>

A Tale of Two Solutions

KMWorld & Intranets 2003 provide the best of both worlds

By The Specialty Publishing Group

Underscoring the basic symbiotic relationship between (a.) informational content and (b.) the many ways it is delivered to the end user, two major events have joined forces to maximize the impact of that important relationship. The **KMWorld & Intranets 2003** conferences will be co-located at the Santa Clara Convention Center, October 14—16, 2003.

Separately, these events have each long provided a forum and a marketplace focal-point for their respective clientele. As annual stops on the “education circuit,” these events have traditionally provided a means for business decision makers to learn, exchange and choose from their many solution-provider partners.

Now, together, the conferences are developing a new mission: to help attendees develop and evaluate enterprise-wide KM strategies, while working hand-in-hand with those who are also implementing collaborative intranet & portal strategies and technologies. Three separate KM tracks, two Intranets tracks and another that is common to both events will fully cover the enabling tools and strategies for KM projects as well as intranets, extranets and portals.

The 7th annual KMWorld Conference and Exposition offers a wide-ranging program aimed at executives and strategic business and technology decision makers. This is a “must-attend” for those concerned with improving business processes and productivity, streamlining operations and accelerating development and innovation in their evolving enterprises.

This year’s theme, *Business Critical Knowledge Management*, emphasizes that KM is not a standalone initiative, but totally integrated into an organization’s business and work processes. As in previous years, the conference encompasses programs on strategies, practices, processes, tools and solutions for enterprise knowledge networks. This year there is a particular emphasis on knowledge-based collaborative organizations as well as the infrastructure necessary to support such organizations.

Now in its fifth year, Intranets 2003 addresses the management, implementation and business implications of the next generation of collaborative intranet and portal

development and technology. Conference sessions will cover strategies and case studies for preparing, implementing and sustaining intranets and portals, practical methodologies for design, content management solutions software, ROI and the business of content collaboration. The conference program is designed to take intranet professionals and managers to the next level, helping individuals and companies create new intranet strategies and methodologies, develop best practices and collaborative content strategies, integrate intranet and portal technologies in business processes and apply tried-and-true tips and techniques from top working industry experts.

The largest international gathering of intranet professionals, Intranets 2003 is the premier learning venue for Intranet professionals from around the world.

A Focused “Mega-Event”

Before last year, and the co-location of KMWorld and Intranets, knowledge management, intranet and portal professionals needed to attend multiple shows to learn about products and services in the field. Now they can fulfill all of their needs at the largest, most comprehensive event in the industry.

A sample of the titles of KMWorld/Intranets attendees provides some indication of the level of education these conferences strive for:

CKO • CTO • Content Manager • Director, Portal Solutions Group • CEO • Director, IT Web Development • CIO • Director, Knowledge Management • Intranet Project Manager • Web Development Specialist • Executive Intranet Producer • Technical Manager • Software Configuration Analyst • InfoMaster • Information Program Leader • Intranet Team Leader • User, Interface Designer • Web Architect • Director Business Development • Corporate Librarian Knowledge Architect • Director, Human Resources

KMWorld & Intranets 2003 covers the technology of intranets and Enterprise Portals and the implementation of Knowledge Management Systems.

Knowledge management empowers organizations and provides a strategic advantage in this tough, competitive environment. And enterprise portals and intranets enable the

flow of that content and knowledge within the enterprise. Whether reducing costs or enhancing the benefits of internal communications, proper utilization of knowledge management, intranets and portals is essential for running a smart business.

The combined mega-event will include seven conference tracks over three days, along with a single expo, featuring the industry’s top companies. This global conference and expo will offer attendees and exhibitors a complete conference and expo experience, from strategic KM planning to practical intranet implementation. It is the definitive worldwide gathering place for everyone in enterprise KM.

Attendees at KMWorld & Intranets 2003 will find solutions from the leading companies in:

- Knowledge Management
- Enterprise Portals
- Content Management
- Business/External Content
- Web-Based Collaboration
- Competitive Intelligence
- XML Solutions
- Application Development
- Firewalls & Security
- Digital Certificates
- Document Management
- Encryption
- Customer Relationship Management
- Workflow Solutions
- Document Tracking
- Resource Sharing
- Business Intelligence
- Information Architecture
- Usability Testing
- Taxonomy & Ontology
- Personalization

What They Said about Last Year’s Event

Some of the comments from last year’s exhibitors include:

“The attendee quality was outstanding; they’re very knowledgeable and asked great questions to assist in qualifying their needs.”

*Shelley Jagow
Tradeshaw & Events Manager, Stellant*

“Thanks for another great conference. The speakers are top-notch experts in their disciplines. You have attracted a high-quality group of attendees that make networking opportunities some of the best around.”

*Doreen Lorenzen, IT Supervisor
Hennepin County*

“The exhibits were a good source of information about existing and new products and services. Very good keynotes.”

*Diane Dent, Managing Consultant
Westech Information Systems, Inc.*

“Thanks for another great job!! Excellent content, good exhibit hall. Good choice of topics.”

*Ann Feeney, Intranet Facilitator
YMCA of the USA*

For more information on any of the companies who contributed to this white paper, visit their Web sites or contact them directly:

INMAGIC®

Inmagic, Inc.

200 Unicorn Park Drive, 4th Floor
Woburn, MA 01801

Phone: 800.229.8398 or 781.983.4444

Fax: 781.983.4446

E-mail: sales@inmagic.com

Web: www.inmagic.com



LexisNexis

P.O. Box 933

Dayton, OH 45401-0933

Phone: 800.227.4908

Web: www.lexisnexis.com

sawyer|media™
systems

Sawyer Media Systems

1355 Sansome Street
San Francisco, CA 94111

Phone: 888.234.2266 or 415.395.4000

Fax: 415.395.9119

E-mail: info@sawyermedia.com

Web: www.sawyermedia.com

THOMSON
TM

Thomson Scientific

3501 Market Street
Philadelphia, PA 19104

Phone: 800.336.4474 or 215.386.0100

Fax: 215.386.2911

E-mail: sales@isinet.com

Web: www.isinet.com

Produced by:

The Specialty Publishing Group

Kathryn Rogals

207.338.9870

kathryn.rogals@infotoday.com

Paul Rosenlund

207.338.9870

paul.rosenlund@infotoday.com

Andy Moore

207.236.0331

andymoore@adelphia.net

For information on participating in the next white paper in the "Leadership" series, contact:
paul.rosenlund@infotoday.com or kathryn.rogals@infotoday.com • 207.338.9870
