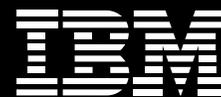


Rich, personalized portals for the enterprise



WebSphere software

IBM WebSphere Portal Version 6.1 reviewer's guide

August 2008



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Introduction

When it comes to user productivity, convenience and adaptability, business portals are one of the best platforms available. Portals provide users with a single, security-rich, personalized interface that combines numerous sources of information from within a company's firewall and from the Internet at large. The right portal solution can bring cohesion to the IT infrastructure and drive business innovation, whatever the company's size. And it can help employees and business partners work more efficiently, streamline business processes and enable companies to implement new, highly responsive product and service delivery offerings.

Portal technology continues to progress, accelerated by both industry-driven standards and the greater marketplace. IBM WebSphere® Portal software has stayed at the forefront of this continuing wave of innovation, combining the latest user-centric functionality with reliable security and manageability features to meet the needs of businesses. The software incorporates extensive Web 2.0 capabilities, allowing companies to fuel social interaction by delivering high-performing, intuitive applications through a rich Web interface.

With the release of IBM WebSphere Portal Version 6.1 software, companies get an even wider range of features designed to make life easier for their users and administrators. WebSphere Portal Version 6.1 software provides an exceptional user experience, facilitates reuse of Web assets and existing IT assets, and improves ease of deployment. It enables organizations to quickly implement new business designs that are engaging, flexible and high performance. Enhanced Web 2.0 capabilities enable desktop-like responsiveness and much more intuitive and participatory composite business applications that leverage both Web and corporate information sources. New installation options, customization tools, a site deployment wizard and out-of-the-box jumpstart templates all contribute to less effort, less cost and faster time to value.

Support for WebSphere Application Server Version 6.1 software—along with enhancements to site layout and management, security configuration, and portlet deployment and management features—leads to greater reliability, manageability and performance. IBM continues its leadership role in the development and implementation of the most recent portal open standards, such as Java™ Specification Request (JSR) 286 and Web Services for Remote Portlets (WSRP) 2.0 standards.

This paper describes these new features and the other features that are available with IBM WebSphere Portal Version 6.1 software. It provides a comprehensive look at the software, making it a must-read for companies that are considering a WebSphere Portal solution.

Product overview

IBM WebSphere Portal Version 6.1 software is designed to help users access the information, applications and people they need to productively manage their jobs by combining multiple features and capabilities in one place. With a rich, responsive user interface that includes Web 2.0 features, users can organize, manage and share their content, which can help boost productivity and encourage collaboration and innovation among employees, partners, suppliers and customers. Open-standards-based IBM WebSphere Portal software can work with a wide range of technologies, allowing you to build on your existing IT environment, maintain required security levels and support a service-oriented architecture (SOA) approach. By merging the advantages of SOA with Web 2.0 capabilities, the software can help you build and extend portal solutions, giving your company new levels of business agility and innovation. It can also help you extend your existing assets, content and processes to a wider set of user communities, from internal employees to business partners and customers.

The 6.1 release includes many new preconfigured pages, Internet and intranet portal site templates, and out-of-the-box portlet applications that help make deployment fast and easy. These applications are designed to address key business challenges and support day-to-day functionality such as e-mail, calendaring, instant messaging, integrated presence awareness, bookmarking, reports and team spaces. You can find hundreds of additional portlets and portal solutions from IBM and IBM Business Partners at ibm.com/websphere/solutionscatalog-portal.

With the release of IBM WebSphere Portal Version 6.1 software, IBM is moving toward greater self-service, a richer user interface, more Web 2.0 capabilities, expanded support for open standards and improved administration tools. Read on to find out more about the specific new advantages for business users, IT administrators and application developers that WebSphere Portal software delivers.

For business users

IBM WebSphere Portal software can help you centralize access to information, applications and processes—and present them in a way that is relevant to each user. End users can personalize the interface, organize content, manage profiles, assemble composite applications, and publish and share documents with colleagues. The software even incorporates a number of Web 2.0 capabilities, including faster page reloads, live text semantic tagging and mashups—in a rich, seamless interface.

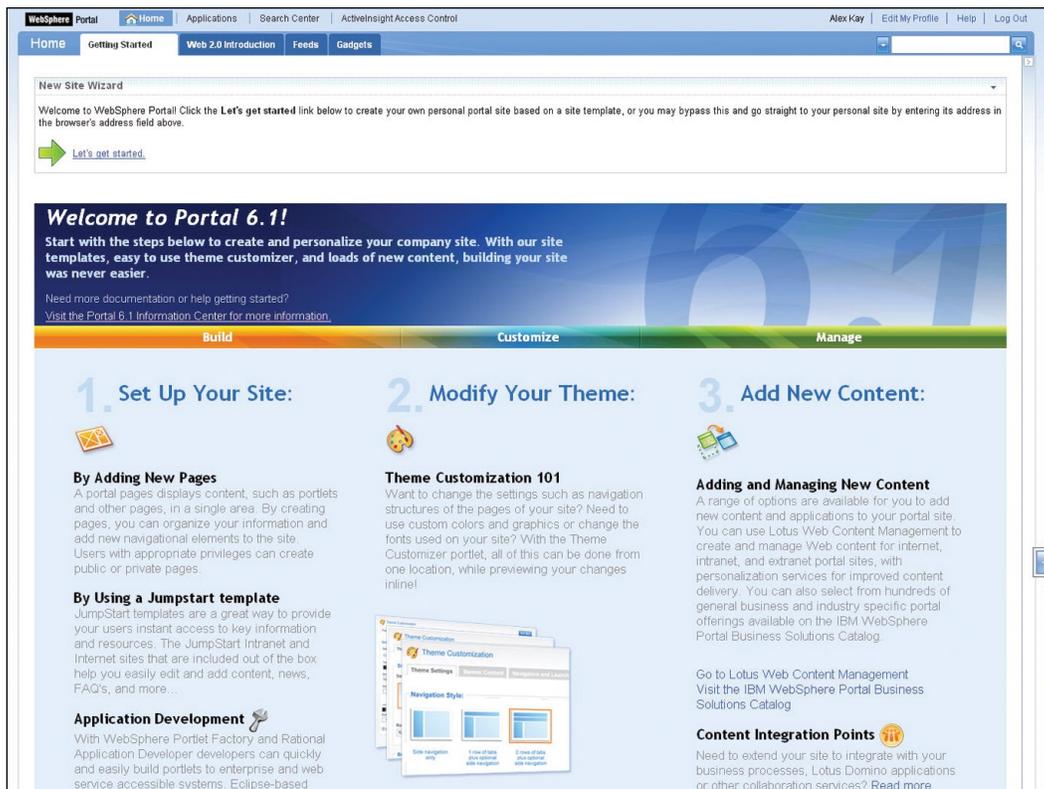


Figure 1: The intuitive welcome page helps administrators get started.

Portal customization

IBM WebSphere Portal Version 6.1 software gives end users broad control over their portal pages. Users can customize the content they interact with in the portal by choosing portlets from the Portlet Palette—a central repository where assets can be controlled by IT administrators and easily leveraged by end users. With simple drag-and-drop functionality, the Portlet Palette helps make customization quick and simple, while keeping access rights within IT's control.

The latest release of the software also includes an expanded set of templates for custom Internet and intranet sites. Offering prebuilt Web sites and sample content, the templates make it easy for business users to create their own portals and incorporate standard elements such as announcements, news, events, frequently asked questions and links.

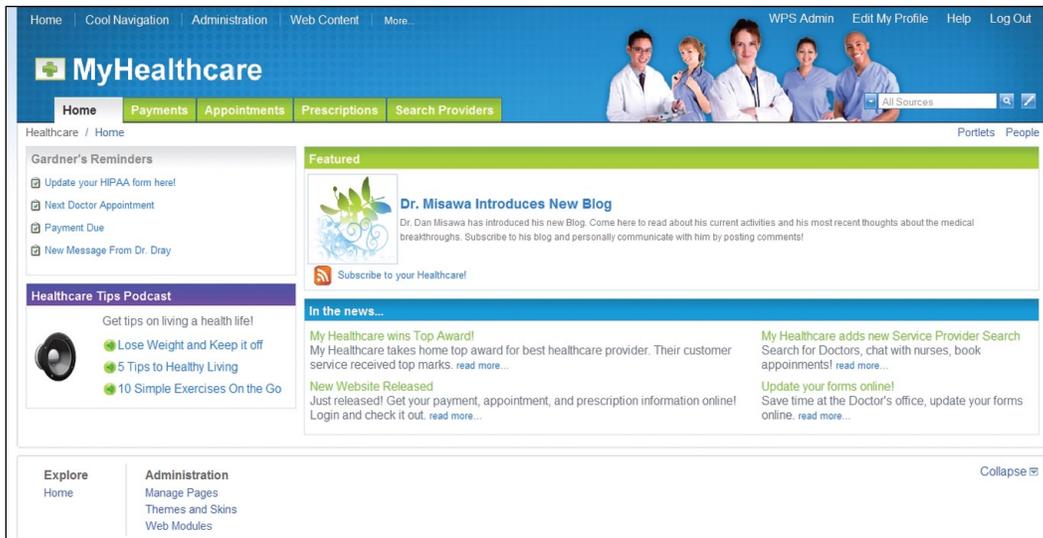


Figure 2: Companies can customize their own portal pages to include the elements they need.

Look and feel

IBM WebSphere Portal Version 6.1 software features the new Theme Customizer tool, which enables business users to control Web site layout, navigation structure, branding and more. Choosing from a variety of themes based on cascading style sheets (CSS), JavaServer Pages (JSP) files and images, users can define fonts, colors, spacing and other visual elements. They can also control the appearance of title bars, borders and shadows by applying skins. Users can apply these skins automatically to subordinate pages or define a unique look and feel for every page. And it's easy to upload logos and background images to achieve consistent branding.

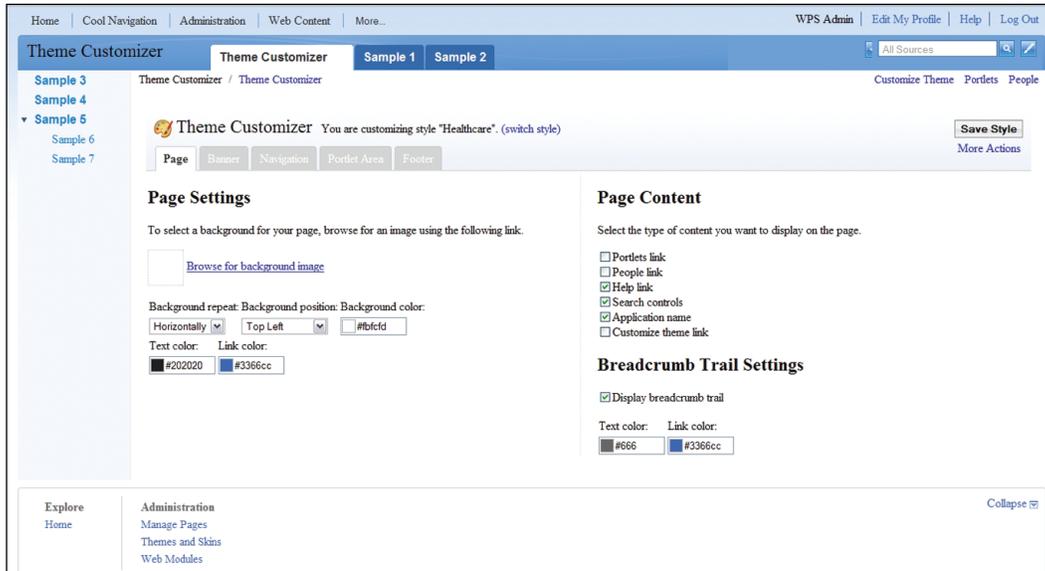


Figure 3: The Theme Customizer tool enables organizations to control page settings and content.

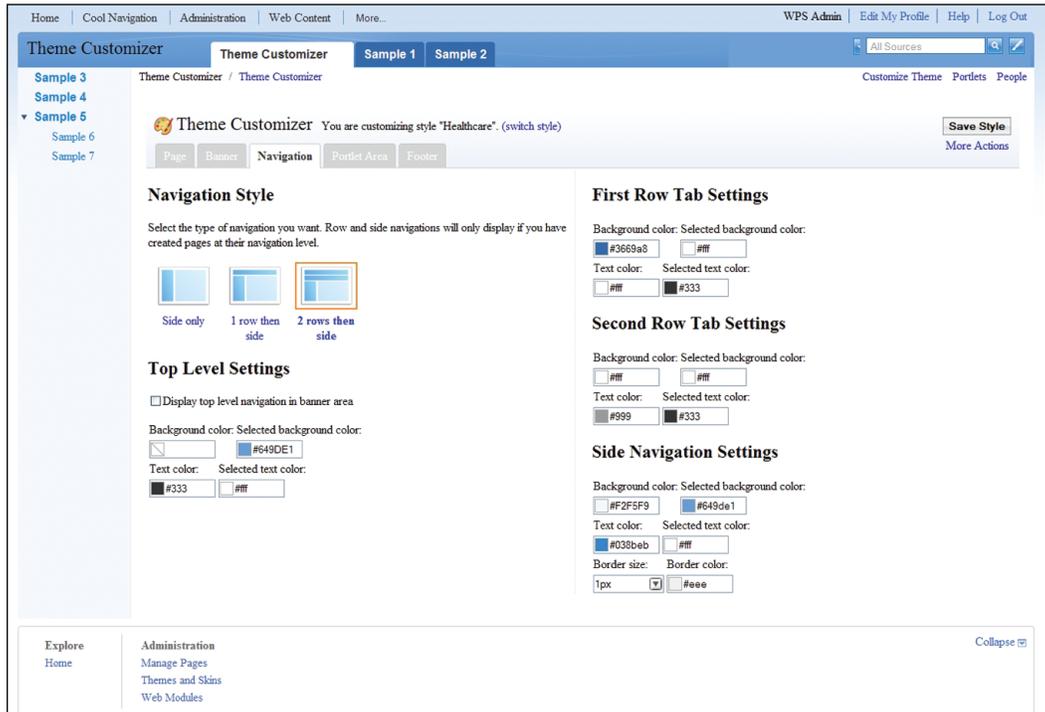


Figure 4: The Theme Customizer tool provides options for navigation style and structure.

Collaboration in context

A wide range of collaboration capabilities are becoming an essential part of the business world. Employees need instant messaging, realtime Web conferencing, dynamic team spaces, security-rich content sharing and speedy access to specialized knowledge and skills. These features have to be tailored to the user's role, responsibilities and areas of expertise. And they must be interconnected and available online—virtually anytime, anywhere.

This collaboration framework is what IBM refers to as “collaboration in context,” which can support faster response times and better-informed decisions. Consider this scenario as an example: A performance dashboard within the portal alerts a user to the fact that a competitor has just been acquired. In response, the user can easily find related information, send links to colleagues and initiate a realtime chat with team members to formulate a plan—without ever leaving the portal interface. IBM WebSphere Portal Version 6.1 software can help organizations achieve this state by working with collaboration applications that employees use every day—many of them with out-of-the-box integration.

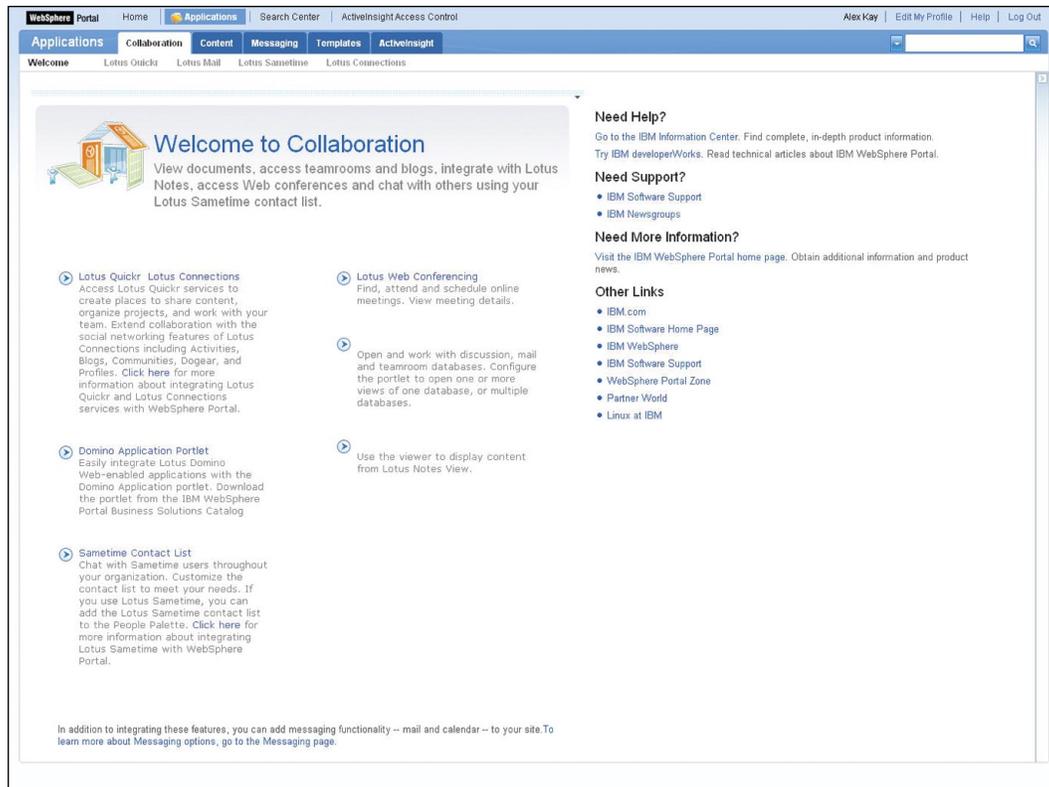


Figure 5: Users can access multiple IBM Lotus collaboration tools through WebSphere Portal software.

- *Team collaboration.* IBM Lotus® Quickr™ document management features and teamrooms can be accessed through portlets, allowing users to create and share documents, hold moderated discussions, manage group calendars and more.

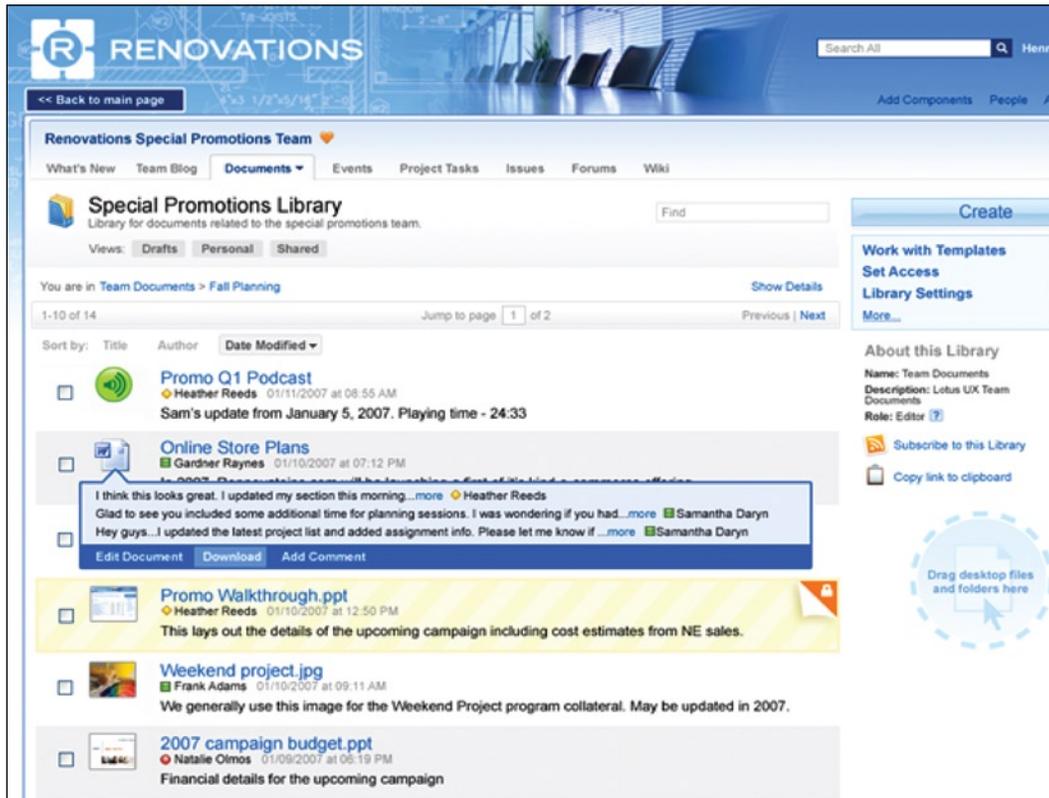


Figure 6: Document libraries can be set up and customized to allow document sharing and collaboration among user groups.

- *Social networking.* Integration with IBM Lotus Connections software is available out of the box, allowing users to access all six features of the social networking software—home page, communities, Dogear, activities, blogs and profiles—through preconfigured and custom views. The Lotus Connections portlet supports full-text searches and filtering by tags for each feature. Users can even set up each feature as a separate portlet.

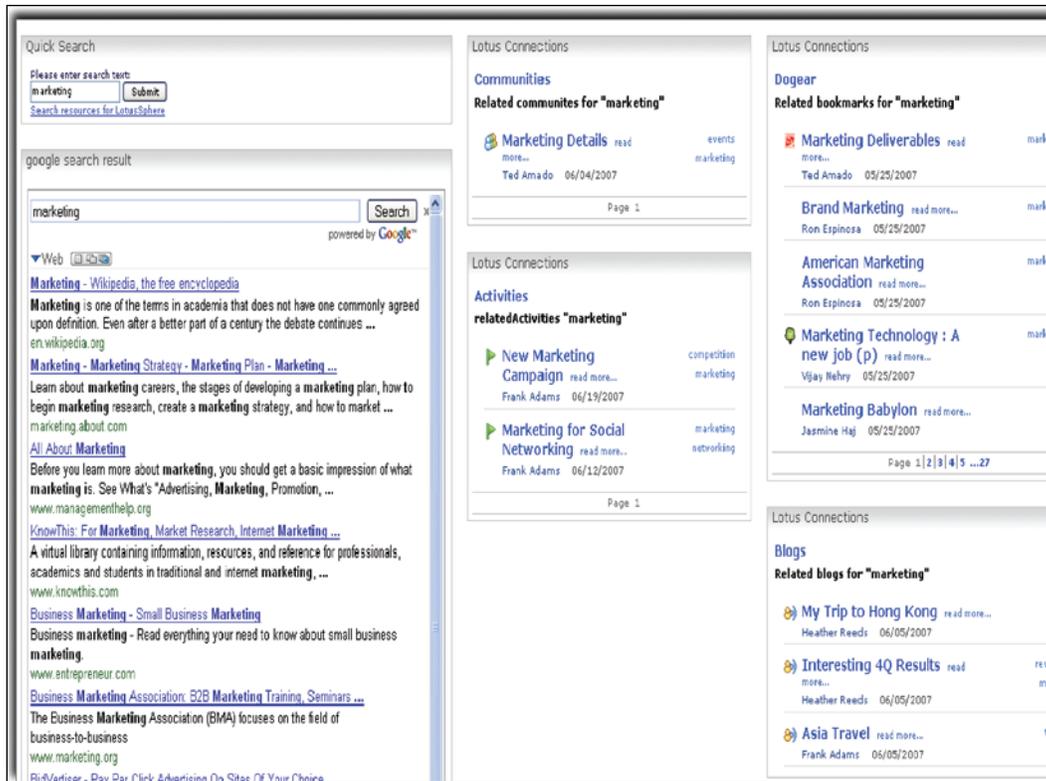


Figure 7: With Lotus Connections software, users can take advantage of communities, bookmarks, blogs and more through a portal environment.

- **Realtime collaboration.** Integration with IBM Lotus Sametime® software gives users access to instant messaging, presence awareness and Web conferencing through portlets. These features can help employees locate and contact their colleagues quickly—as they navigate through the portal.
- **E-mail and application integration.** IBM WebSphere Portal Version 6.1 software provides ready-to-use portlets for accessing and managing e-mail, including IBM Lotus Notes® and Lotus Domino® software, Microsoft® Exchange Server and Internet Message Access Protocol (IMAP) standards-based e-mail. WebSphere Portal and IBM Lotus Notes and Domino 8 software share a common composite application framework, so business-focused content can be organized consistently across applications and through the portal.



Figure 8: WebSphere Portal software centralizes information, applications and tasks in a single interface.

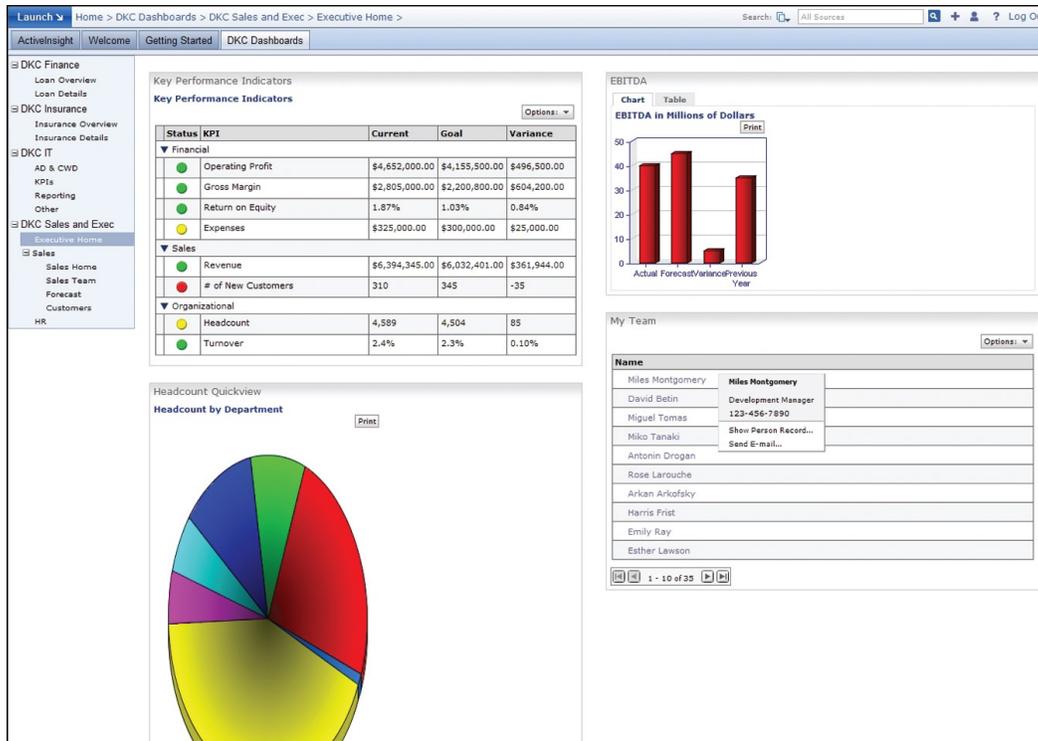


Figure 9: Users can monitor business performance with executive dashboards that combine multiple sources of data.

Web content management and personalization

A portal must be able to deliver fresh, personalized content. Users should receive (and have the ability to search for) relevant content based on their roles, access rights and preferences. Many features in WebSphere Portal Version 6.1 software can help you address these needs.

One of the key features is integration with IBM Lotus Web Content Management software—a Web content management solution that includes a rich text editor that allows users to create, manage and publish content to multiple sites. Another key feature is called IBM WebSphere Personalization, an embedded component that automatically selects page content based on the user's profile, viewing history and other characteristics. Because they share a common framework for user profiles and content models, these two features together allow authors to target users more effectively.

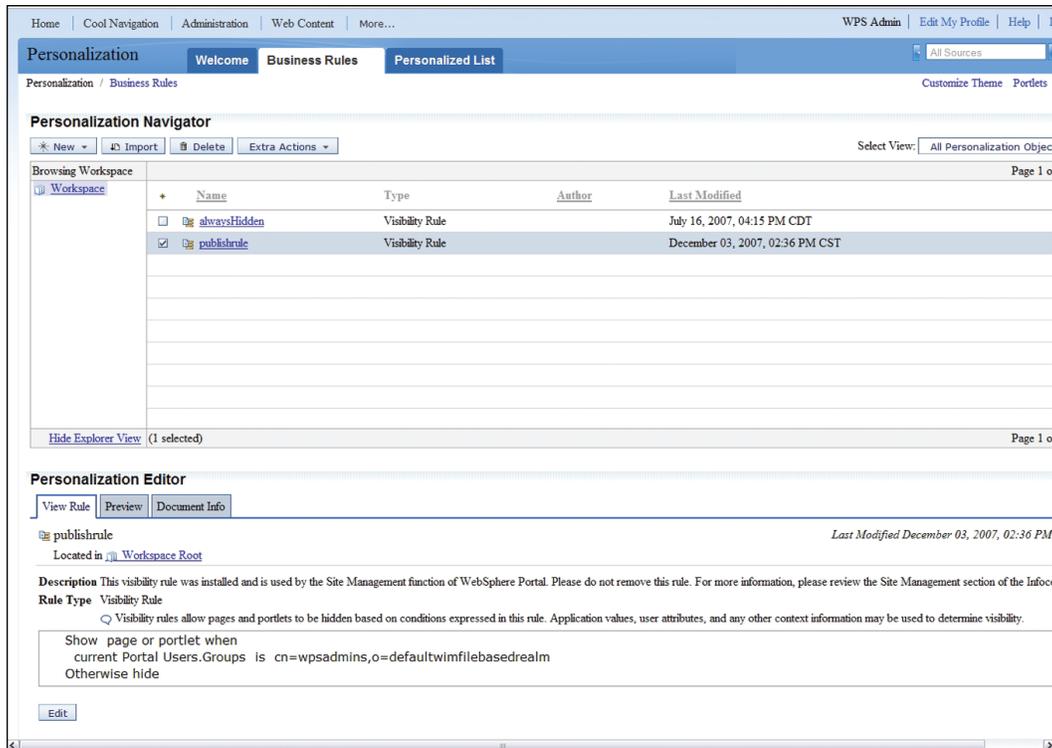


Figure 10: Administrators can define business rules to personalize portal pages to different user groups.

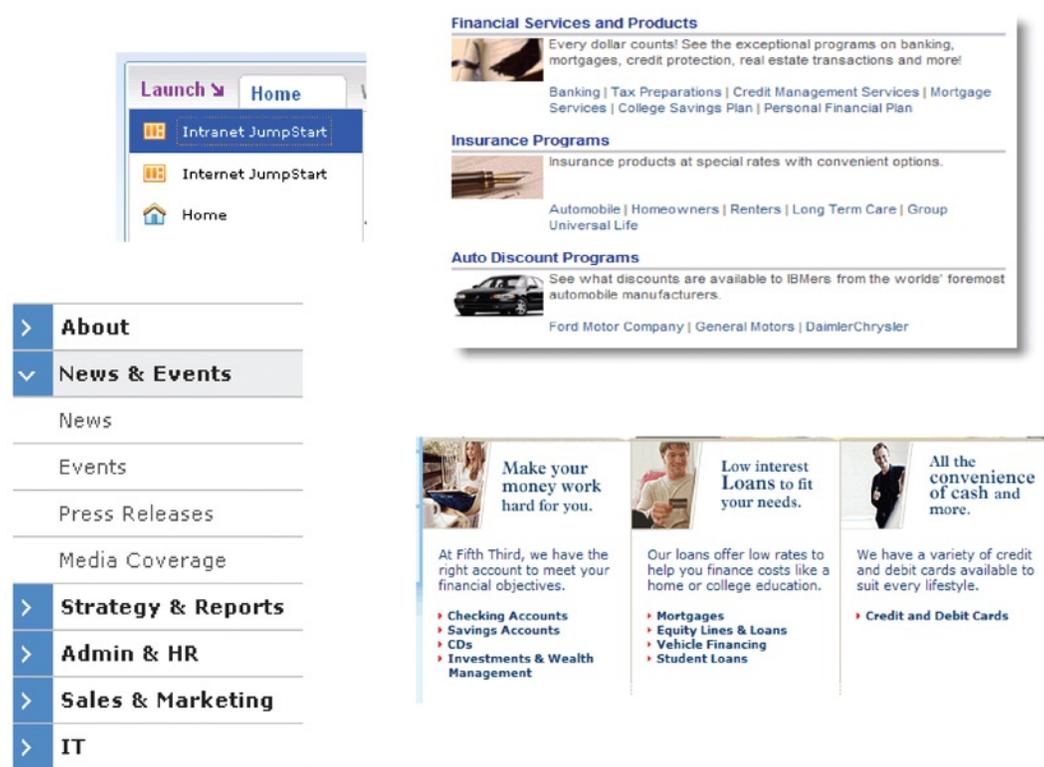


Figure 11: With personalized pages, users see only the portlets that are relevant to them.

How to make content more successful

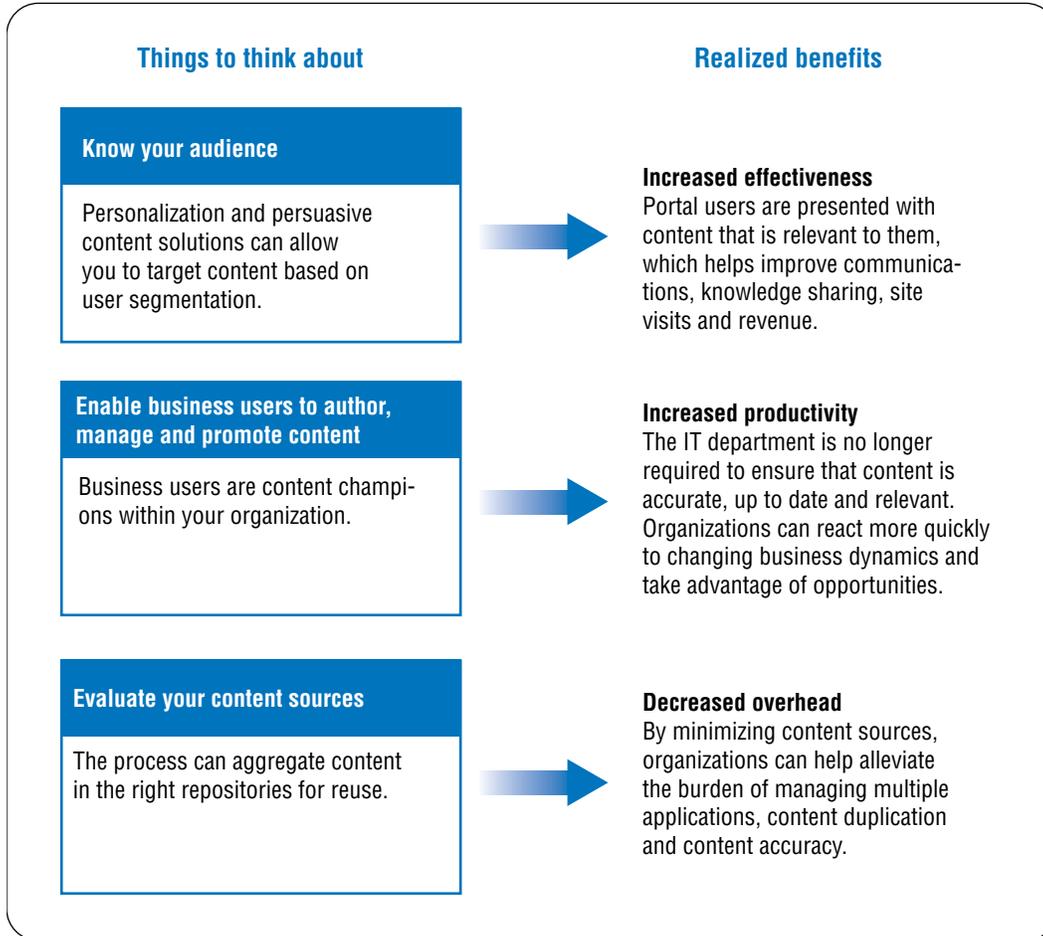


Figure 12: Following these guidelines can help portal managers generate more effective content.

Lotus Web Content Management software enhancements

IBM Lotus Web Content Management 6.1 software offers new capabilities in the following categories that can help you derive additional value from WebSphere Portal implementations:

- *Administration*
 - *Improved library management actions*
 - *Task status reports*
 - *Improved library management reporting*

- *Authoring*
 - *Plug-in alternative editors*
 - *Improved dialogs*
 - *Optional active content filtering on HTML elements*
 - *Short text components*
 - *Improved people awareness*
- *Rendering*
 - *Contextual linking for shared content*
 - *Web content management tag enhancements*
 - *Paging enhancements*
- *Workflow*
 - *Custom workflow action support*
 - *Workflow enhancements*
 - *Workflow enablement in application programming interfaces (APIs)*
- *APIs*
 - *New remote actions*
 - *Enhanced and extended public APIs*
 - *Library management APIs*
- *Versioning*
 - *Ability to select version policy by content type*
 - *Additional options to simplify form layout*
- *Security*
 - *Inheritance security model*
 - *Contributor role*

New Site Wizard

With the new Site Wizard feature, you can create virtual portals quickly and easily by selecting a site template, an initial look and feel, and other options to be used to instantiate your own portal site. The Site Wizard is designed for use by administrators and business users alike to aid in building new sites that are part of a multitenancy portal. It facilitates many administrative tasks, such as user enrollment, virtual portal creation and content library creation. Once the portal is created, site owners can easily customize the layout and the look and feel. Some of the default templates allow for content to be edited in-line on the page using Lotus Web Content Management software.

Also included with the new Site Wizard is the Download Configuration portlet, which helps to package the entire configuration of a virtual portal, making it available for download and reuse in another WebSphere Portal installation. The default Site Wizard site templates place the Download Configuration portlet under the administration pages.

Portal developers can build and deploy their own site templates and styles to supplement the default options. The wizard also has a programming interface that allows developers to build other site creation tasks when additional operations are necessary. The default site creation task source code is provided as an example that can be extended.

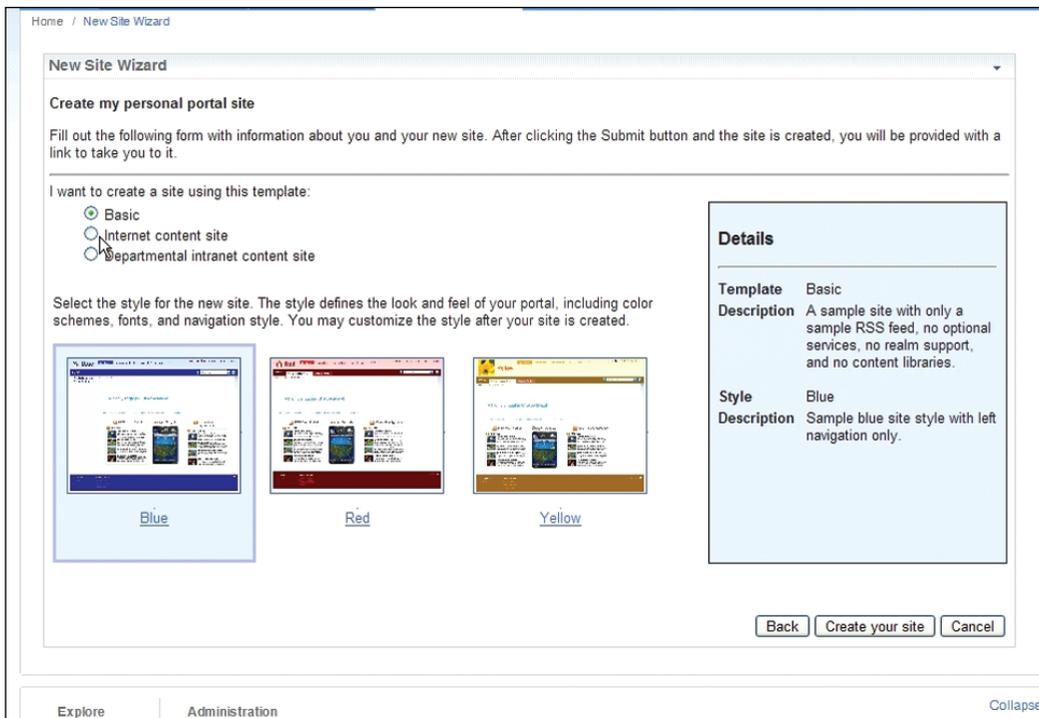


Figure 13: The Site Wizard feature provides templates for the look and feel of a portal page.

Client-side aggregation

WebSphere Portal Version 6.1 software offers several new technical features that draw from Web 2.0 principles. Among them is Asynchronous JavaScript and XML (AJAX) technology–based client-side aggregation, which moves the processing load from the server to the client. The browser client keeps the user on the current page and loads only those portions of the page with which the user is interacting. This approach significantly reduces network bandwidth requirements, improves the efficiency of caching and increases responsiveness. For example, when users add portlets or modify their preferences, they see the changes immediately—without waiting for the server to refresh the interface. That's because the changes are made locally, with greater granularity, and information is later exchanged more efficiently with the server. This approach results in a highly responsive interface with efficient caching and loading, faster rendering and better performance.

In this release, IBM has also added new Representational State Transfer (REST) services to the portal framework, including services for server persistence, portlet settings and user profile access that help to simplify Web 2.0 application development and set the stage for interactive mashup applications. What's more, your existing applications can take advantage of the portal platform's new AJAX enablement without requiring major modifications, resulting in improved rendering performance of your current portal-based assets.

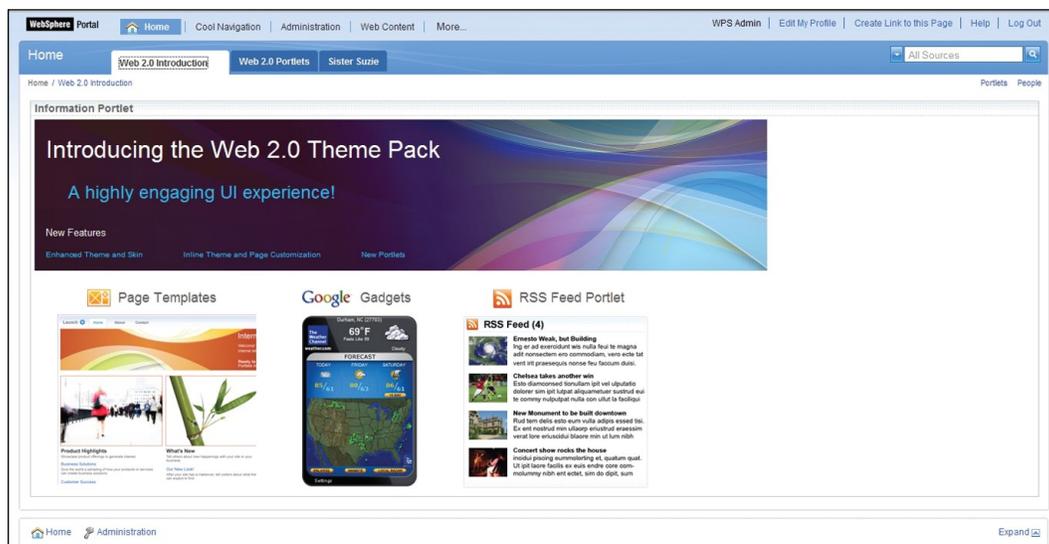


Figure 14: WebSphere Portal software offers expanded support for Web 2.0–style interactions and easily powers integration of widgets and feeds.

Rich user interface

IBM continues to add user-centric, Web 2.0–style features to the portal interface that are designed to meet and exceed user expectations. Among the latest additions are enhanced integration with Google Gadgets™ software and new live text semantic tagging capabilities.

The IBM Portlet for Google Gadgets software is available in the IBM portal catalog, searchable at ibm.com/websphere/solutionscatalog-portal. The portlet enables you to easily configure Google Gadgets software for individual portlet instances. You can choose from thousands of services—including maps, language translators, podcasts, package delivery trackers, research services, audio search, and news and weather feeds—and can easily configure them for portlets with a few clicks. WebSphere Portal Version 6.1 software also includes enhancements to support interportlet communication between Google Gadgets and other portlet data, quickly enabling mashups between portal and external source information.

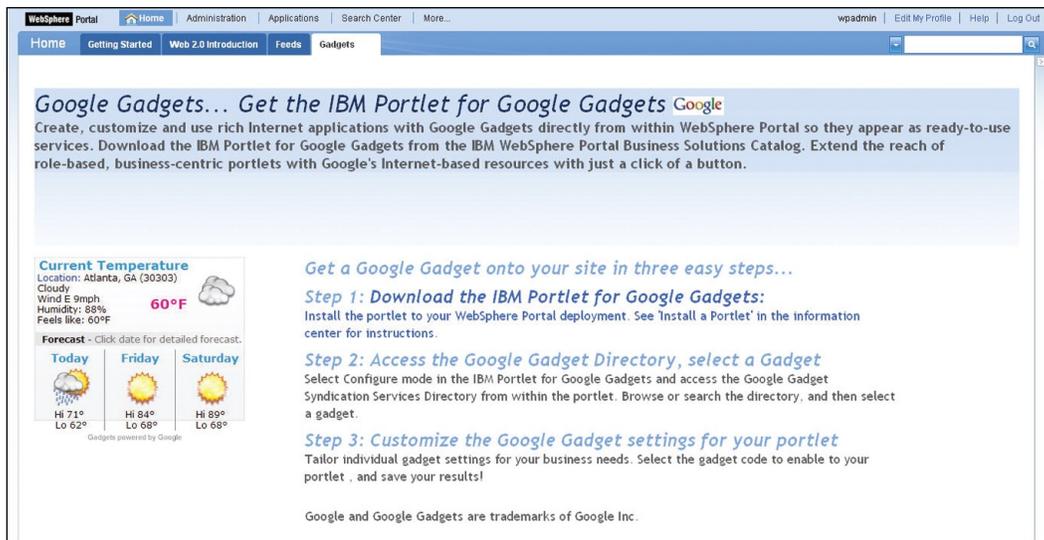


Figure 15: Users can add Google Gadgets software to their portal pages.

With the inclusion of the live text feature, you can now take advantage of semantic tagging and smart markup capabilities. These capabilities create a highly contextual user experience, in which words, names and other text can be tagged and linked to relevant actions or information. For example, a content author may tag a colleague's name, thus linking the text to the colleague's profile and putting the user one click away from sending an e-mail. Tags can also link to content from external sources, whether it's from a different portal page or another Web page altogether. The functionality is particularly useful for content editors, who can add meaningful live text elements to their portlets without technical development skills. User interface developers can also keep a central library of common tags and reuse them as they develop new portlets.

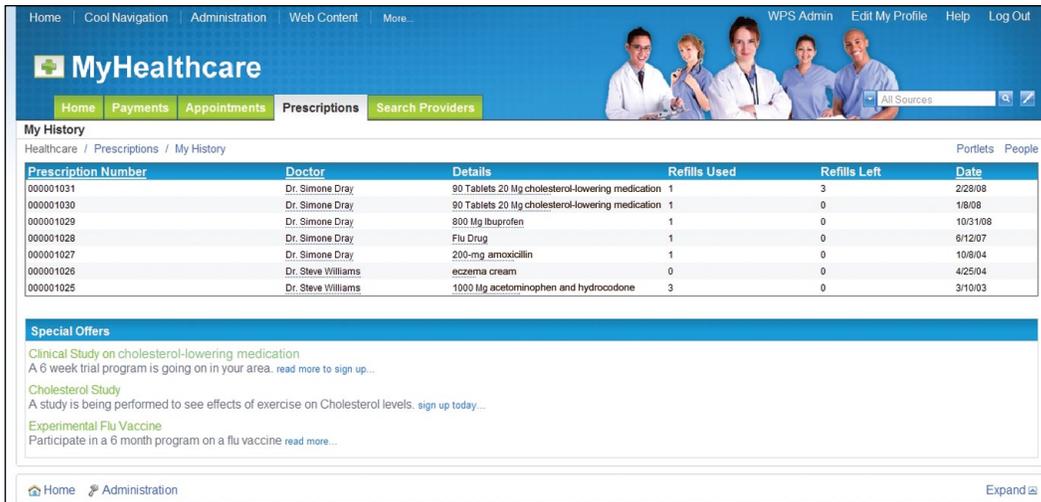


Figure 16: Relevant, useful content, such as the doctors' names in this image, can be tagged for easy access to related resources.

For IT managers and administrators

IT administrators can take advantage of the software's open-standards-based framework, which supports a wide range of databases, directories, platforms and security protocols. Its broad interoperability can help you leverage existing IT investments, rather than replacing or recoding. In fact, IBM WebSphere Portal software can play a key role in an SOA, where information and processes can be extended and reused across systems and presented via personalized, responsive user interfaces to the right audiences—without requiring major upheavals or modifications. Plus, the portal enables you to leverage existing, standards-based platform protocols and services to manage application interactions.

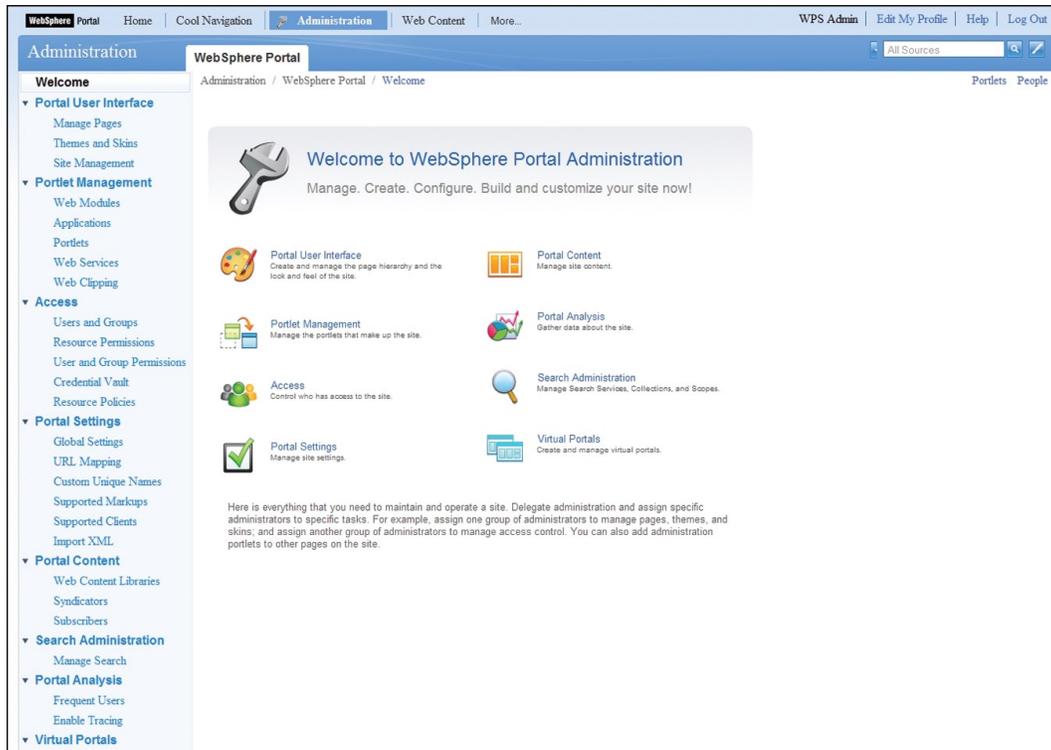


Figure 17: Administrators get central access to the tools needed to manage, create, configure, build and customize portals.

New installation options

WebSphere Portal Version 6.1 software introduces more ways for administrators to tailor portal installations to match business objectives—whether they need a full installation or fewer services deployed to support specific requirements.

- *Option 1: Install the full capabilities of IBM WebSphere Portal Server and Lotus Web Content Management software, including administration and overview pages.*
- *Option 2: Install IBM WebSphere Portal Server, including administration and overview pages.*
- *Option 3: Install WebSphere Portal Server with administration pages, which allow you to add customized pages.*
- *Option 4: Install WebSphere Portal Server core services without pages or portlets. With extensive flexibility, this option is often suitable for independent software vendor (ISV) and IBM Business Partner–led solutions.*

The latest release of the software also features deeper integration with the included WebSphere Application Server Console, which is designed to make it easier and faster for administrators to install, configure and manage portals. It features the following improvements:

- Consistency with the IBM WebSphere Application Server management model
- Portlet and theme deployment and management
- User management, deployment and configuration
- Security setup, configuration and integration
- Performance and usage monitoring

Performance features

With WebSphere Portal Version 6.1 software, administrators can benefit from improved performance monitoring capabilities. The enhanced Performance Monitoring Infrastructure (PMI) tool, along with integrated request metrics, helps administrators monitor the performance of the portal and portlets during execution, so they can track usage and performance to more quickly isolate and fix performance problems.

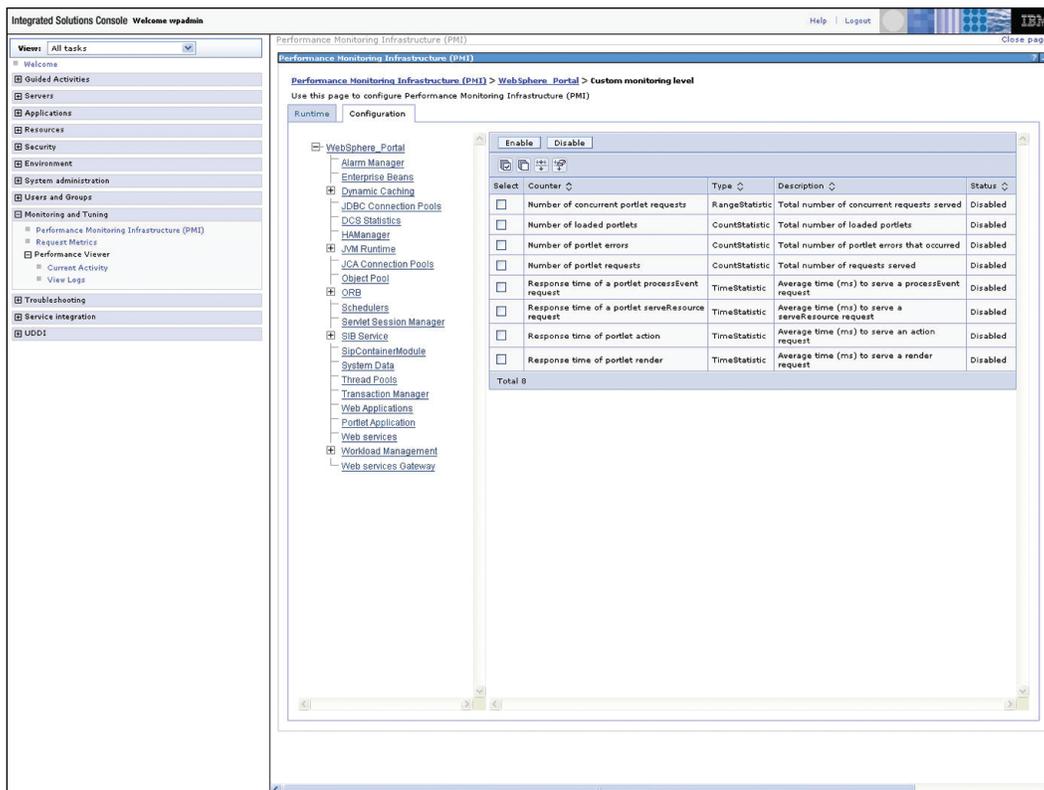


Figure 18: WebSphere Portal software includes an interface to monitor portal and portlet performance.

WebSphere Portal Version 6.1 software also allows administrators to isolate portlets by running them on separate Java Virtual Machines (JVMs). This isolation makes it easier to control, administer and monitor the performance and reliability of the portal and individual portlets. For instance, administrators may choose to run business-critical, processor-heavy portlets in a JVM environment that is tuned for optimal scalability and availability. At the same time, coordination across remote portlets is now available due to the portal software's support for new WSRP 2.0 standards. The addition of remote event handling, remote rendering parameters and other features help ensure that portlets participate consistently, even when they operate in different JVMs.

Support for updated standards

WebSphere Portal Version 6.1 software has gained greater flexibility, performance and security with its support for the Java Platform, Standard Edition (Java SE) 1.5 specification.

In addition to support for the new WSRP 2.0 standard, WebSphere Portal software supports the JSR 286 standard. Part of the Java Portlet Specification V2.0 release that was approved by the Java Community Process in March 2008, JSR 286 standards offer enhancements in portlet communication, context sharing, resource serving and more. Similarly, WSRP 2.0 standards allow for easier remote portlet integration, aggregation and coordination. WebSphere Portal software allows administrators to deliver JSR 286 portlets as WSRP 1.0 or 2.0 services, as well as portlets that consume WSRP 1.0 and 2.0 services.

Administrators and business users can now build more interactive composite applications—without programming—using the portal's composite application template framework. This feature, along with others described in this paper, continues to open the door to business mashups, which can help users gain unexpected business insight from fresh combinations of existing components and information.

Workload distribution/isolation—remote portlets

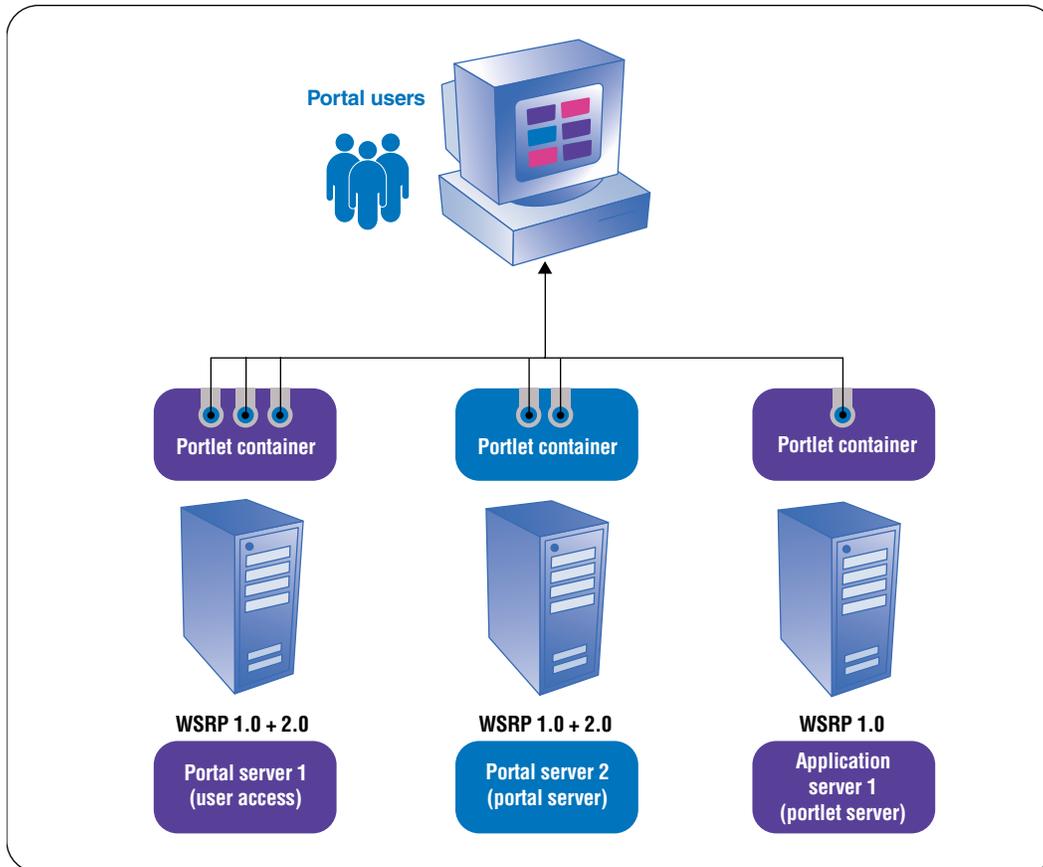


Figure 19: Support for WSRP helps administrators isolate the performance of portlets.

With support for both WSRP 2.0 and JSR 286 standards, WebSphere Portal Version 6.1 administrators can take advantage of the following capabilities:

- **Events.** When using standards-based portlets, events can be transmitted among both local and remote applications, including JSR 168 and JSR 286 portlets.
- **Public parameter rendering.** Render parameters can be shared across portlets and portal pages. For example, a zip code can be shared by multiple portlets, such as maps, tourist information and weather.
- **AJAX and resource serving.** Support for the JSR 286 standard extends the support for portlets leveraging AJAX technologies by providing access to portlet methods from AJAX calls.

- **Servlets.** Support for servlets within portlets is enhanced, boosting the performance and reliability of portal requests and responses.
- **Cache control.** This new API allows standards-based portlets to receive and set cache settings, and provides the ability to cache responses across multiple users.
- **Resource serving.** Support for the WSRP 2.0 standard allows JSR 286 portlets to serve resource requests, such as images and XML data requests for AJAX calls, without an HTTP or other out-of-band connection.
- **Advanced security configuration.** Administrators can choose from three default WSRP security profiles to quickly configure WSRP endpoints, or define custom profiles for more specific requirements.

Authentication options

WebSphere Portal Version 6.1 software offers a number of new security and authentication features. They include:

- **Microsoft Windows® desktop single sign-on (SSO).** Administrators can create SSO capabilities on the portal's HTTP server using the Simple and Protected Generic Security Services (GSS)-API Negotiation Mechanism (SPNEGO) trust association interceptor (TAI) available in IBM WebSphere Application Server software.
- **Remember me cookie.** This encrypted HTTP cookie remembers the user's login information, allowing administrators to present personalized portlets and pages in a public area without requiring manual user authentication upon repeated visits.
- **Step-up authentication.** In addition to using out-of-the-box authentication scenarios, administrators can apply custom-made scenarios that assign stricter authentication rules to individual pages and portlets.

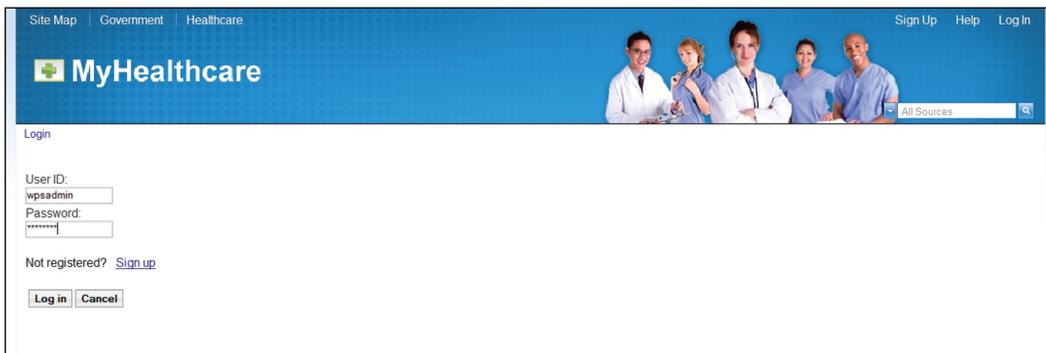


Figure 20: Portal pages can be protected with security-rich authentication extensions.

Resource management

WebSphere Portal Version 6.1 software now provides enhanced site management capabilities for administrators that deliver greater flexibility and visual one-click controls. A Dojo-based JSR 168 Site Management portlet, the Resource Manager portlet is provided for administrators to run the site management functionality within the WebSphere Portal administrative panels. The new site management feature gives administrators the tools to move pages easily from staging servers to production servers with rollback support. Once an identified source page is transferred to the target server, administrators can extend access to this page for a selected group of users for testing purposes. When the site is ready to deploy to all users, the site management feature, using the new Resource Manager portlet, guides administrators through the process of promoting the new content to the production server. The framework provides options for workflow approvals, leveraging the portal's personalization rules builder to define content preview review audiences prior to page publication.

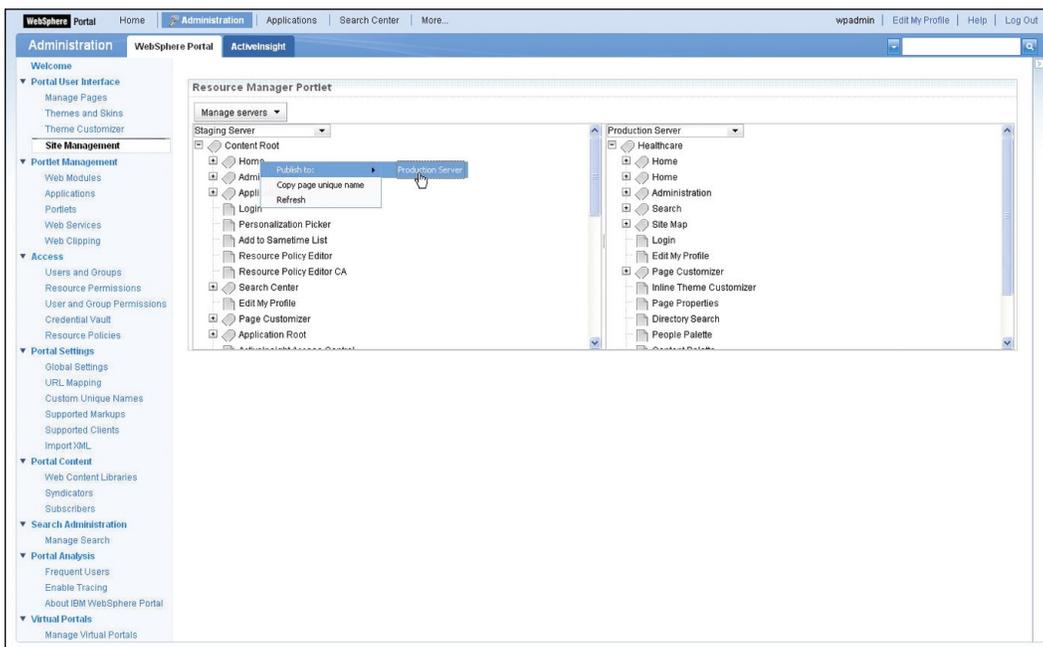


Figure 21: WebSphere Portal software site management features are designed to make it easy for administrators to move new pages from staging to production.

Search capabilities

WebSphere Portal software includes a search engine developed by IBM that allows end users to search the portal content and any linked sites. End users can initiate a search from the portal theme banner or from the Search Center portlet. The out-of-the-box themes provide a search box on every portal page. When users enter a search term and click on search, the portal takes them to the enhanced Search Center portlet, which displays their results in a tabbed interface, ranked by relevance across portal sources. From there, users can refine their search and quickly apply it to other sources. Sources can include internal or external Web sites, content published by IBM Lotus Web Content Management software, Lotus Quickr document libraries, IBM OmniFind™ Enterprise Edition software–supported search sources, and content from the portal site and external Web search sources. When searching the portal site, the search engine can fetch and index all pages with portlets dynamically, presenting search results to users in the context of their specific page and portlet configurations. All search results adhere to the portal security model, so users can only find content and documents they are entitled to view via portal access controls.

In addition, WebSphere Portal Version 6.1 software includes new REST search services that allow users to submit search queries and retrieve information on scopes and search collections using a standardized Atom format. The software also includes automatic search collection recovery in the event of corruption. The recovered search collections include all original settings, such as content sources and schedulers.

User-invoked search federation is possible using search scopes within the portal's included search engine and search center interface, which can reference additional external search services such as Yahoo!, Google or virtually any search engine that publishes standard search Web interfaces. WebSphere Portal Version 6.1 software includes new capabilities that enable greater out-of-the-box support for federation across search sources. In addition, searching portal content is remotely accessible through a new REST service.

WebSphere Portal Version 6.1 software also includes updated search center functionality, based on a set of customizable components or portlets. The components can be combined to create the search experience that meets your company's needs. The updated search center function already includes two new portlets:

- *External Search portlet, which retrieves results from external search engines in response to queries.*
- *Suggested Links portlet, which allows administrators to configure specific documents they want returned in response to users' queries.*

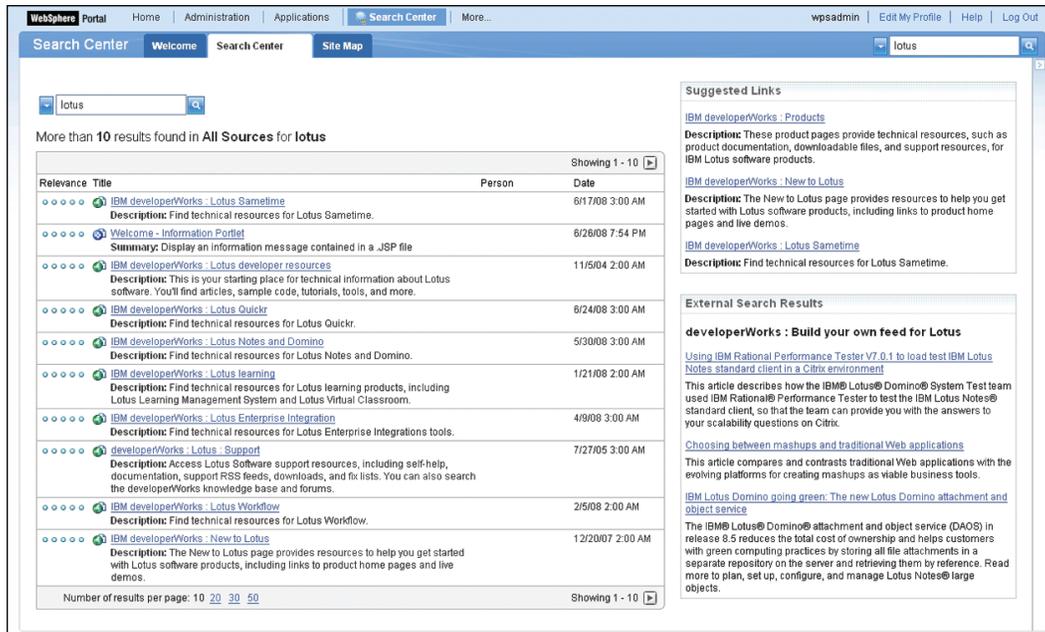


Figure 22: The Search Center feature allows users to tap in to external search engines and benefit from suggested links.

Extend the reach and capability of IBM WebSphere Portal software

Businesses thrive on information. Collaboration systems like Lotus Domino and Lotus Quickr software enable employees to easily create and share business-critical information such as presentations, specifications and other documents. Adding to these capabilities, IBM WebSphere Portal software can help your organization manage and publish information for employees and business partners to use. But as content grows in these portal and collaboration systems, it can become increasingly difficult for users to find what they need to make informed business decisions. IBM OmniFind Enterprise Edition software brings together WebSphere Portal and Lotus Domino content, as well as enterprise content management, database and other enterprise information into a single, relevant and security-rich search interface. Built on an extensible, open architecture, OmniFind Enterprise Edition software delivers rich enterprise search capabilities to help bridge the gap between an information need and the ability to take action.

OmniFind Enterprise Edition software is designed to integrate with WebSphere Portal software to provide scalable and security-rich enterprise searches directly from within the familiar WebSphere Portal interface. This integration provides several advantages over using the embedded WebSphere Portal search engine, including the ability to scale to millions of documents, reach to non-Web enterprise content sources and access the rich search functionality available in OmniFind Enterprise Edition software: synonym expansion, quick links, dynamic summaries, auto-categorization of results and more.

OmniFind Enterprise Edition software provides rich, out-of-the-box integrations to WebSphere Portal software, including:

- *An automated deployment script for adding OmniFind Enterprise Edition software as a search provider.*
- *WebSphere Portal Search Center 6 and 6.1 integration, enabling security-rich searches of enterprise content directly from within the familiar Search Center portlet.*
- *The ability to crawl WebSphere Portal pages and Lotus Web Content Management content right out of the box, using native security features.*
- *A new seed list crawler for adding content from Lotus Quickr Services for WebSphere Portal libraries into the OmniFind Enterprise Edition search index.*
- *Proxy and SSO/Secure Sockets Layer (SSL) support when accessing WebSphere Portal content.*

OmniFind Enterprise Edition software also provides realtime security integration with several data sources, including:

- *Lotus Notes and Domino software.*
- *WebSphere Portal pages.*
- *IBM Lotus Domino Document Manager software.*
- *IBM Lotus QuickPlace® and Lotus Quickr software.*
- *Services for Lotus Domino software.*
- *Microsoft Windows file system.*
- *Lotus Web Content Management software.*

Integration with IBM Lotus Domino software

With WebSphere Portal Version 6.1 software, it is even easier to serve up Lotus Domino content through portals. Administrators can take advantage of an integration wizard that automatically configures portal services with Lotus Domino Lightweight Directory Access Protocol (LDAP) and application servers, along with Lotus Sametime software. This integration allows users to access a number of messaging-related portlets directly through the portal. They include IBM Lotus Domino Web Access, IBM Lotus Notes view, IBM Lotus Sametime contact list and IBM Lotus Web Conferencing portlets.

For application developers

Delivering rich, intuitive features to users doesn't have to overload application developers. The software includes preintegrated portlets, cross-portlet integration, easy creation tools and a platform for constructing composite applications that streamline processes and workflows across enterprise systems. As a result, application developers don't have to start from scratch.

Implementing composite applications in the portal

WebSphere Portal Version 6 and higher releases provide application templates that enable administrators and more advanced business users to create and save common patterns that can then be deployed over and over again by other users. Intended for personnel in a business unit of the enterprise who understand the business model and business processes, templates promote the rapid assembly of collaborative applications and their components for teams working in online environments. Business analysts can create and manage templates for applications. Application managers and designers can create applications from templates and, when appropriate, save new applications as templates for reuse by other users.

Templates define the applications and components that are deployed on the pages of your work site. Each application comprises two required components—application information and membership—plus one or more business components. The business components that constitute an application can be portal resources; Java Platform, Enterprise Edition (Java EE) resources; or other resources such as Eclipse plug-ins. You can work with templates and applications if you are assigned a role with the appropriate resource permissions. The portal's policy management support can be applied to guide the implementation of composite applications. For example, applications can be provisioned to particular groups within the organization.

WebSphere Portal Version 6.1 software leverages the open standards of the Eclipse application framework plus the capabilities of IBM Lotus Expeditor software for component-based user interface development, making it easy to combine, access and deploy functionality and information from multiple sources, including Lotus Notes applications, Java applications, the Web, a relational database management system (RDBMS) or customer relationship management applications. In addition, developers can build applications and assemble composite applications from Lotus Expeditor, Lotus Notes and Domino 8, and WebSphere Portal Version 6 and higher software. Using the common, standards-based composite application infrastructure, application components can publish information and connect to one another. Therefore, when users perform an action such as selecting a new view row or entering data in a document, the content displayed in the connected components is updated as well. Available online or offline, composite applications can facilitate self-service activities for end users virtually anywhere. Using the composite application editor feature of IBM Lotus Notes 8, Lotus Expeditor or WebSphere Portal software, authorized users and line-of-business (LOB) managers can easily mix and match application building blocks into their own customized applications.

Static page integration delivers new options for HTML support

The new static page integration capabilities in WebSphere Portal Version 6.1 software allow site designers to create pages with portal content using static HTML or other markup languages. This new capability effectively broadens the base of employees who can actively contribute to the development of the portal, since they can leverage existing skill sets to develop portal pages using the design tool of their choice, including standard Web authoring tools, HTML editors or even simple text editors. Users no longer need skills in the Java EE platform to create an HTML portal page.

In addition, site designers have more control over the layout of the portal page and are able to easily incorporate static pages as part of existing portal pages. Site designers can include portlets as dynamic elements and containers as placeholders for portlets in static pages. The portlets can be displayed using server-side aggregation, AJAX or inline frame (iFrame) techniques. It's also possible to update an existing static page by uploading a modified HTML file—while preserving the portlet customizations on that page. Plus, this HTML content can interact fully with other portal services, including portlets, AJAX scripts, iFrame code, live text semantic tags and more. The portal platform also supports CSSs, images and other elements within static pages. Site contributors with appropriate privileges can view the portal site and navigation via shared file drives, making site contribution efforts as easy as writing HTML applications to the file system resources they have permissions to author.



Figure 23: Portal pages can be created using static HTML, giving developers more flexibility and control.

Enhanced workflow options

Portals provide an ideal environment for users to interact with business processes. For example, IBM® Business Process Accelerator for WebSphere Portal software helps speed the implementation of business processes by delivering electronic forms as part of composite business applications, such as those for credit approval processes or supply-chain order fulfillment. To provide an even broader spectrum of business process management capabilities, this offering also supports integration with IBM WebSphere Process Server and IBM FileNet® P8 Business Process Manager software.

To allow users to access workflows within the portal, IBM WebSphere Portal Enable and IBM WebSphere Portal Extend software incorporate the process engine from IBM WebSphere Business Process Choreographer to integrate existing processes and applications. Users can then assign, manage and track tasks online as part of a larger workflow, much of which is automated. To make this implementation easier and more flexible, WebSphere Portal Version 6.1 includes an updated My Tasks portlet, which enables filtering rules for the workflow so that users receive only relevant and appropriate information. The portlet also provides more flexibility in the way users can view and sort tasks.

In setting up the My Tasks view, application developers can leverage the default configuration, which includes three task filters: all tasks, tasks not claimed and claimed tasks. Developers can add custom filters to this set, adapting the portlet to fit various work contexts.

WebSphere Portal Version 6.1 software also introduces an easier way to visualize business processes. Process designers can now use IBM WebSphere Integration Developer software (available separately) to define data flow, message syntax and individual activities. Once it is designed and deployed to the process server, the process workflow can be simulated and rendered by a generic portlet in WebSphere Portal software. Without development of custom portlets, users can start new processes, access their task lists, work on their tasks and monitor the state of their processes.

WebSphere Integration Developer software also supports the generation of portlets, thus allowing process designers to refine their work and deploy it more quickly.

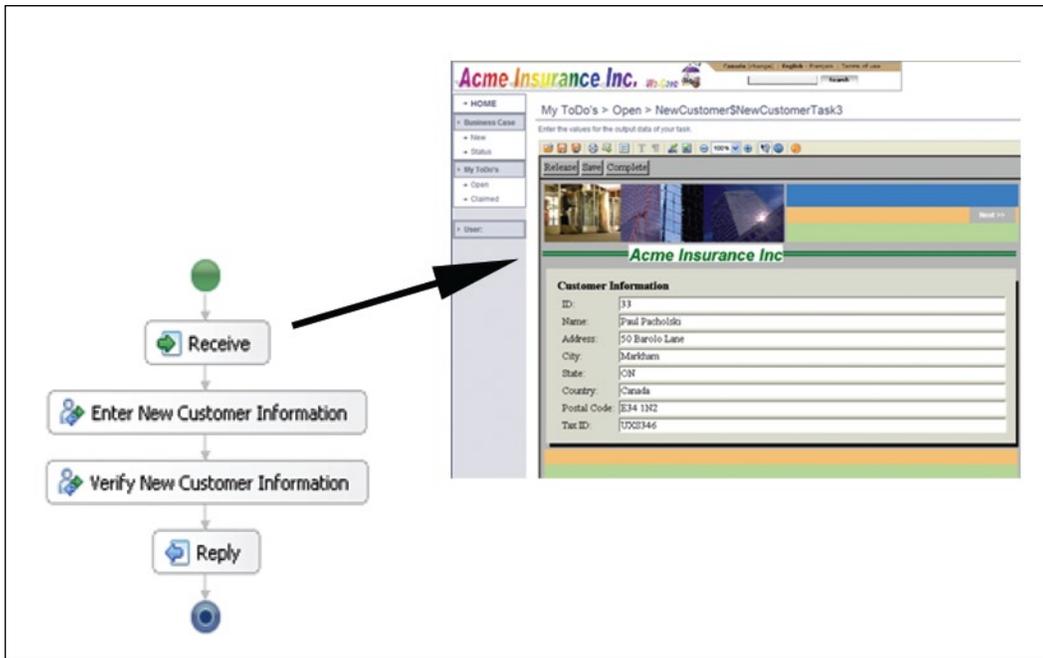


Figure 24: WebSphere Portal software supports embedded workflow and business process visualization tools.

Integration with external Web applications

The new Web application integrator tool from IBM is designed for ease of use and enables power users and site designers to incorporate external Web information into the portal so that it appears as a native portal application in the portal navigation. Using the Web application integrator tool for IBM WebSphere Portal software (available in the IBM WebSphere Portal Business Solutions catalog at ibm.com/websphere/solutionscatalog-portal), site designers and business users can embed external content within the portal interface. All that is required is the insertion of WebSphere Portal navigation information into the external application during rendering. This technology helps make it easy for WebSphere Portal users to extend their investment in the portal platform by using it to centralize access to external Web applications within the enterprise, such as Lotus Connections software, Lotus Domino Web Access software, intranet Web server applications or Lotus Quickr software.

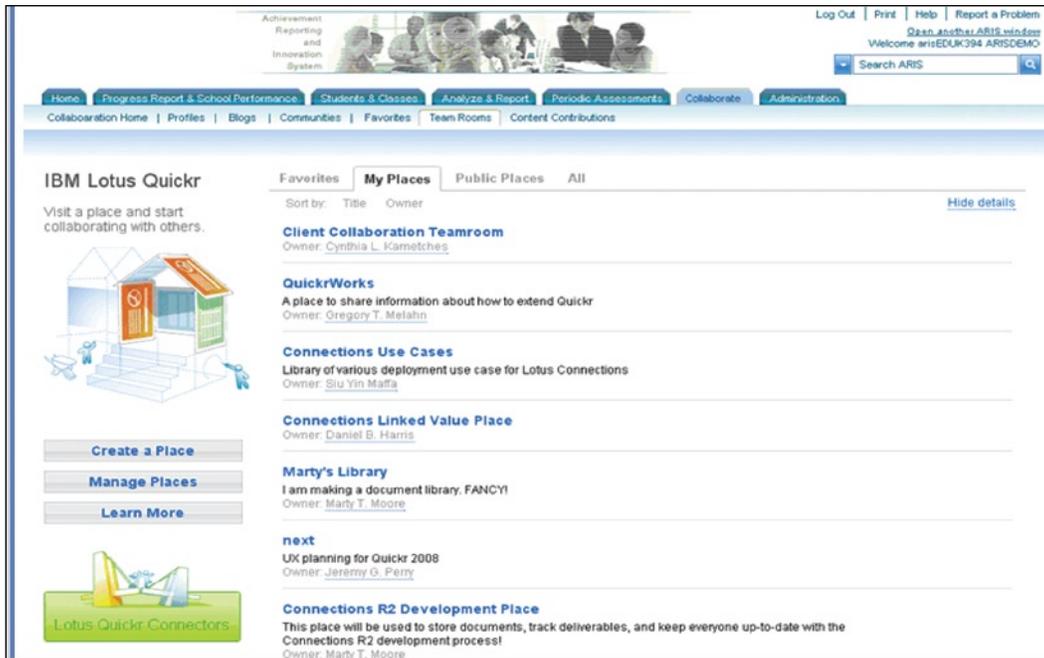


Figure 25: Users can access external applications such as IBM Lotus Quickr software through personalized portal pages.

Support for definition of friendly URLs

This new feature gives site owners more control over portal or virtual portal URLs. Instead of the lengthy, unreadable URLs that are so common on business portals, WebSphere Portal Version 6.1 software allows site designers to assign short, user-friendly addresses that are easy to read and pass on. This friendly URL is derived from the established hierarchy of portal pages, and can be assigned automatically to a portal during its initialization. For example, a link called “MyPlaces” on a portal page might lead to the following URL:

www.somecompany.com/wps/portal/Home/MyPlaces

On that page, a link to “Info” would take the user to this URL:

www.somecompany.com/wps/portal/Home/MyPlaces/Info

This feature is particularly useful when users are frequently using portal URLs in printed materials for customers or partners. Starting with WebSphere Portal Version 6.1 software, users can assign different host names to different virtual portals as well.

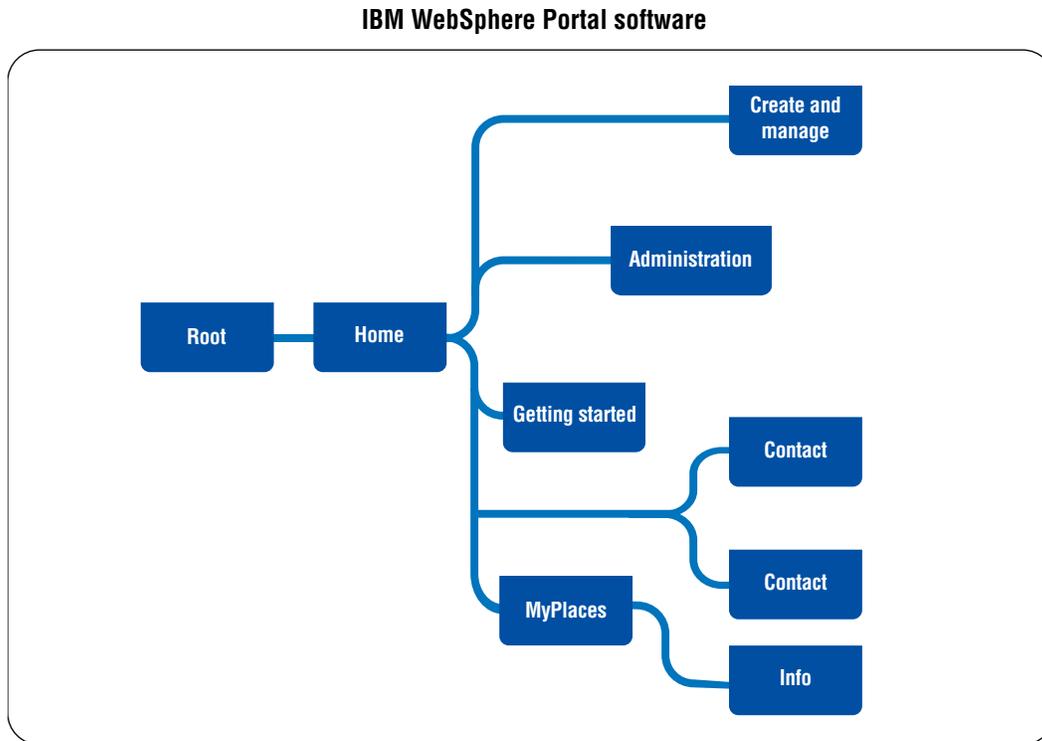


Figure 26: This image shows the logical structure of a sample portal for administrators.

Client-side programming

Developers can take advantage of a new client-side programming model that allows them to use AJAX techniques in portlets implemented as Java standard or API portlets from IBM. In addition to providing performance rendering benefits, the client-side programming model is beneficial because it does not require extensive knowledge of Java code. Instead, developers can write portlets using HTML, CSS and JavaScript code.

Unlike a server-side model, a client-side programming model allows developers to build both client-side aggregation and server-side aggregation into a portal. With client-side aggregation, portlet changes are handled locally, allowing portlets to render more quickly, thus boosting performance and shortening response times for users. The switch to client-side aggregation is worth the effort, as it ushers in a host of Web 2.0 capabilities for the user. For example, it can allow users to mark up portlet content, making immediate changes to portlet artifacts, rather than having to refresh the entire page via communication with a server.

Live text tags

WebSphere Portal Version 6.1 software supports live text semantic tags, which gives users quick, direct access to contextual information related to any fragment of text in the portal. This context can be supplied by virtually any application, content source or server that is Web accessible.

No programming is required to allow users this functionality, but developers can enhance these capabilities by creating live text tags based on microformats, a standard that wraps text fragments (words, sentences or phrases) in ordinary Extensible Hypertext Markup Language (XHTML) structures. These tags cause contextual information to pop up when users click on the text. For example, a developer could include user IDs in the portlet output code and mark them as live text. This programming would allow users to view a person's profile information wherever his or her name appears.

Content from external sources can also be embedded using the live text feature. For example, new capabilities enabling expertise location and information discovery can be presented dynamically in the context of business objectives and applications being managed within the portal. A developer could include portal user ID tags in the portlet output and mark them as live text. When end users click on these IDs in the browser, they would automatically be presented with a display of that person's Lotus Connections profiles, blogs, bookmarks and community memberships, providing a wider set of contextual information to be discovered and acted on in the context of business situations. What's more, developers can write tags and keep them in a central location, so they can be reused in other portlets. This convenience makes it easier to rearrange content and add new content to the portal.

This context can be supplied by virtually any application, content source or server that is Web accessible. It's also available in IBM Lotus Notes Version 8.0.1 software for end-user applications via the MyWidgets feature.

REST services

WebSphere Portal Version 6.1 software comes with new REST services interfaces that make portal models and artifacts accessible remotely. The REST services in release 6.1 include the following models: layout, portlet, content, navigation, wire and user profile. Developers can write their own advanced Web applications on top of these models, relying on REST services to supply the underlying XML code. Plus, developers can take advantage of AJAX portlet programming model extensions that work with the Dojo Toolkit and IBM extensions. These extensions—complete with JavaScript interfaces—make it easier to develop AJAX-based portlets.

The REST services interface increases the portal's Web 2.0 capabilities, making it possible to leverage technologies such as Dojo widgets and to create mashups that leverage other portal capabilities. At the same time, the REST interfaces can apply role-based navigation, server persistence, portlet settings and user profile access functionality—allowing developers to create virtually any kind of user experience on the Web today while maintaining a role-based, contextual environment.

Mashup integration

WebSphere Portal software now supports integration with IBM Mashup Center, a lightweight mashup environment that allows business users to assemble information from various sources into flexible, dynamic applications. With IBM Mashup Center, which includes IBM Lotus Mashups and IBM InfoSphere™ MashupHub software, you can increase your organization's productivity and agility by empowering individuals to be innovators and problem solvers on their own, without waiting for—and straining—IT support. For clients, the portal and mashup integration offers an exciting opportunity to create, discover and share mashup feeds and widgets, enhancing collaboration and facilitating reuse.

Lotus Mashups software helps business users to assemble enterprise, Web, personal and departmental information from various sources into flexible, dynamic applications. IBM Lotus Mashups software includes:

- *A graphical, browser-based tool that enables easy, dynamic assembly of new applications by Web-savvy business users.*
- *A Mashup catalog that facilitates sharing and discovery of mashup assets, with built-in community features like ratings, tagging and commenting.*
- *A lightweight mashup server, which can be hosted on a variety of platforms.*
- *A rich set of out-of-the-box, business-ready widgets.*

InfoSphere MashupHub software provides a lightweight information management environment for IT and business professionals who wish to unlock and share Web, departmental, personal and enterprise information for use in Web 2.0 applications and mashups. InfoSphere MashupHub software includes visual tools for creating, storing, transforming and remixing feeds to be used in mashup and situational applications, and a central catalog for users to tag, rate and share usable assets.

WebSphere Portal deployments can easily render applications created using the mashup assembly tools. For customers, the portal and mashup integration offers an exciting opportunity to create, discover and share mashup feeds and widgets, enhancing collaboration and facilitating reuse. The key features of this integration include:

- Support for interportlet communication, from widgets to portlets.
- The ability to serve widgets via portlets, leveraging the iWidget standard and iWidget Portlet—available at the WebSphere Portal Business Solutions catalog at ibm.com/websphere/solutionscatalog-portal.
- The ability to apply WebSphere Portal software role-based security to govern display and access to widgets.

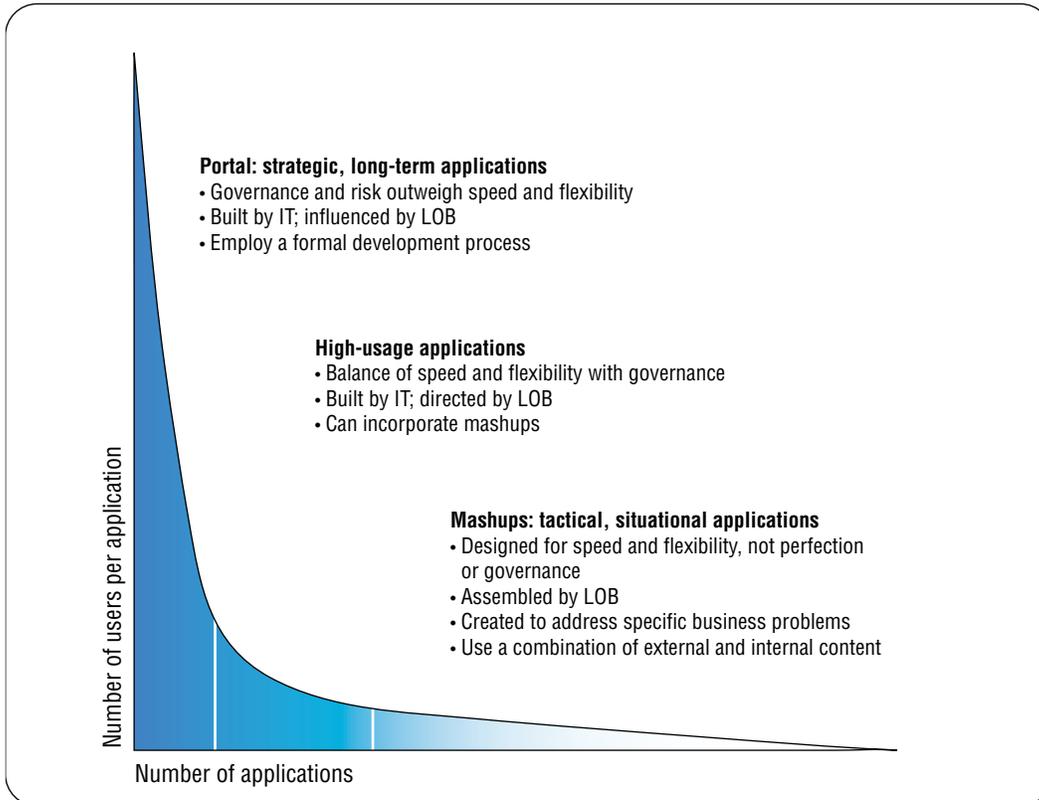


Figure 27: Portal software and mashups cover the wide range of applications that organizations typically need to deploy.

Web 2.0 theme

WebSphere Portal Version 6.1 software introduces a new out-of-the-box Web 2.0 portal theme, which leverages client-side aggregation to provide a more responsive and interactive user experience. It allows developers to create Web 2.0-enabled portal pages, where users can manipulate portlets and widgets locally—without waiting for the server to refresh the content. Instead, the portal maintains a cache of changes and uploads them to the server asynchronously. The theme is based on JavaScript code and draws from Web 2.0 technologies, including AJAX, XML, the Dojo Toolkit and REST services.

The theme features full support for the Theme Customizer interface, so users can maintain their preferred look and feel on Web 2.0 portal pages.

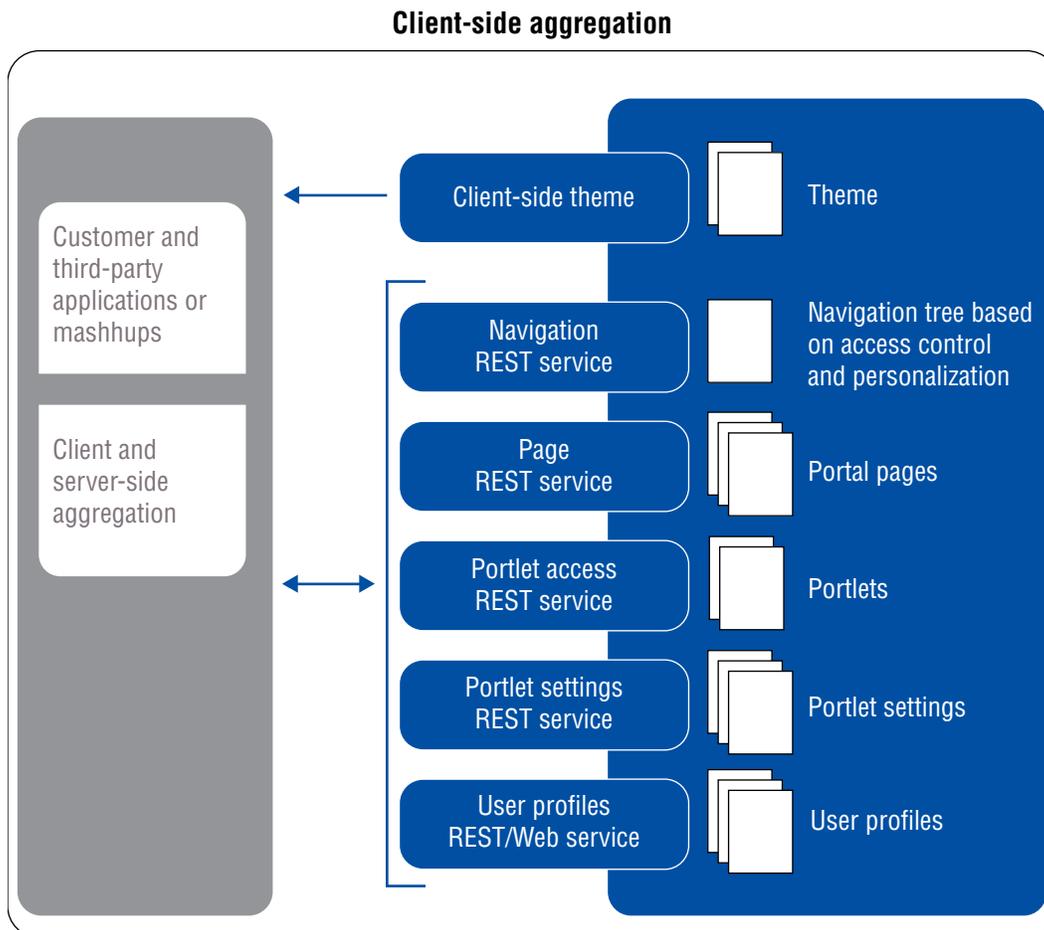


Figure 28: Client-side aggregation features allow users to manipulate portal content without relying on the server to realize the changes.

New APIs and service provider interfaces

The WebSphere Portal architecture was designed to serve as a framework and a collection of portal services. Many of these services are implemented as portlets but others provide common functionality to portlets. Each portal service has its own interface and functionality, and you can use these services to build and deploy powerful SOA-based solutions. You can also write your own portlet services so that all portlets can use it—for example, search services, location services or mail services. WebSphere Portal software provides a registry of available services that allows portlets to dynamically bind to services as needed.

WebSphere Portal Version 6.1 software introduces many new APIs and service provider interfaces (SPIs), including:

- *Click to action for every portlet API.* Enable the click-to-action paradigm for standard portlets using live text semantic tags. This API is integrated with server-side eventing.
- *Portal write model Java SPI and REST service.* Create your own administration portlets. This model supports content-, navigation-, layout- and portlet-model names, plus unique names.
- *Client-side JavaScript library API.* Simplify portlet development and support authentication proxies.
- *Step-up authentication SPI.* Define your own authentication levels (beyond the defaults provided with WebSphere Portal Version 6.1 software) and check for the Remember me cookie.
- *Login/logout/session validation filters.* Plug in to the login/logout/session validation flow of WebSphere Portal software.
- *Property broker SPI.* Write your own wiring portlet.
- *Extend current portlet and portal models to support JSR 286 SPI.* Access all APIs/SPIs available to JSR 286 portlets.
- *Sitemanagement command SPI.* Write your own Sitemanagement application.
- *Encoding and decoding of friendly URLs SPI.* Create and decode friendly URLs and decode unfriendly URLs. This SPI integrates into the resource addressability framework.
- *Resource addressability data source SPI.* Serve your resource-addressable data via the default content handler servlet.
- *LocalizedContext API.* Obtain the preferred locales, titles and descriptions of localized resources.
- *Multipart stream processing SPI.* Process multipart Multipurpose Internet Mail Extensions (MIME) streams and form data easily with these helper classes.
- *Enhanced portal resource serving SPI.* The ResourceURLAccessor now allows you to address resources with a relative path and theme. You can package the JavaScript library (or Dojo toolkit) in a specific theme directory and allow portlets to create links to this library, eliminating the need to package the library with each portlet.

The architecture and services available in the portal increasingly serve as a user interaction hub within Web 2.0 environments. In WebSphere Portal Version 6.1 software, JSR 286 standards-based portlets are enabled to provide data access using resource requests. Beyond portlet-scoped business data, there is a rich set of interesting data available to portals. The portal provides flexible access to its rich set of services and metadata for interactions with Web 2.0 applications and external systems. WebSphere Portal software provides out-of-the-box REST access to portal information such as user profiles, role-based navigation, page compositions, portlet registries and portlet configurations. The application also delivers an open architecture that can easily extend to provide REST access to meta-data about other business-relevant objects and services such as order items, products and locations.

IBM WebSphere Portlet Factory enhancements

WebSphere Portlet Factory software, included in the WebSphere Portal platform, provides a dedicated development environment for the creation, customization, deployment and maintenance of portlets that draw from existing enterprise applications, databases and other sources. With the release of WebSphere Portal Version 6.1 software, the development environment introduces enhancements designed to significantly improve developer productivity. These enhancements include:

- *An improved developer user experience with ...*
 - *A new visual application development editor*
 - *A streamlined builder picker*
 - *Enhanced support for application debugging.*
- *New builder capabilities with ...*
 - *Support for Adobe® Flash integration*
 - *Dynamic detail expand-and-collapse functionality*
 - *Multioperation Web service builder exposing all Web Services Description Language (WSDL) operations with a single builder call.*
- *Improved application and memory performance.*
- *Enhanced Web Services Security (WS-Security) functionality, including support for Lightweight Third-Party Authentication (LTPA) binary and username tokens.*
- *Expanded designer platform support for application development on Linux® systems.*
- *New support for the Java Portlet Specification 2.0 API, enabling deployment to JSR 286 containers.*
- *A new public wiki with more than 50 samples to jumpstart portlet development, including integration with Lotus Connections, Lotus Quickr and Lotus Domino software (<http://www-10.lotus.com/ldd/pfwiki.nsf>).*
- *Expanded integration with IBM WebSphere Process Server and IBM WebSphere Information Server technologies.*
- *Support for rich client platforms such as IBM Lotus Expeditor 6.1.1 and IBM Lotus Notes 8 software.*

IBM Rational Application Developer enhancements

IBM Rational® Application Developer software provides an integrated development environment for the design, construction, testing, profiling and deployment of applications. It includes an embedded WebSphere Portal test server, so developers can test portal applications during development. IBM Rational Application Developer 7.5 software offers many enhancements for portal developers, including:

- *A faster unit test environment for WebSphere Portal Version 6.1 software.*
- *Support for updated JSR 286 and WSRP 2.0 portal standards.*
- *A client-side programming model.*
- *Live text tagging.*
- *Enhancements to portal themes.*
- *Support for the Dojo Toolkit.*
- *New samples, examples and tutorials for new functionality.*

Rich client support

IBM WebSphere Portal Version 6.1 software enables offline portal synchronization with Lotus Expeditor software, the base platform that provides a unified end-user experience across desktop applications. Lotus Expeditor software builds on open standards defined by OSGi and Eclipse, offering support for Java EE developers while providing integration services for Microsoft .NET and Microsoft Visual Basic developers. This platform extends across end-user devices to incorporate desktops, laptops, personal digital assistants (PDAs), smartphones and more. When combined with a portal, Lotus Expeditor software allows developers to extend business applications to users whenever and wherever they need them.

In terms of the applications themselves, developers have a few options. They can develop native client applications using the Eclipse plug-in model, or they can use portlet applications that were written for the portal server. The Lotus Expeditor client provides a portlet container, which allows these portlets to run on the client device, even when disconnected from the network.

Mobile portals

For companies that rely heavily on mobility, and for service providers, IBM offers IBM WebSphere Everyplace Mobile Portal Enable software, which integrates portal capabilities with device-optimized rendering. With this software, content can be developed independently of the mobile device. Then, a central device repository and a high-performance rendering engine dynamically adapt the content to each specific device. In other words, developers can create content just once and then present it on a wide range of devices without further modifications. The WebSphere Everyplace Mobile Portal Enable toolkit—a plug-in for Rational Application Developer software—provides all the necessary development tools.

WebSphere Everyplace Mobile Portal Enable software features a run-time component that parses XML-based Device Independent Markup Language (XDIML) for each device type by matching it to policies stored in the device repository, which stores the specifications of more than 5,000 mobile devices. The run-time environment can generate several markup languages, including XHTML Basic, XHTML Mobile Profile, Wireless Markup Language (WML) and HTML. Portlets that generate XHTML Mobile Profile, XHTML Basic or WML code are passed through the portlet filter to render the content in the WebSphere Everyplace Mobile Portal Enable environment.



Figure 29: Users can access portals through their mobile devices using WebSphere Everyplace Mobile Portal Enable software.

IBM® accelerators

To help reduce implementation time and speed time to market, IBM WebSphere Portal software provides several accelerators—integrated packages that are designed to address common business goals and can easily snap on to the WebSphere Portal server for quick deployment. Below is a list of IBM accelerator solutions available for WebSphere Portal Version 6.1 software.

IBM® Dashboard Accelerator

IBM Dashboard Accelerator is designed to help organizations get started quickly with performance dashboards. The package provides the framework for displaying scorecards, key performance indicators (KPIs) and other realtime metrics in a composite, role-based and personalized interface. Because the dashboard is integrated with the collaboration and workflow features within the portal, users can act quickly in response to specific performance information. Dashboards can also be deployed to mobile devices, rich clients, teamrooms or wherever employees need them, helping to improve responsiveness and productivity.

IBM Dashboard Accelerator combines the power of IBM Lotus ActiveInsight™ software and the dashboard KPI catalog. This catalog features both role-based and industry-specific example dashboards and KPI assets that can be reused to help jumpstart dashboard deployments.

With new “builders,” developers can incorporate key business intelligence (BI) data from IBM Cognos, Hyperion and Business Objects sources—without having to write new Java code. Employees are empowered to make better decisions, faster, through broader access to valuable BI data. In fact, the data is fed to the portal as a service built in Rational Application Developer software, and can be reused across applications. The developer defines the reports and parameters that users can choose at run time, and can reuse the XML code in other portlets or external collaboration platforms, including Lotus Notes, Lotus Sametime and Lotus Quickr software.

The drill-down builder feature also enables developers to generate dynamic charts and tables from multidimensional data sources. And BI data can be combined seamlessly with other transactional, collaborative or operational content on the portal, so users can view it in fresh and meaningful contexts.

IBM Dashboard Accelerator supports the following BI applications:

- *IBM Cognos Business Intelligence 8.1 and 8.2 software*
- *Business Objects Enterprise XI R2 software*
- *Hyperion Essbase 7.x and 9.x software*



Figure 30: Dashboards can be deployed to mobile devices for on-the-go access.

IBM® Business Process Accelerator

IBM Business Process Accelerator combines electronic forms with workflow software to help companies automate business processes, streamline the flow of data and make employees more productive. With tight integration between WebSphere Portal Version 6.1 software and IBM Lotus Forms software, the accelerator speeds the implementation of business processes by delivering electronic forms in personalized Web experiences. These experiences provide an aggregated view of information and tasks based on the user's role and the workflow stage.

IBM® Content Accelerator

IBM Content Accelerator provides a powerful online content creation and management environment, helping users build Web sites, intranets, extranets and portals. With Web-based tools, business users can easily create content online and deliver it to site visitors within a personalized context. This accelerator for WebSphere Portal software includes specific features, functions and capabilities of IBM Lotus Web Content Management, Lotus Quickr and IBM OmniFind Enterprise Edition search software. It allows companies to keep Web content current, accurate and up to date without sacrificing brand identity or corporate Web standards.

IBM® Collaboration Accelerator

IBM Collaboration Accelerator can help companies enable team collaboration and social networking in a portal environment. Users can access team workspaces, document libraries, presence awareness, instant messaging, Web conferencing, profiles and directories, blogs, wikis, shared bookmarking and more. By leveraging the power of Lotus Sametime, Lotus Quickr and Lotus Connections software, IBM Collaboration Accelerator turns WebSphere Portal software into a more interactive platform, providing people with more effective and cost-efficient ways of accessing information, communicating and sharing ideas.

IBM® Enterprise Suite Accelerator

IBM Enterprise Suite Accelerator provides a flexible portal platform to support multiple business objectives. By incorporating all the capabilities of IBM Dashboard Accelerator, IBM Content Accelerator and IBM Collaboration Accelerator, it allows organizations to effectively connect employees, customers and partners, respond to shifting marketplace requirements and measure performance in realtime. In addition, companies can leverage this accelerator to manage growing volumes of content with security-rich, customizable electronic forms and support for offline rich client applications. By incorporating this rich toolset, organizations gain a platform for building community-oriented composite solutions with contextual collaboration.

IBM® Learning Accelerator

IBM Learning Accelerator gives companies a cost-effective way to deliver personalized online training within the context of employees' daily activities. It provides a platform for delivering efficient, cost-effective learning tools such as the management of courses, curriculums and certificates needed to support the training and professional development of the workforce. This accelerator helps to increase the productivity and effectiveness of employees by giving them learning tools to build and expand their skill sets.

IBM® Self-service Accelerator

IBM Self-service Accelerator includes IBM Lotus Workforce Management software and can help companies quickly assemble self-service portals to assist employees and managers with human resources-related tasks and information. The platform integrates SAP Human Capital Management (HCM) functionality with content from intranet applications and third-party capabilities into an intuitive, guided user experience. This lets them focus on the event at hand as opposed to the different back-end systems.

IBM Business Process Accelerator is based on open and Web 2.0 standards, including REST and AJAX, which helps to support integration with a variety of forms repositories and back-end systems. In particular, it works with WebSphere Process Server software and IBM FileNet P8 Business Process Manager software, providing an even broader spectrum of business process management capabilities.

Industry Web portals

More than 6,000 organizations across 19 different industries have benefited from Web portals based on IBM WebSphere Portal software and its related offerings. From patient portals in healthcare and employee portals in manufacturing to citizen portals in local government and store manager dashboards in retail, there are many opportunities to increase efficiency and improve user satisfaction with a personalized Web portal experience. The following examples demonstrate just a few of the possibilities of how IBM WebSphere Portal software can be used in specific industries.

Healthcare

The momentum of consumer-driven healthcare (CDH) is forcing healthcare providers to compete for patients and improve the quality of care. Healthcare organizations that understand the importance of IT can dramatically increase patient satisfaction while also improving clinical and financial operations. However, many organizations may have legacy systems comprising numerous disparate applications. Most of these legacy systems require healthcare workers to sign on separately through distinct interfaces, with few (if any) applications available for patients to access directly.

By leveraging WebSphere Portal software to provide online access, providers can empower patients to contribute to, and take responsibility for, their own healthcare experiences—which can lead to higher satisfaction. A healthcare portal can also eliminate the need for clinicians to scroll through multiple applications to manually coordinate information about a single patient—something they normally have to do hundreds of times a day. As a result, clinics can reduce administrative and billing processes, improve overall efficiency and increase productivity.

WebSphere Portal software–based, industry-specific solutions		
• Aerospace and defense	• Automotive	• Banking
• Chemical and petroleum	• Consumer products	• Education
• Electronics	• Energy and utilities	• Financial markets
• Government	• Healthcare and life sciences	• Industrial products
• Insurance	• Media and entertainment	• Retail
• Telecommunications	• Travel and transportation	• Wholesale distribution
• Midsize businesses		

Government

Portals can be a good fit for government organizations, as illustrated by government agencies around the world that rely on IBM portal solutions. These organizations typically benefit from the WebSphere Portal software role-based access features, defining access rights based on the user type, from citizens and businesses to managers and employees. As governments focus on providing services to citizens, they need to increase productivity to make the most of their limited revenue. For example, new government employees must learn to use a number of different applications and information sources quickly. A Web portal flattens this learning curve by supplying a single point of access to all the critical systems and information—and makes employees more productive, faster. In addition, allowing citizens to access government services through a single Web portal can lead to reduced operational expense and increased government efficiency.

Retail

Retailers must differentiate themselves, whether they do it by reducing costs, offering better customer service or providing specialty products. Information and technology are quickly becoming useful tools for gaining customer loyalty and increasing employee productivity. By improving visibility into online shopping metrics, inventory levels and corporate communications, retailers can make better decisions to increase their share in the marketplace. Delivering realtime retail performance dashboards with WebSphere Portal software and IBM Dashboard Accelerator, retailers can quickly identify and address issues and opportunities—improving overall operational performance.

Related technologies

Because it is built on open standards, WebSphere Portal software can work with a wide range of databases, directories, platforms and security protocols, and it provides an extensible framework for interacting with enterprise applications, content, people and business processes. That framework includes the scalable WebSphere Application Server software, which excels at supporting process integration solutions operating in SOA environments.

Designed as a framework housing a collection of portal services (each with its own interface), the WebSphere Portal architecture can play a key role in adopting an SOA approach. That's because its basic services can be reused, extended and modified—which helps to usher in tighter integration and increased flexibility. While WebSphere Portal software provides a registry of available services, companies can also develop their own portlets on top of the basic services, such as a search function or a mail portlet that links to a specific business application.

IBM WebSphere Portal Version 6.1 architecture

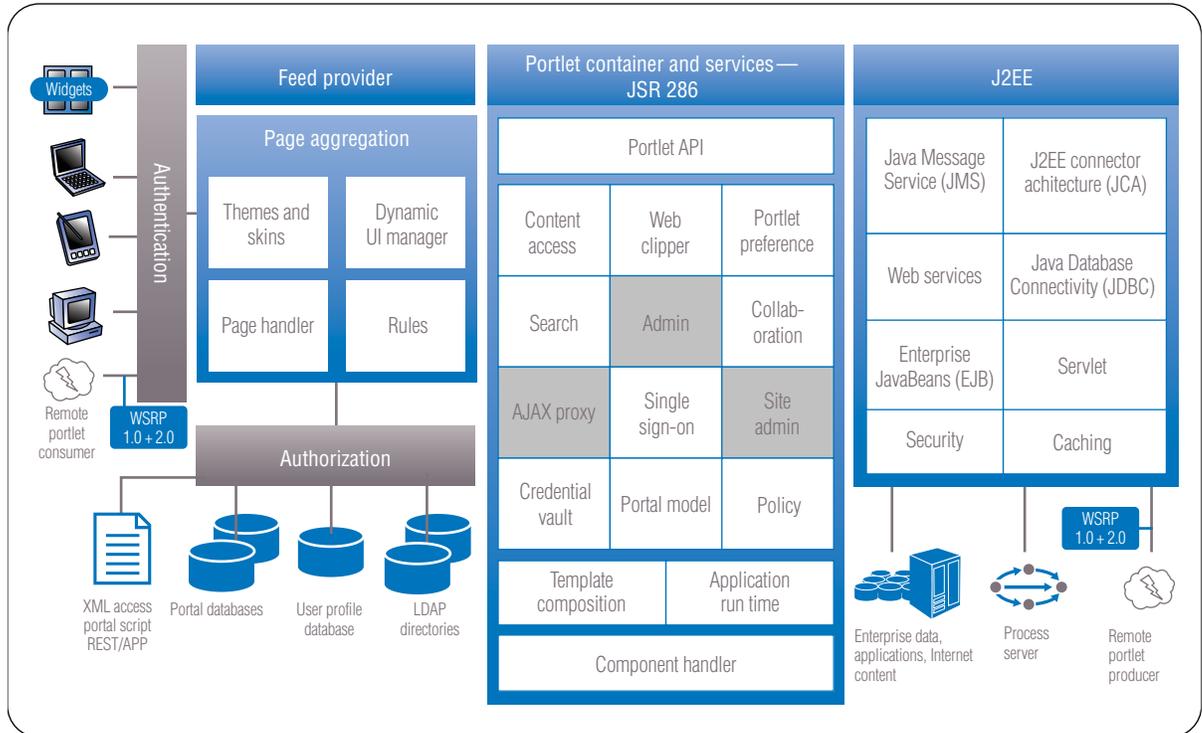


Figure 31: This image depicts the overall architecture of a WebSphere Portal environment.

There are a number of technologies that can be integrated with WebSphere Portal software to enhance its functionality.

Site analytics

IBM WebSphere Portal software generates standards-based access log files in a National Center for Supercomputing Applications (NCSA) combined log format. The log files capture activities related to installation and run-time operations, and can be combined with any Web site usage reporting tool to create custom reports. It also prepares technical documentation that outlines use case scenarios and example reports, providing additional guidance for WebSphere Portal software users. Read more about the topic at ibm.com/developerworks/websphere/techjournal/0609_liesche/0609_liesche.html.

In addition, IBM and various IBM Business Partners have developed add-on solutions that extend the analysis and reporting capabilities around application activity and use. Solutions from IBM Business Partners include ClearApp, Coremetrics and CA Wily Technology. Additional information on these and other IBM Business Partner solutions for WebSphere Portal software can be found at the IBM WebSphere Portal Business Solutions catalog at ibm.com/websphere/solutionscatalog-portal.

IBM Tivoli Composite Application Manager for WebSphere

IBM Tivoli® Composite Application Manager for WebSphere software can help maintain the availability and performance of business-critical applications. The application management tool offers drill-down diagnostics for WebSphere application performance problems, helping administrators identify, in realtime, sources of bottlenecks in code, server resources and related external systems. For more information about the integration between Tivoli Composite Application Manager and WebSphere Portal software, visit ibm.com/developerworks/tivoli.

IBM WebSphere Commerce software

IBM WebSphere Commerce software, available separately, provides integration services for IBM WebSphere Portal software through the IBM WebSphere Commerce and WebSphere Portal integration framework. This integration features customizable commerce portlets that can be implemented and tuned to support specific business requirements. An enterprise service bus model serves as the foundation for communication, mediation and transformation between the WebSphere Portal software interaction service, the WebSphere Commerce software business application service and external systems. Using an enterprise service bus model to integrate Web services allows companies to manage interactions between the layers without any modifications to the presentation format.

For more information about the architecture, read the IBM SOA Foundation: An Architectural Introduction and Overview white paper, available at download.boulder.ibm.com/ibmdl/pub/software/dw/webservices/ws-soa-whitepaper.pdf.

The service-oriented integration between WebSphere Commerce software and WebSphere Portal software offers several features and benefits, including:

- *The ability to aggregate and present content from different sources, whether the source is WebSphere Commerce software or a third-party application.*
- *SSO capabilities and security-rich authentication.*
- *The ability to apply portal personalization capabilities to content from the WebSphere Commerce platform.*
- *Support for multiple devices, including mobile devices.*
- *Portlet interoperability, with JSR 168 specifications.*
- *Portlet tag library.*
- *Reusable Web services.*

Additional information about the integration of these two software products can be found at publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/index.jsp.

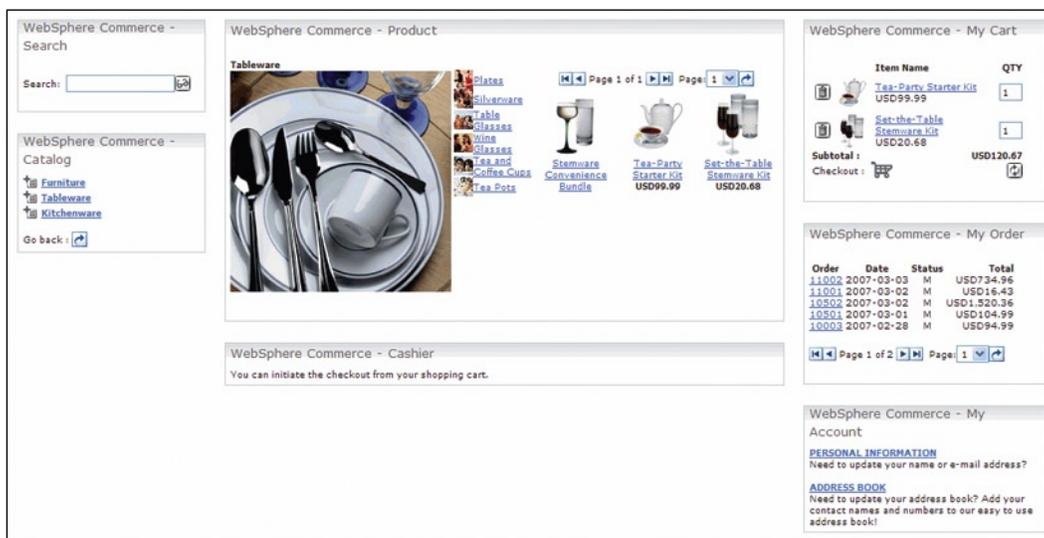


Figure 32: WebSphere Portal Version 6.1 software supports integration with WebSphere Commerce software, enabling personalized e-commerce sites.

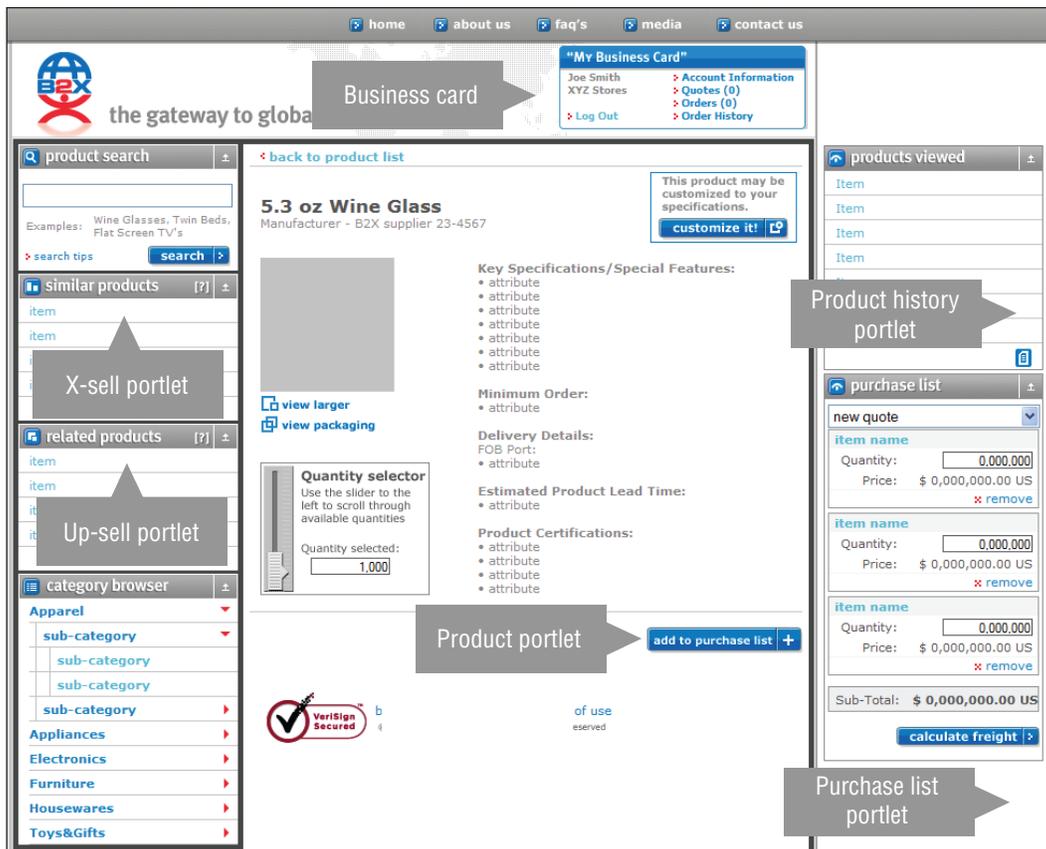


Figure 33: Companies can create personalized commercial portals for customers.

IBM Software Services for Lotus solutions

An effective strategy for technical services, training, certification and support is critical to the success of any technology implementation. As the proven leader in IBM Lotus and WebSphere Portal technologies, the IBM Software Services for Lotus team specializes in helping users implement effective initiatives.

By leveraging a global group of highly skilled technical experts and a robust community of business consulting and training partners, the IBM Software Services for Lotus team is ready to help successfully design, implement and deploy Lotus and WebSphere Portal software solutions that produce quick results and ROI. IBM Software Services for Lotus solutions can help companies enhance the value of their software investments with the following services:

- **IBM Web Content Integrator for WebSphere Portal software.** *This IBM Software Services for Lotus solution can help users efficiently integrate third-party content management systems with WebSphere Portal software.*
- **Lotus Web Content Management multilingual reference implementation.** *This IBM Software Services for Lotus asset is designed to help users manage multiple-language Web sites using a Lotus Web Content Management software-based solution.*
- **Technical consulting offerings:**
 - WebSphere Portal upgrade assessment
 - IBM Software Services for Lotus client-side aggregation portal implementation approach
 - WebSphere Portal architecture workshop
 - BEA WebLogic Portal to WebSphere Portal migration assessment
 - WebSphere Portal health check
 - IBM Lotus Web Content Management migration assessment
 - Web Content Management advanced workshop
 - Dashboard Accelerator QuickStart
 - Business Process Accelerator QuickStart
- **Education.** *The IBM Software Services for Lotus team offers WebSphere Portal training solutions that are designed to help technical users increase product capabilities quickly and easily for faster ROI.*
- **Premium support.** *The IBM Software Premium Support service provides an integrated set of support services that helps users sustain and optimize their IBM WebSphere Portal infrastructure. These services are designed to:*
 - Complement enhanced support.
 - Provide value through proactive support, knowledge sharing and problem management.
 - Move the organization forward rather than simply manage problems.
- **Portal installation, continuity and education (ICE).** *WebSphere Portal ICE bundles services from the three IBM Software Services for Lotus delivery teams to provide WebSphere Portal users with the services needed to position them for future success with their portal deployment.*

For more information about IBM Software Services for Lotus, visit us at ibm.com/software/lotus/services.

IBM Business Partner solutions

The IBM WebSphere Portal Business Solutions catalog is a Web-based clearinghouse for thousands of portlets and WebSphere Portal solutions from IBM and hundreds of IBM Business Partners. The catalog can provide significant added value to WebSphere Portal software users. And the catalog itself is built on the WebSphere Portal platform, providing an excellent example of what is possible using portal software from IBM. It also includes a sample dashboard and KPIs specific to lines of business and industries that work with IBM Dashboard Accelerator.

Rapidly identify portlets that address your unique business needs

When you need to extend the value of your portal, first check the WebSphere Portal Business Solutions catalog. The catalog provides an intuitive interface that allows users worldwide to search for solutions by type, industry and category. It also highlights the latest news about WebSphere Portal extensions, including information about award-winning solutions. The catalog is available in most major languages.

Have confidence in validated solutions

All but the “as-is” solutions undergo a validation process before they are added to the WebSphere Portal Business Solutions catalog. That means that many portlets have been tested to verify that they work as described. All portlets fall under one of the following categories:

- **IBM developed.** Items developed, tested and supported by IBM.
- **Catalog validated.** Items developed and supported by IBM Business Partners, and tested and reviewed for technical validity by IBM.
- **Ready for WebSphere software validated.** Items developed and supported by IBM Business Partners, and tested and validated by IBM to support a deeper level of integration with WebSphere Portal software.
- **As is.** Items provided as customizable solutions and prototypes without technical validation or support.

Get started

In most cases, it takes just a few easy steps to download a useful add-on solution from the catalog. For most solutions, simply click on the download button and follow the on-screen directions. Many of the solutions are available at no cost.

Additional resources

IBM WebSphere Portal software:

ibm.com/websphere/portal

IBM WebSphere Portal IBM developerWorks® portal zone:

ibm.com/developerworks/websphere/zones/portal

IBM WebSphere Portal and IBM Lotus Web Content Management documentation:

ibm.com/websphere/portal/library

IBM WebSphere Portal wiki:

<http://www-10.lotus.com/ldd/portalwiki.nsf>

IBM WebSphere Portal Business Solutions catalog:

ibm.com/websphere/solutionscatalog-portal

IBM WebSphere Developer Technical Journal:

ibm.com/developerworks/websphere/techjournal/0609_liesche/0609_liesche.html

IBM Tivoli Composite Application Manager for WebSphere Version 6.0 software:

ibm.com/developerworks/tivoli

IBM SOA Foundation: An Architectural Introduction and Overview

download.boulder.ibm.com/ibmdl/pub/software/dw/webservices/ws-soa-whitepaper.pdf

IBM WebSphere Commerce Version 6 Information Center:

publib.boulder.ibm.com/infocenter/wchelp/v6r0m0/index.jsp

IBM Software Services for Lotus:

ibm.com/software/lotus/services

Conclusion

With the release of IBM WebSphere Portal Version 6.1 software, IBM continues to broaden the functionality of its portal solutions with integration enhancements, increased interoperability, richer user interfaces and simplified application development and deployment. At the forefront of Web 2.0 technologies, IBM incorporates support for AJAX, REST services, JSR 286 specifications, WSRP 2.0 standards and client-side aggregation. For companies that use IBM WebSphere Portal software, these enhancements translate into heightened portal performance, user satisfaction and productivity, and simplified back-end management.

For more information

To learn more about IBM WebSphere Portal Version 6.1 software, visit:

ibm.com/websphere/portal



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