



TECHNICAL WHITE PAPER

Next-Generation Portal Technology with Web Services

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Staying competitive requires companies to find more-efficient means to capture, manage, access, and share information. The diversity of information and business software applications at department levels enterprise-wide continues to present formidable challenges unanswered by commercially available ERP, CRM, SCM, and other types of enterprise software suites.

In most organizations, information and processes continue to be siloed in disparate applications and data repositories or, at best, partial integrations of business systems. The true value of owned intellectual property and IT assets to daily business operations is diminished by this lack of enterprise systems' connectivity. The norm is an assortment of communication and collaboration challenges, inconsistencies in user experiences across various corporate sites, and the inability to deliver timely, accurate information to employees, customers, and partners.

The next generation of portal technology using Web services provides the most rational solution to organize, access, and align the vast quantities of enterprise systems functionality with data to the needs of different types of users. In addition to capabilities of prevailing portal technology that aggregates data and applications for content delivery, next-generation portals effectively integrate business processes through real-time connectivity to any data sources as well as linking users into collaborative workspace environments.

The new portal technology empowers organizations to build and deploy enterprise portals that transform corporate Web sites into powerful business nerve centers—securely managing business processes and substantial data for each user community. Contrary to commercially available software suites that can only promise enterprise-wide benefits, the newer portal technology specifically increases productivity, improves customer experiences and satisfaction, and strengthens partner relationships across all departments.

Types of portal applications

The value that portal technology brings to an organization is best illustrated by examining the types of portal applications that can be deployed:

Process portals

Process Portals integrate and automate complex business tasks. Information content can be grouped and transactional interfaces implemented into guided business processes that update multiple systems as part of a single transaction. Process Portals ideally are designed for how users work and interact with an organization.

Employee portals

Employee Portals enable personalized, secure access to all authorized information and job functions—including job-specific tasking and reporting, on-line company training, human resources, and corporate communications—through a consolidated framework with a single sign-on interface. The technology improves employee efficiencies with accurate, updated, relevant information and improves employee on-line interaction as needed for all aspects of their relationship and service with the organization.

Customer portals

Customer Portals enable self-service with compelling, personalized, customer-facing Web access. Unified Customer Profiles make it easier for users to interact with multiple departments (e.g., sales, service, billing) within an organization through a single Internet storefront. Conveniences—such as selecting personal preferences, profile updating, on-line assistance, shopping carts, order submission, order tracking, account balance monitoring, participating in marketing surveys, and accessing newsletters and other customer-directed content—enrich customer experiences, build stronger customer loyalties, and create new revenue opportunities to cross-sell and up-sell to more-receptive audiences. In-house, Unified Customer Profiles ensure one view of each customer across all departments to eliminate confusion, service delays, and costly manual tasking while enabling an organization to serve more customers more profitably without increasing staff.

Partner portals

Partner Portals improve communication and collaboration with partners on joint business initiatives. They can also include features described above for customer portals modified for the business relationship and be used to provide self-service models for driving product and service transactions while reducing costs for sales and order fulfillment.

Next-generation portal technology aligns with the latest Business Intelligence (BI) and Enterprise Content Management (ECM) strategies that organizations seek to deploy for higher productivity and faster response to evolving marketplaces. ECM—which captures, manages, stores, and brings control to all forms of data and content, structured and unstructured, throughout an enterprise—would rely on portals as a delivery mechanism. BI, which enables sophisticated data analyses, business reporting, and performance monitoring would push data, such as dashboards with key performance indicators, to the portals of authorized managers.

Shortcomings of enterprise suite portals

“Out-of-the-box” portal solutions provided by ERP, CRM, SCM, and other types of commercially available enterprise software suites lack functionality beyond their business focus. Organizations committed to the concept of enterprise portals must then invest substantially more time and resources for costly professional services to extend integration of business processes and create layers of portal overlays. Issues of functionality, usability, and user experiences prevail even if successfully deployed.

All manufacturers of commercial business software are predisposed to specific areas of expertise upon which their business was founded. Their portal capabilities understandably originate to serve a core user base that represents specific business functions and user groups that are only a fractional part of an entire organization. The rest of the organization is then forced to confine its concepts and design for true enterprise-wide portals to the predispositions of the controlling business group and commercial manufacturer.

Next-generation portal technology starts with a comprehensive enterprise approach and framework design based on a top-down view with collaborative input from all departments. ERP, CRM, SCM, and other types of software suites integrate to a core enterprise portal framework rather than attempting to integrate the entire enterprise to a subset of its business.

Phased implementation advantages

A global logistics services company experiencing rapid growth both organically and through acquisitions challenged its IT organization to support an increasing diversity of operating divisions and customers worldwide. Rapid and continuing growth had led to many integration and visibility issues that demanded an immediate solution without impeding ongoing daily operations or the company's long-term IT goals to consolidate use of transportation assets and streamline business processes.

Leveraging next-generation portal technology, the company was able to quickly implement an enterprise portal framework with several portlets that 1) expedited integration of acquired businesses and IT assets into the parent organization and 2) enabled visibility of data and secure access to enterprise systems functionality based on customers' service levels. The portal-enabled self service allows customers to independently place transportation orders, affording the company higher levels of customer service, increased revenue, and important cost-containment benefits. The company is now pursuing its long-term goals by adding to its enterprise portal framework for different classes of business relationships and Web site visitors.

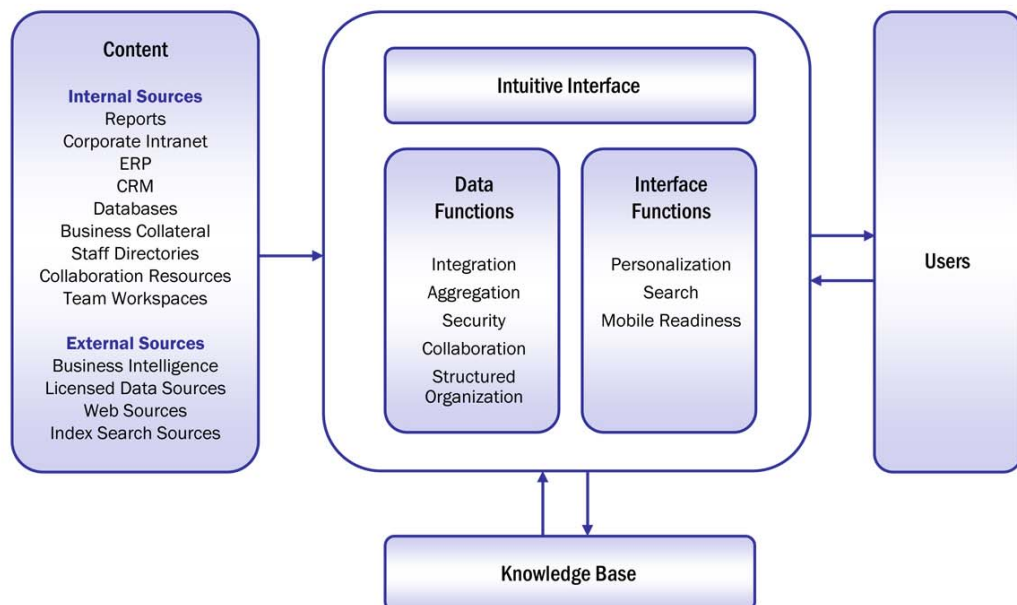
Key functionality and capabilities

Business does not function well with unrelated pieces of information. People normally work with information from a variety of sources to perform a task, achieve a result, or create new information. Next-generation portal technology with Web services enables much of this to happen automatically. By making available information from different business processes across an organization, enterprise portals create efficiencies that are otherwise virtually unobtainable.

Next-generation portals use software such as BEA Systems' WebLogic Portal™ 8.1 to manage user permissions and accesses to multiple applications and information sources. Typically, functionality (Figure 1 on the following page) includes:

- **New-style user interface with information or applications displayed in compartments on the screen known as portlets or Web parts**
- **Advanced search capability**
- **Aggregation of content**
- **Directory services**
- **Advanced security**
- **Application, process, and data integration from disparate sources**
 - CRM
 - Intranet
 - ERP
 - Supply Chain Management
 - BI
 - B2B Applications
 - Collaboration Support
 - Expertise Monitoring and Knowledge Capture
 - Business Functions and Vertical Industry Specializations
 - Extranet and Internet deployments
 - Special-Interest Communities and Expertise Centers

Figure 1: Portal Functions



Key capabilities expected from any portal solution include:

- **Aggregation** of applications and content, structured and unstructured, into a single view or workspace, which facilitates knowledge access and decision-making processes
- **Integration** of data from multiple platforms, sources, and formats, including legacy systems
- **Security** to restrict information access to only authorized users and to restrict availability of sensitive material
- **Collaboration** tools—such as shared resources, instant messaging, and chat—that enable teams to be more productive and work with resources centrally located, more easily searched, and readily available
- **Structured organization of information** to accelerate search processes
- **Personalization of portals** enabling users to organize online workspace and to display information relevant to needs
- **Search technologies** to expedite information retrieval from within not only the enterprise but the entire Internet as well
- **Mobile readiness** for content to be delivered to PDAs, smartphones, and other wireless devices
- **Intuitive interfaces** that virtually eliminate the need for end user training and that provide the capabilities to accommodate visual themes and skins, templates based on user profiles, and easily configurable and customizable user workspaces

Conclusion

The first portals focused on aggregating and presenting data in a common user interface, allowing relevant information to be available to specific users. Portals quickly evolved from being a collection of HTML documents to more-complicated processes working on a distributed scale over the Internet and corporate intranets.

Where content delivery was the highlight of the first portals, aggregating data and applications is the main feature of current portals, which exhibit more-robust applications frameworks. Current portals, however, tend to be products of limited scope, and they lack functionality beyond specific purposes for which they were initially created.

Next-generation portals with Web services provide new and better methods to aggregate applications and data. Also, they integrate business processes, support connectivity to any data sources available, and connect users to collaborative workspace environments. Unlike current portals that attempt to serve all enterprise needs with technology tailored for a core user base within the organization, next-generation enterprise portals start with a comprehensive enterprise framework based on collaborative input from all departments.

The capabilities of Web services to connect business systems of different platforms and automatically integrate unrelated pieces of information enable next-generation portals to take the broader, top-view, enterprise approach that equally serves all business relationships across departments, divisions, and geographies. The technology solves many issues that previously inflated the time and costs of enterprise software deployments to actually deliver decisive competitive advantages from connected business processes, higher productivity, and very satisfying user experiences.



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