

Key Drivers for Future Content Management and Portal Products

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A survey of some of the key solution and product opportunities for content management and portal vendors in a maturing market space.

Many organizations are looking for ways to internet enable their businesses to be more competitive in a rapidly changing world. Next generation content management and portal solutions will play an important part in this future. New and expanded services promise to deliver powerful profit contribution and employee productivity solutions to customers, partners, suppliers and employees in organizations across many industries.

To realize this promise, today's fragmented technologies, including *authoring, storage, delivery, migration* and *reporting* capabilities, must be integrated into scalable end-to-end solutions designed not around the latest technology widgets, but around empowering the needs of end users.

As solution sets begin to mature over the next several years we can expect to see a new crop of solutions designed to enable tomorrow's real time global enterprise. Customized applications will appear to meet customer needs in specific industries and new solutions will enable virtual collaboration for employees and partners connected across extended value chains.

This white paper examines seven areas where key opportunities in this dynamic market space and describes some examples of the kinds of capabilities you will see coming to a browser near you in the very near future.

Profit Contribution

Organizations continue to look for solutions to decrease time to market, improve product quality, lower cost of sale and increase agility in penetrating new markets. The following reviews some of the places where content management and portal solutions can significantly impact profit contribution.

Customer Support Solutions: Many organizations have turned to the internet to deliver cost effective support services to their customers. This trend will continue to grow and will rely more on delivering relevant and trusted content to the right user when it is needed.

Strategic Partner and Supplier Solutions: Organizations will expand use of the internet to extend their reach to virtual partners and maintain reliable supply chains. Solutions will become personalized and will rely on consolidating information from multiple sources (structured to unstructured) and presenting them to end users inside of meaningful contexts.

Sales Force Portal Solutions: Getting the right competitive information into the hands of the sales force is already a mission critical capability in which many organizations have invested heavily. As sales cycles tighten, efficient sales forces will continue to be a top priority. Future applications will integrate individual booking and forecasting tools, real time industry news, online product brochures and demonstration capabilities into vertical solutions.

Direct Marketing Solutions: The internet will continue to be a cost effective way to sell products and services to customers irrespective of location or time. Solutions will become personalized and integrated with trusted data stores to enable customers to drill deeper into relevant information about potential purchases or existing services that match individual business needs.

E-Learning Solutions: Industry leaders are using e-learning tools to deliver cost effective training for a wide variety of products and services. In the future, highly customized solutions will intelligently link to related content while integrating customized test and evaluation capabilities.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe usage, customer satisfaction, and campaign response trends. This information could be used to fine tune and prioritize future enhancements to optimize the profit contribution of ongoing initiatives.

Employee Productivity

Productive employees are important to any business. Looking at some of the areas where content management and portal solutions can expand workforce collaboration and communication capabilities to increase productivity we see the following.

Integrated E-Communities and Virtual Team Services: Existing synchronous and asynchronous tools will be integrated with trusted data and entitlement systems to ensure the right people are engaged in the right conversations. Expanding the number of employees that participate in integrated online communities decreases redundancy and increases productivity.

Integrated E-Learning and Communications Services: Learning and communication campaign solutions can be integrated with trusted data stores and become easier to design and deliver. Additional features may include customizable comprehension and communication verification capabilities.

Scalable Roll-Based Portal Solutions: Subscription based tools to integrate with trusted data sources and employee directories:

- *Managers:* Budget, headcount, travel, vacation and expense tools
- *Project Managers:* Milestones, related projects, action items, meeting minutes, project details
- *Developers:* Coding standards, tools, relevant repositories
- *Virtual Teams:* Members, responsibilities, deliverables, results, work areas

Expertise and Context Locator Services: Employee directories, workforce expertise, current projects and asset ownership can be integrated to enable organizations to find the right person or form the right team.

Personal Knowledge and Project Management Services: Many knowledge workers rely on information they have on their local hard disk or inside their email. Knowledge and project management solutions can enable localized information to be shared across groups of workers and virtual team members to decrease redundancy, increase teamwork and deepen use of best practices.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe health of communication and collaboration across the enterprise. This information could be used to fine tune and prioritize future enhancements and to improve employee productivity initiatives.

Delivery and Consumption

Organizations are demanding content management and portal solutions that deliver highly reliable, personalized, and increasingly intelligent content consumption capabilities for their end users.

In addition, as organizations move more of their mission critical content to the internet underlying security more critical. Trends in this area are:

Scalable Personalization Solutions: Both large and small organizations are benefiting from building highly personalized relationships with their customers, partners, suppliers and employees. Striking the right balance between content relationships and delivery latency is important for sustained success.

Industry Vertical 'Consumer' Interfaces: Many organizations across similar industry verticals have very similar needs for default collections of web services that perform routine tasks and integrate with industry specific content management capabilities.

Intelligent Content Detection and Subscription Services: Through the use of intelligent messaging and subscription technologies, new content objects that are added to a 'trusted' repository will automatically be discovered and made available to end users. One of the interesting opportunities here is to brand fresh content and separate it from older, less relevant content.

Integrated Collaboration Services: Well designed user interfaces that effectively combine real time collaboration workspaces with trusted asset repositories will bring a different and more immediate kind of business value to 'trusted' asset repositories.

Usage Based Pricing Models: The popularity of specific content objects and the overall effectiveness that end-to-end solutions are able to deliver in the area of maintaining high business value across a collection of assets may set the stage for usage or business value based pricing models. This could be a great way for vendors to distinguish themselves in the marketplace.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe types of web hits, popular navigation paths and searches. This information could be used to fine tune and prioritize future enhancements to optimize delivery and consumption capabilities.

Storage and Organization

The overall effectiveness of content management solutions is directly connected to the integrity of assets held in trusted repositories. A major challenge facing many organizations is keeping these repositories in tune with their business over time.

Extending scalable asset description and organization standards across stores of assets that are distributed throughout an organization is another significant challenge. The tools that are necessary for successful initiatives are:

Automated Metadata Tagging: These tools will continue to mature to provide increased intelligence and automated metadata tagging capabilities. Striking the right balance between standard look and feel, publishing latency and complexity of contribution interfaces is very important.

Aggregation and Syndication: As tools mature to provide more intelligent and automated aggregation and syndication capabilities striking the right balance between standard look and feel, publishing latency and complexity of contribution interfaces will be a top priority.

Automated Asset Maturity: Other tools will extend the description of assets to include ownership, expiration and refresh dates, associated workflows, related assets, presentation requirements, usage and business value.

Automated Translation Capabilities: New services will begin to provide intelligent translation capabilities for managed assets of all types. The ability to effectively translate assets while maintaining proper localization contexts and real time application of localized business rules will be important advances.

Voice and Streaming Media: Intelligently combining voice and streaming media assets with related text and graphical assets and the application of business rules.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe asset quantity, quality and maturity trends. This information could be used to fine tune and prioritize future enhancements to optimize the storage and organization of organizational assets and the business value associated with them.

Authoring and Contribution

Well designed content management and portal solutions can allow organizations to expand the number and types of people who are contributing to “trusted” repositories.

In addition, these solutions can help organizations move from environments dominated by ad hoc processes and fire drills to ones that effectively utilize standardized processes that powerfully impact organizational efficiency gains.

Portal-Based ‘Contributor’ Services: These services provide standard role-based contribution tools that support specific contribution activities suitable for specific kinds of users. Enabling large numbers of ‘casual contributors’ to contribute to managed content repositories is an area of particular interest that has yet to be fully exploited.

Automated Web-Based Content Migration Toolkits: Simplified tools can extend the reach of ‘managed’ stores by providing migration tools that are targeted at non-technical contributors.

Flexible ‘just-in-time’ Web-Based Training: Organizations can continuously improve their services by integrating new contribution feature and business rule training into product releases. Individual learning preferences will be supported and ‘walk up’ ease of use will enable new employees to ramp up quickly.

Deep Portal and Business Intelligence Partners: Leading vendors are building strong relationships with these related technologies to deliver end-to-end solutions sets with integrated intelligence features.

Industry ‘contribution’ Standards and Benchmarks: Metrics that describe web hits and registered user trends are relatively well established. Describing how broad groups of users effectively contribute the right information in the right context at the right time is still a new idea. Effective collaboration and communication are dependent on these new ways of measuring success.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe contributor trends as well as content use, reuse and readership. This information could be used to fine tune and prioritize future enhancements to optimize feature sets and content development activities.

Technology Stack

Content management and portal solutions can play a big role in the application integration activities that many organizations are currently working through.

Additionally, many organizations have chosen to build rather than buy their end-to-end solutions. There are a number of areas where vendors can improve their offerings to accelerate the adoption of standard CMS and portal product suites.

Certified Solutions/Reference Implementations: Leading vendors have the chance to simplify API interfaces, pre-certify partner solution sets and build vertical industry specific reference implementations to demonstrate capabilities and decision points in a confusing market space.

Integrated B2B Support Models: As the location of information objects and the methods of their assembly become more complex, effective support models will be required to track asset ownership, resolve cases and trend quality of service. The more mission critical the asset, the more important this will become.

Source Code Management Solutions: More and more attention will be paid to content solutions that are not only capable of storing source code for applications and web services but also provide the virtual processes, standards and best practices to deliver reliable code re-use, versioning and related services.

Expand, Simplify Back End Data Source Integration: Many vendors are touting their ability to link to popular information repositories to deliver integrated consumption and contribution capabilities. One of the key differentiators will be who has built lasting partnerships with major market leaders and demonstrating this through major account reference implementations.

Content Delivery Network Application Integration: CDN applications will minimize the contribution and consumption latency that end users experience by storing presentation templates, high bandwidth and frequently requested content on the edge of the network. These applications will also enable organizations to prioritize based on customer or asset priority.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe supported and unsupported tool and function usage. This information could be used to fine tune and prioritize future enhancements to optimize organizational technology investment and application development expenditure.

Infrastructure

The hardware infrastructure that underlies any content management or portal initiative should be transparent to the end user. Many of today's solutions experience excessive down times or performance problems during peak times.

Decreasing total cost of ownership is another challenge. Organizations want highly reliable systems that optimize their infrastructure investment. Some areas where vendors can improve their offerings include:

Certified Global Environments: Well defined development, staging and production environment benchmarks will separate enterprise solutions from niche tools. End-to-end benchmarks will include performance expectations for related technologies (i.e. search, entitlement), and extend standard options to address disaster recovery, content archiving, and data synchronization.

Disk Space Optimization Services: Many organizations have ample storage space but lack the ability to utilize this space because it is spread across a decentralized infrastructure. New solutions will appear to address this issue.

CPU Utilization Services: Although many organizations experience peak usage spikes on their network at certain times there is a great deal of time when significant amounts of available CPU go unused. Services have already appeared to harness existing network power to deliver value back to the organization.

Latency Optimization Services: End users will continue to demand more efficient consumption and contribution transactions. Next generation solutions will contain automated services to identify, improve latency related issues. In addition communication services will keep the end user informed.

Content Delivery Network Hardware Integration: CDN will enable end-to-end solutions to deliver content to the edge of the network for storage and caching. Organizations will optimize their network bandwidth utilization by shipping bandwidth intensive content during off peak times.

Integrated Reporting: Personalized real time and summary reports can deliver timely metrics that describe infrastructure uptime and performance. This information could be used to fine tune and prioritize future enhancements to optimize infrastructure reliability and quality of service.

Conclusion

Next generation content management and portal solutions have the opportunity of delivering completely new levels of profit contribution and employee productivity for the organizations that invest in them.

By combining many of today's fragmented technologies, vendors will target horizontal markets by supplying end-to-end solution sets that will enable companies to offer completely new services and levels of service to their customers.

At the same time solutions will appear to address the specific needs of vertical markets to enable organizations to reach completely new levels of product and service delivery as well as increased employee productivity through the deployment of reliable and usable collaboration and communication services.