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Demystifying Document Management

Navigating the CMS software marketplace

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While Jupiter Media Metrix reports that companies have already overspent on content management systems (CMS), the Yankee Group predicts that sales in this software category stand to triple in the next two years.

These findings seem at odds, but there's a simple explanation. Most of the money spent on CMS software has gone, and will continue to go, toward enterprise class systems from top-tier vendors. Unfortunately, companies often fail to make the most of these expensive solutions.

In other cases, an organization will deploy several seemingly redundant systems. In our sampling of about 800 companies that use content management packages, we discovered that almost 15 percent had implemented more than one CMS, often from competing vendors. That's astounding, especially when you consider that an organization that deploys two content management systems can rack up more than $1 million in licensing fees and as much as $300,000 in yearly maintenance costs. Buying a second CMS should certainly raise a red flag for any CIO or CFO about to approve a purchase order.

What's more, Jupiter's recent report on CMS indicates that some companies spend an additional $25,000 in operating costs per nontechnical employee to maintain simple Web sites. Do every three contributors to a Web site really need the financial equivalent of their own Webmaster?

The answer is obvious, but that doesn't damn the functionality of content management systems. The technology plays a vital role in most Web-based initiatives. Rather, Jupiter's findings indicate that IT managers should weigh their options carefully before implementing any CMS.

Untangling the Content Web

At its foundation, content management is about providing tools to manage the creation, storage, editing, and publication of information in a collaborative environment. As with any publishing project, as a Web site grows in size and complexity, procedures must be established to ensure that things run smoothly. At a certain point, it makes sense to automate this process. CMS handles this effectively—as long as you implement the software wisely and align it with your company's business requirements.

Until recently, young companies with loads of venture capital could make what sounded like valid arguments in favor of buying large, enterprise-class content management systems. Such systems gave them short-term value and left an array of doors open for future expansion of their Web-based initiatives. But today's companies are more reluctant to spend on IT that leapfrogs business strategy. Luckily, the

CMS market has diversified enough that it's much easier to choose a product based on your company's basic requirements without spending a fortune.

The CMS marketplace is complex. Document management, collaboration and versioning tools, digital asset management, learning content management, and Web content management all fall under the CMS umbrella, which also brushes up against topics like CRM, document warehousing, and knowledge management. Each of these areas is distinct from the others, but they are often confused.

Document management system (DMS). Optimizes the use of documents within an organization independent of any publishing medium (for example, the Web). A DMS provides a document repository coupled with robust metadata to describe the content it contains. The system tracks the editorial history of each document and its relationships with other documents. A variety of search and navigation methods are available to make document retrieval easy. Highly structured and regulated content, such as pharmaceutical documentation, is often managed in a DMS.

Digital asset management (DAM). Though similar to document management in some ways, DAM generally works with binary rather than text files, most often multimedia. Metadata is still used to describe the content of each file and organize the repository, but DAM places additional emphasis on allowing file manipulation and conversion—for example, converting GIF files to JPEG. The Coca-Cola Company uses DAM to manage its advertising materials.

Web content management (WCM). Adds an additional layer to document and digital asset management that enables you to publish content both to intranets and public sites. In addition to maintaining the content itself, WCM systems often integrate content with online processes like e-commerce applications and automated syndication.

Learning content management (LCM). This subset of WCM is notable for one reason: its ability to structure online content to comply with online education standards like SCORM and AICC. This allows one piece of online content to interact with content from other sources through learning management systems that conform to those standards. The ability to repurpose content between proprietary systems will become an issue for other types of content management solutions in the near future.

The CMS software market encompasses an array of products, each of which blends these capabilities to varying degrees. Lately the trend has been to offer small-scale products with specific functionality that meets individual corporate needs.

Who's Pushing What

There are generally two tiers of CMS vendors. The larger vendors entered the market with product suites that emphasize large-scale document management, digital asset management, and code versioning tools, and require significant professional service involvement. Full-scale, top-tier solutions can often manage thousands of contributors and hundreds of thousands of content elements, including application code.

Smaller vendors tend to focus on the essentials of managing a Web site. Rather than providing full functionality, these products are usually intended to be integrated into multivendor "best of breed" Web software solutions.

Unfortunately, these distinctions aren't always obvious. "Content management is being marginalized," says Lubor Ptacek, director of product marketing for CMS vendor Documentum. "It has always competed with homegrown solutions, but what can be built in-house has little to do with full content management functionality." Ptacek likens homegrown solutions to "pure" Web content management systems, in that neither can approach the full range of functionality of a true enterprise-class CMS.

Advanced document management, digital asset management, and file conversion features don't come cheap. Complete enterprise-class solutions can approach the $500,000 price range. Implementation can take several months, by which time the vendor's consulting fees can often add up to as much as six times the initial cost of the package.

Pure Web content management systems, on the other hand, can usually be implemented for well under $250,000. Implementation times are short; the total cost of ownership for WCM is generally less than three times the cost of the software. Percussion's Rhythmyx CMS, for example, can be deployed in a few weeks for around $150,000. FatWire markets a product targeted at department-level portals that averages $25,000.

When and What to Implement

When first considering a content management solution, define a content strategy for your organization. Identify existing content requirements and responsibly forecast how those will develop over time. Once you have aligned those requirements with the features of the various solutions, it will be much easier to line up a short list of potential vendors.

Nearly every WCM package claims to be easier to use than that of its competitors. Transparency to the business user is a much-coveted feature, and most CMS sales efforts focus on this. However, a number of other features are equally important.

Operating environments, support for XML and relational databases, storage and handling of content types, file conversion capabilities, and adoption of open standards are all significant details to consider. CMS end users shouldn't need to know—or care—about these issues, but technologists need to be aware of them and how they fit into the larger IT strategy.

For truly massive projects with thousands of contributors, it may make sense to consider an enterprise CMS, provided you have an established content strategy and the budget to justify it. Carefully calculate the return on such an investment. Avoid the temptation to include in your calculations such factors as the cost savings gained by Webifying formerly printed content, however. These are business decisions that should not depend on the vendor you select.

For the majority of Web projects, a simpler CMS makes more sense. Unless you expect extremely rapid growth in the number of contributors to your project, or in the amount of content, the economics are simple. Yearly maintenance fees for an enterprise CMS cost an average of 18 percent of the initial software cost. Why spend $500,000 up front and $90,000 a year in support if your company won't take full advantage of the CMS within eighteen to twenty-four months?

Some Major Content Management Vendors

Vendor and URL	Strengths	Caveat	Cost
Documentum www.documentum.com	Document and ditial asset management	Personalization features not as astrong as competitors	Major components start at less than $100,000
FatWire www.fatwire.com	Web content management, tight integration with BEA WebLogic	As with other pure WCM, may not scale to support thousands of users	SPARK, $25,000; Update Engine, $70,000 and up

Interwoven www.interwoven.com	Collaboration, enterprise content management	Requires significant customization	InterWoven 5 Platform, $50,000; average cost for a new customer, $250,000
Percussion www.percussion.com	Web content management with XML/XSL backbone	As with other pure WCM, may not scale to support thousands of users	Rhythmyx Content Manager, about $150,000
Stellent www.stellent.com	Document conversion to Web-ready formats	Engineered for very large implementations with thousands of users	Content and Collaboration Servers, $50,000 to $250,000 each
Vignette www.vignette.com	Personalization	Document management and library services aren't as robust as others	V6 Multisite Content Manager, $200,000 and up; V6 Content Suite, $450,000 and up

Multiple Systems

In some cases, it actually makes short-term sense to deploy multiple content management packages, especially if you choose less-expensive solutions. For example, BEA Systems uses Documentum for its own enterprisewide content management, while FatWire's SPARK powers the BEA Portal Solutions Center, a vendor self-service site. In this instance, time to market was the deciding factor.

"Documentum was a viable contender for powering the Solutions Center," says Jeff Buhl, senior manager of business development at BEA. "But we were able to leverage the speed with which FatWire integrated with Portal 4.0, which is the underlying architecture for the site." Because of BEA's strategic partnership with FatWire, maintaining two systems also imposed little financial burden. But while it effectively answered an immediate need, it also created two separate silos of content. That's not a problem for now, according to Buhl, but he admits that the company will have to address it in the future.

More often than not, however, multiple CMS implementations cause problems. Dan Ryan, senior vice president of marketing and business development for CMS vendor Stellent, sees the development of the content management market unfolding in three phases. The first phase started in the mid-1990s, he says, as companies got their commerce sites up and running. Web content management was born. Over the past few years, however, more companies have focused on intranets, extranets, and the desire to publish business content directly from native file formats. But overeagerness to achieve these goals has led to much of the overspending and use of multiple vendors. We're approaching the end of that second phase, Ryan says. Phase three will be marked by a move back to a single CMS vendor per company.

Documentum has remained an active player in the CMS market by introducing products that are essentially smaller-scale modules of its complete suite. "We're seeing smaller deals from new customers with the realization that clients can upgrade within the Documentum family as their needs expand," says

Naomi Miller, director of product marketing at Documentum. "Our happiest customers are those that started small and have grown with us as their strategy solidified."

Similarly, Interwoven has recently rolled out leaner applications aimed at solving specific content management problems without wrestling with the larger issues that come with an enterprise-class solution.

Purchase Planning

The push for more targeted solutions from larger vendors—along with the appearance of more affordable yet still powerful standalone Web content management tools—will contribute to an environment in which many CMS vendors share customers. Vendors that recognize this will be ahead of the game, and customers will do well to align themselves with vendors that are anticipating the change.

The right content management solution, or in some cases a combination of solutions, can vastly improve content processes for a Web site. But keep several things in mind to avoid overspending.

Unless you are already trying to manage thousands of contributors, or large volumes of binary files or documentation that need tracking and archiving, start small. Vendors are encouraging department-level and low-end sales that ultimately will lead to a heterogeneous content management environment within organizations and between companies.

In light of this, be mindful of future integration needs. Buy what you need when you need it. If you're buying at a department level, consider whether you will need to collaborate with other departments down the road. Think about your organization's larger content agenda. If you have authority to approve a purchase, consult first with the CIO or CTO. If there is no set companywide plan for managing content, start to develop one. The ultimate goal is to avoid unnecessary duplication of CMS functions.

The Open Source Alternative

The decision to commit to an enterprise-class content management system is not something that any technology manager takes lightly. The outcome of that decision can ultimately affect every division of your organization. But what if your CMS needs aren't so far-reaching?

More and more, major CMS vendors are turning their attention away from enterprise-wide deployments, choosing to focus instead on the growing market for department-level sales. On the downside, this can quickly lead to multiple CMS installations within the same organization, each of which duplicates the functions of the others. In other cases, budgetary constraints at the department level can forbid even a modest investment in a single commercial CMS package.

Instead, a growing number of companies are foregoing commercial software in favor of an open-source alternative. Free and low-cost content management systems are available for almost every OS and Web server platform, under a variety of open-source licenses. Often these packages are developed under the aegis of private companies that profit by selling support, training, and hosting services, while the software itself remains free. The resulting cost savings can offer a department or business unit the leeway to develop content management procedures inexpensively, leaving it free to migrate to an enterprisewide CMS deployment should the need arise.

Take Midgard (www.midgard-project.com) a pure-play open-source CMS that's been released

under the GNU Lesser General Public License (LGPL). Midgard organizes content into a hierarchical directory not unlike Yahoo's. The system is built on top of the Apache Web server and PHP4, a popular server-side scripting engine similar to ASP. It supports a variety of Unix platforms, including Linux, Solaris, and BSD variants like Mac OS X. Professional support for Midgard is available from a variety of companies (listed on Midgard's site).

Another popular choice is Zope (www.zope.com). As a complete object-oriented application server written in Python, Zope runs on most OS platforms that support the language, including Unix and Windows. Developers can contribute to Zope by building custom modules that extend its already-rich feature set. Existing modules include integration with LDAP directories and Oracle databases, groupware and collaboration tools, physician's office management and recordkeeping, clustering, and more. Zope's primary sponsor is the Zope Corporation, which releases the software under its own open-source license and sells training, professional services, and custom development for the platform.

If you're concerned that open-source CMS might not be ready for real-world deployment, look no further than Cofax (www.cofax.org). Originally developed by Knight-Ridder for use at several of its newspapers, the Cofax software has since been released under an open-source license similar to the Apache License. It was written in Java, stressing a modular, object-oriented design that separates content from application logic. Cofax supports any database for which JDBC drivers are available, and has been tested on Solaris 8, Windows 2000, and Windows 98 (though as a 100 percent Java application, it should be OS independent).

Open-source content management systems like these are already gaining acceptance at the department level and are enjoying full-scale deployment at some of the busiest content sites. Several other solutions besides those listed here are also available. For more information, try the community-driven online guide at CMSInfo.org.

—Neil McAllister

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