EM IT Insight

by Jill Barson Gilbert

Portals Windows to the World

The other day, I connected to my favorite airline's Web page to see how many frequent flyer points I needed to fly to an upcoming event. Then I entered the reservations area to check for available flights. Lacking adequate frequent flyer points, I connected to my membership miles account to transfer additional points to my airline account. Next, I looked for a good price on a digital camera to take photos of the event. All of this occurred through portals. In a matter of minutes, I had completed four separate business processes, all without leaving my desk. This month's column considers portals, which are used for all types of business purposes, including environment, health, and safety (EH&S).

WHAT IS A PORTAL?

A portal is a graphical user interface (GUI) that allows personalized content to fit end users' needs. It is the infrastructure that allows users to access a number of different software applications across the business. A portal is also a Web page that delivers a defined set of data sources and services from behind the company firewall or via the Internet. Think of the Yahoo! (*www.yahoo.com*) or MSN (*www.msn.com*) home pages, where the user decides what types of business, financial, news, and entertainment sources to display. These Web pages allow users to change the "look and feel" of the page, including the color scheme, layout, content, and sometimes, language. A "portlet" or "pagelet" is a small area within the user's personalized home page that delivers content from inside or outside the enterprise. Examples of EH&S portlets are compliance calendars, task lists, metrics scorecards, reports, database links, and document search windows.

ROLE-BASED SECURITY

Ensuring that the right users access the right data is a major concern with any software installation. Maintaining data security for many diverse applications can be costly, especially in an organization that requires different security levels for employees and nonemployees. Business portals use a simple security approach to provide the data in a secure and controlled environment. Once a user logs in using an ID and password, he or she has access to all applications within the portal. Each user is given a role that is defined by the organization. For example, an EH&S portal might define roles of Facility Coordinator, Corporate EH&S Staff, Manager, and Administrator. This allows content such as data entry, metrics, reports, links to compliance calendars, and tasks to be delivered by predefined user role and assigned facilities. The role-based security settings allow data to be filtered so that a Facility Coordinator may edit and view data only for his or her site, while the Corporate EH&S staff may view, but not edit, data for all sites. Role-based settings can also deliver different content, such as daily data entry links for a Facility Coordinator and scorecard metrics links for a Manager.

PORTAL TECHNOLOGIES

Whether an organization builds its portal in-house or purchases it from a vendor, all portals rely on a set of standards and protocols.

Standards

Hypertext markup language (HTML) and Java are two programming languages that have been the de facto standards for a while. HTML is better suited to static display of data, while Java is better suited to dynamic data display. Java 2 Enterprise Edition (J2EE) has also gained acceptance. Extensible markup language (XML) and extensible business reporting language (XBRL) are common methods of sharing information over the Internet. Combined with extensible style sheets (XSL), a programmer can separate the GUI presentation layer (i.e., style sheets) from the data layer. There are additional

protocols for programming objects, data transport (e.g., hypertext transport protocol secure, HTTPS), authentication and encryption (e.g., secure socket layers, SSL) and wireless communication (e.g., wireless application protocol and wireless markup language, WAP and WML).

Architecture

Portals provide flexible, open software architecture to connect disparate data and services through a Web page. All the user needs is an Internet browser to access the applications, plus the proper client software to view any attached electronic files (e.g., word processor, spreadsheet software, Acrobat Reader, or image viewer). Microsoft.NET is an example of a set of technologies used to connect information, people, systems, and devices. An open architecture allows the portal to accommodate a number of back-end databases, so that organizations can connect Microsoft SQL Server and Oracle relational database applications to the same portal. Open architecture also allows a choice of Web server software (e.g., IBM WebSphere, BEA WebLogic, or Microsoft SharePoint Portal Server).

Developer Tools

A technology toolkit ties together the different types of software that the organization uses. Portal vendors typically provide software developers' kits (SDKs) that include tools such as a screen builder, program editor, and compiler. Some SDKs feature templates and wizards to make customization easier. In addition, application programming interfaces (APIs) help developers link applications to the portal.

Collaboration Tools

Collaboration tools allow users across the business enterprise to share knowledge via the portal. These collaboration tools are software applications in their own right, and work through the portal. Example applications are chat, instant messaging, document sharing, discussion boards, virtual whiteboards, virtual conferencing, and video conferencing.

BENEFITS

Portals provide clear benefits for users, by allowing them to

- interact in a personalized way;
- collaborate with different applications across the enterprise;
- collaborate with users inside and outside the enterprise;
- access data on demand;
- receive dynamic information;
- develop and search knowledge bases; and
- complete tasks on their own in a self-service manner.

There are also several business benefits. Portals can

- provide information in context,

Considering a Portal?

When considering a portal, you should evaluate the potential business impacts as you would for any software:

- **Prioritize your needs.**
- **Identify the user community.**
- **Identify the functionality a portal should possess (business, collaboration, etc.) and state the primary business objective of each function.**
- **Evaluate solutions based on the ability to provide business value.**

Before implementing a commercial portal, you should:

- **Determine if your organization already has an enterprise resource planning software suite such as PeopleSoft, Oracle, or SAP.**
- **Know which information technology standards your organization supports or prefers.**
- **Know what you are getting into—understand not only which standards are used, but also how they are used.**
- **Identify if SDKs, APIs, or other tools are available.**
- **Establish what flexibility and scalability the portal provides for future features and users.**

allowing users to do their job effectively;
- make business decisions easier by removing technical barriers due to different software platforms;
- connect remote locations to applications through a single access point;
- allow central software configuration;
- provide access to employees, customers, partners, and suppliers;
- provide long-term or temporary access, as appropriate;
- reduce training costs due to the self-service nature;
- reduce support costs by sharing answers to frequently asked questions; and
- make application integration easier by using SDKs.

About the Author

Jill Barson Gilbert, QEP, is president of Lexicon Systems, LLC. She helps organizations increase business value by designing and implementing EH&S management solutions that leverage technology. A respected author and speaker, Gilbert is past chair of A&WMA's Information Solutions Committee. She can be reached at *JBGilbert@Lexicon-Systems.com*.