

ENTERPRISE CONTENT MANAGEMENT SOLUTIONS

With any business, there is loads of information that the organization must deliver, receive, store, manage, and preserve throughout the entire enterprise. And today, with companies dealing with information overload, it is becoming more and more difficult to keep track of everything. There is a desperate need for ECM technologies to assist organizations with not only managing information, but more importantly, granting access to the information and knowing exactly where to find what you're looking for; there is no time to waste, shifting through millions of files of information, when you're trying to run a successful business.

However, although there is such a need for companies to use ECM technologies to increase efficient productivity, there are many roadblocks that stand in the way of ECM solutions to be widely-adopted. Many organizations know that they are in need of a solution, but don't know which solution will work best for them. And still, many other organizations are ill-prepared when they jump into setting up an ECM plan for their company. Enterprises are heading in the right direction when it comes to using ECM technologies to ease the pains of managing information, but they need to take the right approach for the solution to be successful. There is no use in wasting the time and money in ECM investments if you are not going to use them the right way.

In this panel discussion, representatives from TOWER Software, Astoria, and EMC discuss the common pitfalls that companies face when trying to adopt these strategies, and the kinds of services their companies provide to assist ECM technology users. In this panel discussion, the participants will talk about forces that are driving companies to use ECM solutions, what the best solutions are for different types of companies, and even what the future looks like for ECM technology.



Dan Ortega is VP of Marketing for Astoria Software, where he is responsible for leading corporate marketing strategy to the product marketing, product management, and marketing communications. Dan brings over 22 years of technology experience to this position, having previously served as VP of Marketing for a series of successful start-ups. Dan has also held senior level international marketing positions with expansion stage companies as well as Fortune 500 companies.



Jan Rosi has more than 25 years of global IT, strategic sales and business leadership experience. Jan led the development of the Reuters Monitor Network. Jan served as the National Sales and Marketing Manager for TOWER Software in Australia. She moved on seven years ago to lead the Australian federal government business unit for Compaq and HP and returned to TOWER Software in August 2004 to become President of its North American Regional Office.



Bryan House is the Group Product Marketing Manager at EMC Software Group, where he is responsible for driving strategic marketing initiatives for EMC's content management business. Prior to joining EMC, Bryan held various marketing positions at iCast, Groove Networks and Boston Beer Works. Bryan earned his undergraduate degree at the University of Massachusetts, Amherst and an MBA degree from Harvard Business School.

Who is your typical target market for Content Management (CM) solutions?

JR Our target markets are the regulated industry and the public sector. We help these organizations comply with often complex legislative requirements, in addition to improving the timeliness and effective productivity of those organizations.

BH We serve organizations in all industries, – from financial services, aerospace and defense, to lifesciences and pharmaceuticals – where we initially established our reputation. Historically, companies started by managing document-centric processes, and once they saw productivity gains, expanded the system to other parts of their enterprise. Today, companies are automating major processes such as the entire loan origination and approval process, or proposal submissions/receipts and tracking.

DO Our core focus is to serve customers in markets where product content is considered a business-critical operation, where the need for process efficiency and content consistency is high, and/or where time-to-market is paramount to business success. Our commercial customers are Fortune 2,000 companies in high-tech hardware and software, medical device manufacturing, and heavy manufacturing. We also maintain a significant presence in the aerospace and defense markets. These organizations deploy Astoria to manage the creation and delivery of their complex product information, and then leverage it across their business – from product documentation and customer support to maintenance,

training and field-service information. The results are measured in efficiencies and reflected in reduced cost-of-goods sold, and improved consistency of content across customer touchpoints, along with acceleration of product delivery cycles.

Please articulate your customer value proposition for Enterprise Content Management (ECM). What are your core competencies?

JR TOWER Software has a rich history in managing content in the enterprise. We began in 1985 with a system that helped organizations accurately manage paper records. Since then, the world has shifted to using electronic mediums, and TOWER Software has been right at the edge of that change, growing our suite to accommodate electronic documents. Throughout these changes, the fundamentals of our product have remained the same – accurate and careful attention to classifying, filing and managing the content that people create each day. These cornerstones, along with advanced retention and administrative tools, allow information workers to practice high caliber information management without adversely affecting their day to day work.

BH Companies typically adopt the EMC Documentum platform for content-centric processes within their organization that are critical to business operations. When information represents a essential part of their business across multiple applications, EMC Documentum delivers an ECM platform designed to be a standard component of their enterprise-wide IT infrastructure.

DO Astoria Software is the technology leader in dynamic content management. Our core competencies are native XML content management, delivering element-level management of content at the paragraph level instead of whole documents, and providing visibility and control of the business process flows and costs of publishing mission-critical documentation. Astoria On-Demand delivers immediate and significant improvements to both bottom-line performance and the speed and efficiency of content creation by automating the process of creating, managing and delivering documentation for manufacturers with complex products. Customers use Astoria to quickly and accurately create and publish product documentation, customer self-help, and maintenance and support content, while reducing the escalating costs by up to 50 percent. In addition, customers gain further efficiencies as

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content is re-used across lines of business, translated into multiple languages, and published to multiple delivery channels --print and electronic, all from a single, centralized source. By automating and speeding the process of content creation, translation, and publishing, Astoria customers accelerate product launch cycles, meet compliance requirements with exact historical tracking, and improve customer satisfaction with consistent product information across product lines and geographic regions.

What are the three most common pitfalls in regards to Content Management deployment and how do you help solve them?

JR Cultural factors: Acceptance and change management – We help by working with the customer, by providing training, and offering support for internal marketing.

Integrated systems: We have focused our efforts on providing a flexible Software Development Kit (SDK) to make it easy to integrate existing legacy systems. We also have a configurable system that has 21 years of business rules built into the COTS product so in many cases, code doesn’t have to be written to create a functioning system.

Establishing a functional information management policy: We have great people who help the enterprise navigate the often complex IM world, to ensure that the best practices are deployed.

BH There are a few pitfalls to avoid when deploying content management solutions, the top ones are probably starting too big – looking to an ECM solution to solve problems across the enterprise but all in one deployment; failing to recognize the importance of capturing as much metadata as possible about the content, and not aligning the content capture process with content creation or an automated process. Solving those problems requires: 1) Thinking big but starting small - organizations should build on wins both

to ensure user buy-in and to justify the investment needed for broader deployment; 2) Identifying what types of metadata would be most useful in finding and repurposing information, and then find ways to automate its creation or capture; 3) Taking a business process view of information, designing content capture as close to the point of creation as possible.

Solving those problems requires: 1) Thinking big but starting small - organizations should build on wins both to ensure user buy-in and to justify the investment needed for broader deployment; 2) Identify what type of metadata would be most useful in finding and repurposing information, and then figure out a way to simplify its creation or capture; 3) Think through content capture, typically the closer you get to the point of creation, the better.

DO The biggest pitfall for most companies is not preparing users for adoption of a content management solution. It’s easy to focus energy and time on the technology, and overlook the critical nature of how users will adopt and use CM solutions in their day-to-day work. A smooth adoption calls for the efficiencies to be led by proper training and

a best practices approach for users. Astoria supports this process with user adoption programs and partnerships with leading services companies that focus solely on best-practice approach to CM adoption. Our goal is to make CM implementation and adoption quick and successful to achieve a fast return-on-investment.

A second pitfall is adopting the wrong technology or application required to get the job done. There is no “one shoe fits all,” with different types of CM solutions on the market designed to complete different tasks. Astoria works to help customers understand their requirements early on, and then match them to the right products and applications that best meet their business objectives.

A third pitfall is not developing methodologies to track and manage user issues and feedback, and not providing them a status on their resolution. Astoria has found that successful technology adoption requires user feedback to be applied to resolve issues and further improve processes over time. Typically, an online web issue tracking system can, in a timely way, help communicate status to users who provide valuable feedback. This approach also ensures users become stakeholders in the process of continuously improving the quality of their work.

Which driving forces are causing enterprises to buy CM solutions? Are you seeing any purchasing trends in specific verticals or company-sizes?

JR Compliance – specifically Sarbanes-Oxley among other legislative requirements – is increasing the awareness of effective CM, particularly in our target market of public sector and regulated industry. Generally, an increasing volume of output, along with unprecedented access to information is also causing enterprises to seek out additional ways to ensure that they don’t lose sight of the critical information within their enterprise. An effective

enterprise wide CM system like TRIM Context is the logical way to contain this.

BH We consistently hear three ECM business drivers: compliance, consolidation, and business process efficiency. Compliance regulations force organizations to do business in a repeatable way that can stand up to audits from regulatory agencies, requiring ECM products that help companies manage and control business critical information with audit trails, electronic signoff, etc. Consolidation requires an ECM platform that addresses the needs of many content applications without increasing license, administration, or integration costs. Efficiencies are always a must to be competitive and gain market share – companies must continually find ways to drive costs out of their business processes. In March 2005, we announced the first major ECM platform built on a unified architecture. Additionally, top-line-oriented business drivers have been emerging recently – specifically innovation and customer self-service, with a sharper focus on competitive advantage, customer loyalty and revenue expansion – particularly in the areas of imaging and business process management.

DO Regulatory compliance is one of the big drivers for adoption of CM solutions. Another driver is the sheer volume and exponential growth of unstructured documents. Astoria is seeing rapid adoption of CM solutions by companies involved in discrete manufacturing. There are mass amounts of internal documents that may be longer, more complex, and that are critical to effectively launch and support a product. There's now a necessity to manage these within a structured framework. In addition, as companies now push for simultaneous launch of products to all the regions they sell in, effectively managing the language translation process becomes time-critical.

Content management remains highly situational; every company's content is unique as well as the management challenges behind it. What steps would you advise an enterprise take in order to implement the proper ECM solution?

JR Implementing a proper ECM solution is a big task, and requires a committed project team working with the right product and a tailored plan.

Executive sponsorship is the first, and possibly most important, step to successful implementation of an ECM Solution. Once you have their support, efforts should be directed to building a classification system that accurately reflects the kinds of information the company creates. This will provide the foundation for the company that matches the kinds of content that will be created. From there, we can work out specific policies for the various different kinds of content – web content, office documents, etc.

Operational policy needs to be incorporated – the security and access controls that need to be in place to ensure the company's vital information assets are secured.

Legislative requirements also need to be taken into account – How long does this content need to be retained? What kind of events could take place in the company that will affect this content? Accurate retention and archiving policies need to be considered.

Other considerations include workflows and the way people work,



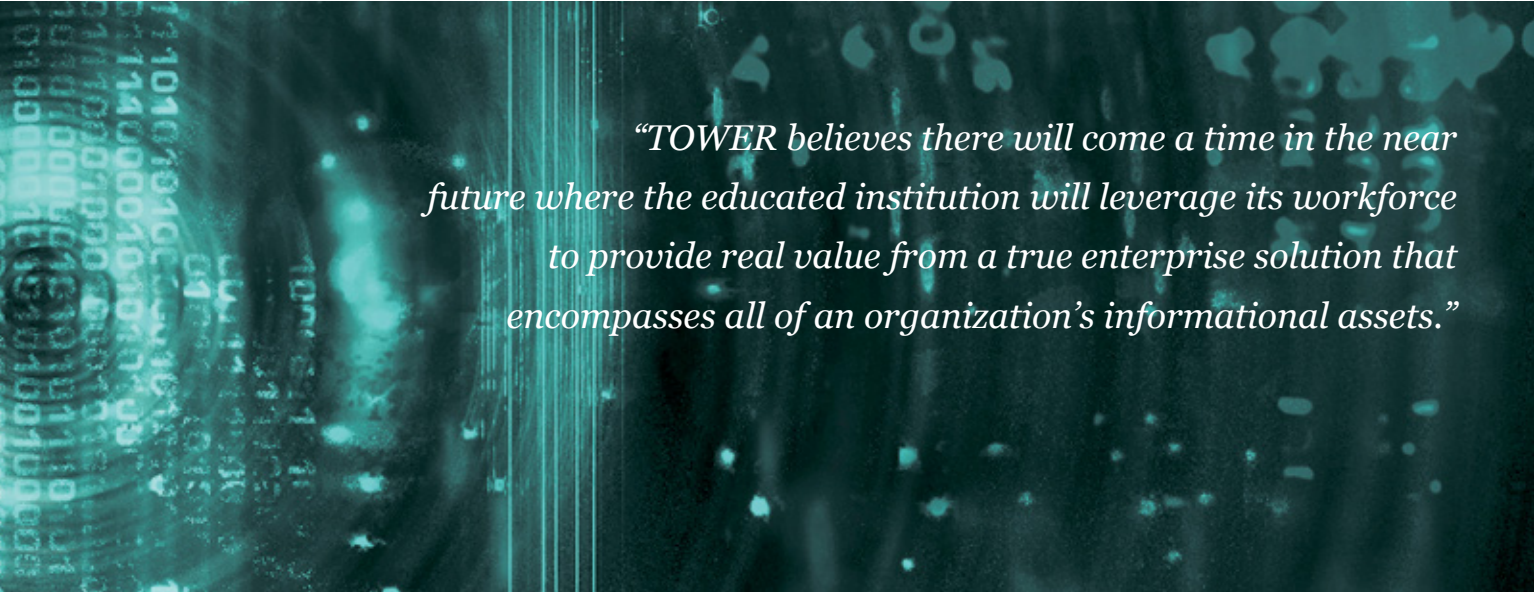
integration with the existing environment, and establishing the right hardware and network topography to ensure success.

BH Work with a trusted and experienced vendor that can offer reliable support and integrated solutions over the long-term; advanced planning with progress measured on an incremental basis, starting with the content or processes that have the most impact on your organization's success – content that matters; and plan on extending those applications upstream and downstream throughout the organization from the very beginning, not as an after-thought.

DO Understand your ECM requirements within the various organizations in your enterprise. A single solution is unlikely to fit the needs of all departments and users. While it is important to standardize certain business processes across the enterprise, each organization uses information differently depending on their requirements. For example, product data from engineering is very important for manufacturing. The group responsible for customer documentation may also use this data as a start-point for their content deliverable, but obviously the content is written by and for engineers. It must be altered and adjusted for consumption by end-user customers. Therefore, selecting a solution that is flexible to support content re-use and re-purposing for multiple audiences can become a significant process accelerator for companies.

Compliance with Sarbanes Oxley and other regulations is a preoccupation of virtually every market segment today. How have these compliance requirements affected the purchasing of CM? How are you addressing compliance challenges?

JR Compliance, and providing solutions for enterprises that have to abide by such legislation, is an area where TOWER Software has always been a thought leader. TOWER Software's management has frequently been called upon to assist with the establishment of international record keeping standards, including the UK National Archives and VERS Standard. All of our experience in this area is evident in the ECM products we produce; for over 20 years TRIM



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Context has been helping enterprises manage content in line with their legal obligations. Over this time, our product has evolved to meet the trends of records keeping compliance and legislation.

BH Compliance has been a major purchase driver for many organizations, particularly following the exhaustive effort around the initial year of SOX compliance. Organizations have recognized that ensuring and demonstrating compliance with Sarbanes-Oxley and other regulations is substantially easier and more cost effective when considered from a platform perspective. EMC provides one of the broadest ranges of “compliance” functionality - everything from records management to electronic signatures to controlled processes, digital shredding, access control, and security.

DO Astoria has a proven track record of providing solutions to customers in regulated industries. We address compliance requirements by providing a rich history and audit trail capability for all documents, and all content components, stored in the Astoria CMS. Astoria users automatically have a detailed history of what changes were made to a document, who made the change, when it was made, etc., down to the paragraph level of a document. Comments and annotations are also stored with the document, and access controls provide business rules to denote which users can perform what actions within the CMS. Astoria also provides a clean separation of work-in-progress documents from documents that are approved for distribution.

The sheer amount of content applications and repositories pose an enormous integration challenge. How are you resolving this?

JR The ability for any ECM system to interact with established data repositories in any given solution is a critical factor to determining not just the effectiveness of the solution, but also the levels of cultural acceptance within the organization.

Our development team has worked extremely hard to ensure that all functionality available is presented through multiple interfaces – interfaces for people, like the traditional user interface, but also interfaces for machines. In addition to our comprehensive

Application Programming Interface (API), we offer a tailored web toolkit designed for building custom interfaces, and a web service that offers access to TRIM Context from nearly any existing platform or application.

We also have a dedicated team in the company that supports and aids developers tasked with TRIM integration, providing sample integrations, articles, and guidance for anyone working with our platform.

BH We address this by providing a unified platform for all application types and content sources. This removes the integration burden from our customers and provides benefits such as common administration, common interface, common users and groups, consistent security, and a single audit trail.

DO The rise of Services Oriented Architecture (SOA) provides an excellent integration point for various content driven applications to work well with Astoria. Since 2002, Astoria has incorporated robust web services functionality to support integration with other applications, which provides customers with scalable and powerful integration capability in a fraction of the time it took using older integration methods. Web services have also made application upgrades simpler and easier to manage, which lowers support and maintenance costs.

How can web content management be integrated into a unified content strategy, and what are the tools and technologies required to support enterprise content management?

JR Web content management is a special aspect of ECM – particularly where compliance is concerned. While making it easier than ever to contribute corporate content, there is also a requirement for an organization to be able to reconcile the way content has changed, and be able to see how their website was at any point in time. Providing tools that allow companies to keep an effective archive of web content, when websites are constantly being changed and updated, is a particular challenge. Having a central repository where all content is kept is the best way to

ensure that your web content is in keeping with your information management policy.

BH Web Content Management is, and should be, a critical part of an enterprise's content management strategy. Technically, the web publishing tools are a part of our unified platform, such that posting content to the website can be managed from creation through approvals/sign-off to a final posting. We complement our standard web publisher with a web "portlets" application which provides a simple, easy-to-use interface for casual users who want to publish content to a website without training or HTML knowledge. Our Site Delivery Services enable you to distribute content from a Documentum repository to web farms and servers around the world, with timeliness and accuracy.

DO The best design for web content management that Astoria has seen has been a "push" model; where content is authored and managed in XML, and then transformed and published to a web server as HTML. Astoria supports a "single-sourcing" information model where all content is stored in XML, and then transformed transparently to the delivery format needed.

SOA, XML, and web services are technologies tipping the scale toward ECM for everyone. Can ECM for the masses become a reality?

JR Distributed solutions – using technologies like XML and web services – are making it easier than ever for people to be able to access their corporate information. Ideally, content resides in one repository, but is available through multiple electronic channels. While these practices are vital to an enterprise being able to adapt and grow, it's not immediately evident that these trends are being adopted by the community at large.

Loosely federated search services, like the major search engines, are still the primary form of global information management. People are getting used to searching Google or MSN for content, but these "hits" aren't conveying the real business context behind the content that's being retrieved – Who produced this document? Why? What other documents were produced with it? There is still more contextual metadata missing.

BH Service-oriented architecture (SOA) can enhance implementation of ECM tools and encourage the creation of a successful ECM strategy throughout an enterprise by enabling cost effective integration between systems, driving greater information consolidation, and simplify implementing approaches. Ideally, web services can be easily integrated into task- or user-specific interfaces that transparently give the user what they need to get their job done, masking the complexity and disparity of the applications involved. This interoperability between ECM applications will help mitigate risk in deployment and ease the implementation process. SOA ECM systems can enable a company to plan its ECM strategy in a more modular fashion – deploying subsets of functionality on a rolling or as-needed basis, delivering value to users faster. As a result, organizations can achieve greater return on investment through reduced costs, streamlined processes, and flexibility of choice.

DO Technology for ECM for the masses is becoming a reality as companies adopt standards such as web services, WebDAV, XML, etc. It also becomes a reality as ECM vendors integrate their applications more closely into the users' desktop, making ECM activities transparent and seamless for the user. Older ECM client applications have given way to web browsers, or thin client applications, providing integration with the actual desktop of the

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user. This makes the process even more transparent since the CM applications follow standard user interface protocols used every day.

With merger and acquisitions by larger vendors, and upward innovative pressure from newer vendors, what is your vision for the future of the ECM space?

JR As the ECM space gets redefined, not only by the marketplace, but also the regulations imposed by government and the future needs as pondered by industry analysts, vendors in this space will have to either develop new technology or purchase it to remain a player in the ECM market. However, TOWER Software provides a unique look at ECM, in that it is grounded in records management, which is predominantly becoming the accepted core for an ECM.

TOWER Software believes that education in the marketplace will be the next major wave in the ECM space. That is to say, with organizations being held accountable for information security issues, and users finding less and less value in ‘automated’ solutions, TOWER believes there will come a time in the near future where the educated institution will leverage its workforce to provide real value from a true enterprise solution that encompasses all of an organization’s informational assets.

The ECM space will continue to innovate, but without the grounding in records management, information management at a truly enterprise level will remain the unattainable holy grail of the ECM world. Technology can only solve some of the problems; cultural change is needed to ensure that the organizations of the future are able to meet their compliance regulatory needs, while leveraging the organization’s informational assets to gain competitive advantage in their respective industries.

BH We also see two major changes in the ECM space: 1) The use of ECM technologies to address existing silos of archived information that originates outside a content management repository, but is subject the same compliance and governance requirements as unstructured information; and 2) We expect that there will be greater use of the metadata and classification maintained in ECM systems to improve the cost-effectiveness and optimization of organization’s tiered storage infrastructure.

EMC will play a major role in these areas, powering content-rich business processes and connecting these processes through an open, unified content management infrastructure.

DO Astoria’s vision is one where larger communities of users collaborate more closely on their work to eliminate redundant content and processes. This has the effect of increasing top line revenue by improving the time-to-market capabilities of an enterprise.

Department or division adoption of a CM solution provides enormous benefits to an organization with a positive impact on top-line revenue. Widespread ECM adoption means that different organizations can easily share content, processes and business rules across the boundaries setup by functional needs.

A future CM solution needs to easily share these items, but have them transparently modified to meet specific organizational needs. For example, product content can share many common information points, but have different interpretations for engineering, product management, marketing, sales, manufacturing, and customer support.

The ability to “single source” content across organizational boundaries will reap huge benefits for the enterprise.

