WEB ENHANCES SHARING OF BUSINESS INTELLIGENCE

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As the volume of data generated continues to soar, businesses are finding that accessibility to their information is decreasing. Reorganizing the way information is stored and retrieved is the key to improving communications and increasing productivity ... which ultimately, enhances an organization's bottom line.

Because the benefits of handling the exchange of information electronically are so compelling, all classes of corporate communications are quickly becoming digital placing dramatic strain on today's telecommunications infrastructure. Faxes made our mail digital, voice mail made our phones digital, and more of our computer-generated documents will stay digital because they are easier to access, deliver and manage.

While communications backbone service requirements is doubling every four months, the bottleneck has been the lack of corporate "structure" we see in today's virtual corporations. It places immense responsibilities on tele and data communications and network managers who must help workgroups (internal and external), suppliers and business partners interact. Clearly, an affordable, interoperable document management solution is an excellent opportunity to help communicatons firms link customer resources--regardless of their geographical or platform boundaries.

The Ultimate Filing System

The growth and acceptance of the Internet and its graphical version, the Web, have given firms of all sizes a flexible, cost-effective and easy-to-implement vehicle for electronic collaboration, information distribution and business-to-business interactions, both inside (Intranet) and outside (Internet) the organization. Because the Internet is truly a global network, it provides a ready-made

platform for extending a business customer's universe of business trading partners to literally all businesses on the Net.

To facilitate external communications, most companies are using the Internet to expand their sphere of contact. Many of these same firms have used the technology to develop intranets between corporate campuses as well as remote facilities for their internal communications. With the telephone industry's infrastructure, Internet or a private network as the backbone, sharing information and documents across the country or around the world is not only less expensive, it's easier to deploy and manage.

However, private networks are becoming less popular than I-VPNs (Internet virtual private networks) because by their very nature and structure they limit interactions with companies that aren't on the Intranet.

Meanwhile, the Web has been evolving at a record pace. Driven by emerging technologies such as electronic commerce (EC) and electronic document interchange (EDI), companies of all sizes are putting more information on their Web sites, turning them into "the ultimate filing system." They've discovered that the Web server is an excellent tool for storing, controlling, retrieving and sharing information both inside and outside the organization.

What many business service customers don't realize is, by moving their Web site to a bandwidth-available environment, adding protection and some other items, they can make their site available for *intra*corporate applications.

Most organizations will find that this solution almost immediately lowers their overall communications costs by reducing the printing, mailing and processing of documents. They'll also improve productivity by making information more widely available and more quickly accessible.

Internally they can post the company's benefits information and the company's organizational chart, as well as new-product/services updates. The information can be modified, expanded and enhanced so that it is always current and readily available. External applications include collaborating on new products, posting electronic catalogs; detailed parts and dealer listings; on-line ordering and shipping data; application, installation, troubleshooting and maintenance/service files and other information that can assist the field sales force, resellers, prospects and customers.

Moving to the Net

With the increase in host computers on the Net and the Web's ability to provide a systematic way of linking files, researchers at Gartner Group in Stamford, Conn. view the Internet as an effective, least-cost option for network architectures.

By tying Web-enabled document management systems to the Internet, firms can develop three functional applications: repositories for standardized corporate documents, a common repository for people to freely contribute and collaborate on documents, and as a link to specialized repositories available only to departments and authorized personnel inside and outside the organization.

With these applications, however, document management and consistently reliable delivery take on a new level of importance and a new sense of urgency as well as a new level of network reliability which facilities based communications providers are accustomed to routinely delivering. A document management system that handles all of the documents that flow into a corporation; documents that travel from employee to employee, department to department; and documents that move between the company, suppliers, distribution channels and customers can potentially bring order out of chaos. Document management systems categorize data, store it and enable authorized users to access and interact with the documents.

User-Accepted Access

Most of the new Web-enabled systems allow organizations to convert documents on-the-fly using ActiveX, Java, HTML, XML or combination of these formats. Because individuals have quickly learned how fast and easy it is to search for and retrieve information from the Web using their Netscape Navigator or Microsoft Explorer browser, communications, IS and network management are finding that employees are the biggest proponents for enterprise-wide implementation of Web-enabled document management systems.

Older document management systems implemented proprietary server interfaces, making it impossible for a department using one system to exchange information with one working with a different package. However, in 1995, the Document Management Alliance developed the Open Document Management Application Program Interface. The new Web-enabled document management systems incorporate these universal client and server capabilities so that documents and data can be seamlessly exchanged across the communications infrastructure.

Firms that have Web-enabled their document management systems include: Access, Adobe Systems, Blueridge Technologies, Caere, Documentum, Interleaf, KeyFile, NovaSoft, Novell, PC Docs, Open Text, ViewStar, Visioneer, Westbrook Technologies and Xlink.

Security

Companies that are considering Web-based document management systems usually have two key issues they want resolved before proceeding--security and Web site availability. Since most of the document libraries are designed for both internal and external usage, the two concerns are closely interrelated.

Most of the document management system products comply with security standards such as LDAP, X.500 and native OS security. Other security measures such as secure ID cards and logon IDs/passwords and encryption can be used to ensure that sensitive information is kept from prying eyes but easily accessed by authorized visitors from anywhere in the world.

For added security, the Web-based document management system should be outside of the organization's physical network. The cash outlay for hardware/software and the security issues are the prime reasons even large corporations with their own technical staffs often prefer to have their sites hosted by an organization that focuses on Web hosting. In addition to providing them with the assurance that there is no direct connection to their corporate network, the Web host adds yet another layer of advanced security products and security testing procedures.

With this approach, the organization still has direct control over the document management system and its security authorization processes, but it doesn't have to worry about technological obsolescence or changing bandwidth requirements. They'll have a bandwidth-available environment that can accommodate their changing needs and ensure consistently reliable access to the site.

Availability, Scalability Issues

The key concern for management is always the performance of their Web site and that they have sufficient bandwidth to support all of the firm's Internet activities, including e-mail, File Transfer Protocol (FTP), Web browsing and Web site traffic.

It's easy to underestimate bandwidth requirements and server power requirements, even when planning a standard Web site. However, for document management systems, where people inside and outside the organization will be working with a wide range of files, including graphics and images, optimum bandwidth for high-speed retrieval is even more critical.

The productivity promises of a Web-based document management system will all be lost if visitors must try several times to get information from a Web site or are denied access. Having your site hosted by an organization that has a direct frame relay or ATM-level connection to the Internet and fully redundant Web farms across the nation is a step in the right direction; but today, reliable access requires a more pro-active approach to global content delivery.

Instead of responding to bottlenecks as they develop, communications firms can combine new technologies such as advanced replication techniques, local caching and intelligent load balancing that *prevent* them.

Replication not only minimizes the distance between visitors and Web sites so that users have faster access to the information they need, it eliminates the possibility of a single point of failure and simplifies upgrades. If a major disaster occurs at one Web farm or if the master site is down for upgrading, traffic can be quickly moved to another farm. The failover capabilities are completely transparent, so Web site visitors don't even notice that they have been rerouted.

Organizations that have more than one Web site can use replication to share content among the sites. For example, if a company has Web sites in English, Japanese, German and French, they may have the same format and the same graphics, but a different language and different pricing. Replication can be used to synchronize changes to the standardized material on all of the sites. Then, translators can be used and pricing information can be updated at the local level.

Local Caching With caching, the time spent waiting for access to a site can be dramatically reduced. In addition, it reduces the number of transmissions between servers because the Web site can simply be reloaded from a local server.

Load Balancing Rerouting a site to the closest server -- which communications firms understand very well -- won't necessarily achieve improved access--especially if the server is already providing peak access to a number of other large sites. However, with intelligent load balancing, server capacity is matched with demand; requests are transparently routed to the nearest, *most responsive* servers.

In a few short years, the Web evolved from a technical curiosity to a valuable business tool for information exchange. Printed documents will never be completely replaced, but we are becoming more aware that a hard copy is only a reference point in time--and an expensive one at that. The next step is to begin thinking of documents as objects, or knowledge delivery vehicles. Then we need to recognize that the recipients, not the senders, will determine whether or not the information will be viewed on monitors or in hard copy form.

The need for Internet and Web-based document management systems is here ... and so is the technology.

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