

An Oracle White Paper  
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# Oracle WebCenter Portal: High Value Web Experiences Through Self-Service Portals

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## Introduction

Self-Service Websites have become an integral element of a Web user's interaction with organizations they do business with. Whether they are customers, partners, or employees – these users expect to interact with the organization from the Web anytime, anywhere, and from any device.

And while the expectations are high, building and maintaining this type of rich experience for the business user has not always been without complexity. IT groups are finding it difficult and expensive to build new or even maintain their current self-service sites. In many cases, their existing self-service sites are built on old and outdated technologies, which can make it challenging and costly for an organization to add new capabilities, as well as increase their risk by trying to adapt older environments to the needs of the modern day users.

Oracle has proven to be a trusted partner for organizations that are looking to build new or replace existing self-service Websites. Oracle's approach to delivering a comprehensive and pre-integrated collection of enterprise products and tools reduces the overall risk and total cost of the project.

The purpose of the white paper is to outline the requirements associated with using, building, and managing self-service Websites and how an organization can leverage Oracle WebCenter Portal to deliver these intuitive experiences for their users.

## The High Value Web Experience

Historically, Websites can be best defined as a content publishing channel. Even today, the large majority of internal and external Websites are static content used for pushing information to their users. However, while self-service is a small percentage of the overall Web properties, it provides the highest value to the users by providing a personalized experience which can not only be tailored to the users organizational role, but also allows the user to directly access, modify and manage key elements of their business relationship without the need for interacting with anyone from the organization. Depending on the purpose of the self-service Website, it can help organizations to increase their revenue while reducing the cost of doing so.



Figure 1. Common Use Cases for Self-Service

### Target Audience

The use cases in Figure 1 are broken into 3 top-level categories External, Partner, and Employee since the scope of most self-service Websites will target one of these audiences per deployment. The key with any successful self-service Website is to meet the specific needs of the target audience by providing the most relevant and valuable capabilities. The broader the audience, the more difficult it is to deliver a compelling experience. Self-service is the epitome of targeting and personalization, which makes definition of the audience critical to the usefulness and overall success of the site.



Figure 2. Key Business Drivers for Self-Service Portals

### External-Facing

Self-service Websites for external audiences such as customers or citizens, typically empower the user by granting access and/or updating information they previously would have needed to contact the organization directly for. Growing revenue and reducing processing costs are often attributes of the business case for these use cases.

Self-service Websites are a powerful way for an organization to cross-sell other products and/or services to an existing customer. In a customer self-service scenario such as a customer support portal or a My Utilities site, not only can customers access their accounts, update their addresses, pay bills and monitor their daily/hourly usage, but also marketing teams can deliver highly targeted campaigns based on account information of the users' currently owned product/services. For instance, a customer that logs into a customer support portal seeking to find updates for their existing product could be interested in upgrading to the latest generation of that product – a carefully placed personalized ad could result in a significant revenue opportunity to grow income from the existing customer base. Similarly, this model can help a Utilities company to promote rebates and other services that may benefit both the customer and the organization.

In addition to revenue growth, many external scenario's can also be justified by reduction and accuracy of processing times, reduction of call or walk-in traffic, and improvement of overall user satisfaction, which can result in significant cost savings for the organization.

### Customer Story

#### Los Angeles Department of Water and Power (LADWP)



LADWP is the largest public utility company in the United States with over 1.6 million residential and commercial customers in Southern California. Searching for opportunities to improve customer service and automate paper based processes, LADWP realized their existing legacy technologies provided very little agility and created a lot of challenges. During customer focus groups, they discovered their customers wanted a Web experience that delivered more direct access to the things they need most such as billing and service requests. LADWP implemented a self-service portal using Oracle WebCenter Portal to surface various back-end systems such as Oracle Siebel CRM, Legacy Mainframe, and billing applications. Their customers now have access to MyAccount (billing and usage analysis), Financial Assistance Programs, Rebate Programs, manage services requests, outage reporting, eNotifications and much more. The site has received extremely positive feedback from their customers, has helped to drastically improve LADWP's customer experience ranking vs comparable utilities companies, and help drive the usage of online billing.

### Partner-Facing

Business partners are often seen as an extension of an organization, which means the self-service interfaces tend to be extremely rich for access to back-end application data. In some cases, the interface may be identical to what an employee within the organization may have access to. It's also common for a partner to use the organizations hosted site as a co-selling tool for their own customers and simply rebrand the site with their own logo.

Partner-facing self-service can be a powerful way for an organization to extend the reach and capability of their organization by enabling partners to do business on their behalf. The key value for this scenario is business reach/growth, process efficiency, and process consistency. The types of self-service tools for partners can be a key differentiator in attracting and maintaining a partner network.

Partner Portals enable companies to share information and collaborate between partners, brand owners, and joint customers. Its broad range of data, marketing materials, and selling tools facilitates the collaborative sales process, while its superior service and problem-resolution capabilities help partners deliver timely and consistent customer service.

### Customer Story

#### Land O'Lakes, Inc.



Land O'Lakes is one of America's premier member-owned cooperatives, offering local cooperatives and agricultural producers across the nation an extensive line of agricultural supplies, as well as state-of-the-art production and business services. Land O'Lakes is using Oracle WebCenter Portal to improve online experiences for partners to handle all aspects of account management and order entry through a consolidated, personalized, and secure user interface. By creating a self-service portal for placing orders for seed, Land O'Lakes ended up with a new engagement platform that drives more efficient processes, and has actually resulted in net new business.

## Employee-Facing

Internal self-service sites offer employees access to their human resource details such as personal records and payroll information; allowing employees to change their own address, contact details, education records, job profile, vacation and sick leave, etc. Some scenarios allow for employees to change payroll details such as their direct deposit information and provide access to current and historical payslips.

These sites have also been known to be used for career planning, skills profiles, learning, objective settings, and annual appraisals. This can be a valuable asset to an organization to retain their talent, while also helping to improve employee satisfaction.

Human resource departments see employee portals as a means of empowering employees and reducing process errors and cost. Organizations also view employee self-service as a means of eliminating manual processes and in turn reducing costs associated with support and physical paper processing.

### *Customer Story*

Schneider National, Inc.



A premier provider of truckload, logistics and intermodal services, serving more than two-thirds of the FORTUNE 500® companies and conducting business in more than 28 countries worldwide, Schneider National offers the broadest portfolio of services in the industry. The company's transportation and logistics solutions include Van Truckload, Dedicated, Regional, Bulk, Intermodal, Transportation Management, Supply Chain Management, Warehousing and International Logistics services. Schneider National's previous solution for their Drivers was very static, fairly expensive to maintain, and needed IT involvement to update most content. The business wanted a more dynamic and less IT-centric solution that would allow employees to modify their solutions quickly and easily, allow for significantly improved collaboration with the users, and an integrated solution across various types of content, applications, and collaboration services. Schneider National turned to Oracle WebCenter Portal, which allows drivers to view employee information such as benefits, online training and pay statements, all in a single user interface – whether they are in the office or on the road.

## Portal Technologies for Self-Service

What makes self-service Websites so complex to build? Compelling self-service sites surface multiple back-end applications and deliver them as a composite/aggregated view to present it as a unified experience to the user, which makes the Website dependent on not only the availability, but also the connections to those back-end applications. Connection in this context refers to the self-service Websites ability to both interact with the back-end application as well as securing (authenticate and authorize) those interactions for a given users' session.

### Technology and Tools for Building Self-Service Websites

The surest way to mitigate the overall project complexity and risk is to first understand the entire scope of the project – not only the capabilities of the site, but also any dependencies that those capabilities may have. For example, if you have a requirement to allow a customer to view and update their

account information, then you will not only need to build the visual component which will be seen by the user, but you also need to identify where the customers data resides (e.g. Customer Relationship Management application, Mainframe, etc.) and how that data can be integrated.

Security and Identity Management play a big part in delivering the information that is relevant by creating a secure connection to back-end applications that are being surfaced within the self-service site. At a minimum, directory services (LDAP) and access management (Single Sign On and Federation Management) integration are required, but more sophisticated access control policies are becoming commonplace and require integration of specialized tools for security auditing, compliance, role management, and policy administration.

Application Integration is critical to exposing useful transactional functionality into the experience. The challenge here is that a typical self-service application will require data from multiple application sources, which means the organization will need to determine which application sources are accessible from existing Application Programming Interfaces (API) and which will require integration layers/adapters. Additionally, self-service Websites will often increase the demands on back-end applications because it extends application functions directly to a large user base which was previously only available to a small number of key individuals (e.g. internal support group, human resources, accounts receivable, etc.) Organizations will often utilize Service Oriented Architecture (SOA) technologies to help with orchestration, scaling, and data integration of backend applications and/or Mainframe.

Development Frameworks are key to building a rich consistent experience across the Website. They provide developers with core libraries that are used for accessing data, building visualizations, and session management. Given the amount of investment and effort that goes into them, self-service Websites tend to live for many years once they are established; much longer than many development frameworks. The lack of support and new features makes it very difficult for an organization to evolve or maintain their site. It can also become extremely cost prohibitive to maintain resources that are familiar with older frameworks.

Content is the core unifying technology. Most self-service scenario's have demanding requirements for editorial control of Web content that is being added or modified on the site. Additionally, large volume of documents will be linked off of the site which will typically require Enterprise Content Management (ECM) capabilities for creating, maintaining, and publishing those documents.

## Why Portals

There are a number of technology considerations for reducing the amount of custom development involved in the core platform that the site is running on. Custom coding at the platform level of a self-service project can seem like a simple approach to quickly implement a site with the resources that are available at the time. However, these customizations can become extremely cumbersome and costly to maintain because the organization effectively becomes the owner of that code.

Virtually all self-service Websites require extensive customization, but to reduce the overall risk and long-term cost of the project, organizations need to be certain that the core technology requirements are being met by the platform they choose. This ensures the organization can focus their development

efforts on the core value add of the site versus maintaining and taking responsibility of the underlying platform, to allow them to instead focus on the core business function of the site which will drive the most business value for their organization.

Portal server products have long been the tool of choice for self-service projects because they deliver the core Technology Platform Capabilities that are needed for personalization, user access control, application user experience management, component development, and site administration. Portal technology allows organizations to move away from providing traditional purpose-built transactional Web applications to a more rich, dynamic, and streamlined user experience.

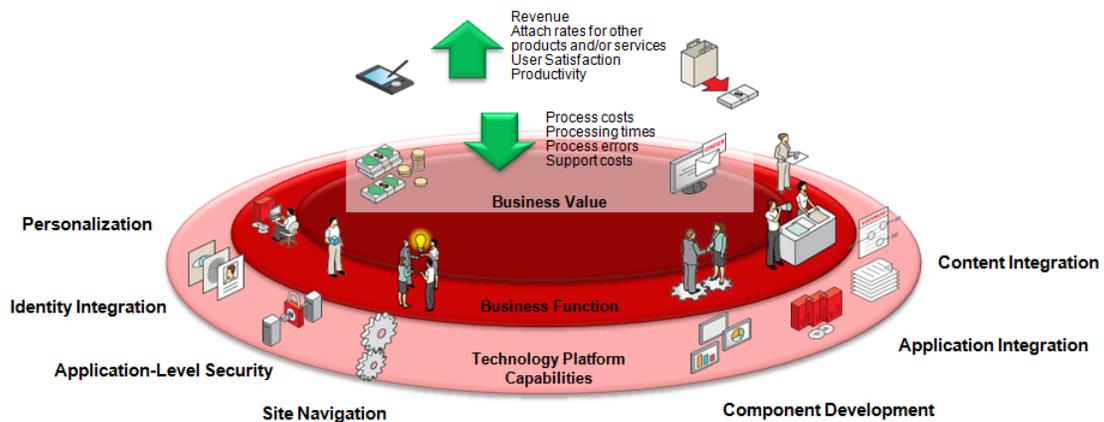


Figure 3. Technology Platform Capabilities, Business Function, and Business Value

### Personalization and Site Administration

*Personalization* allows for tailoring of the site pages, layout, look and feel, components, and/or content for the users when they login. For self-service scenarios, the notion of identity is key for authorizing visibility to and interaction with sensitive user information. Explicit personalization is driven by fixed/static rules and attributes of the user e.g. security role or permission, profile information such as department/group, demographic (age, gender, language). Implicit personalization would be driven by dynamic rules and attributes such as type of device being accessed from, existing customer status, existing products/services owned, or what they've clicked on previously.

*Integration with Identity Management technologies* such as directory services (LDAP) and access management (SSO) are a critical starting point for any self-service Website. Portal technology will typically support user authentication via LDAP as well as certification with popular access management tools. *Application-level security* is critical for developers as well as administrators to grant access to pages and/or components within the site. *Site Navigation* provides visual representation of the site structure which provides links for users to navigate to pages and components.

## Application Component Development

*Component Development* allows the authoring and deployment of independent micro-applications which are surfaced within the self-service pages. These components are often referred to as portlets if they are built as standard JSR168/286 applications. Widgets and Gadgets are another common component type.

*Inter-component Communication/Eventing* allows page components to interact with each other to create a "unified" experience for the user, meaning the user can click or enter data within one component, and that action can trigger an event with another component. Because many of the components of a self-service site are surfacing data/information from various backend applications, the ability to create these "on the glass" interactions is an important development technique for creating the perception of a single application for the users.

## Content Integration

*Content Integration* allows for publishing and management of content (articles, descriptions, documents etc.) within the context of the site. *Cross-Site Search* allows users to easily search for information/data within the context of the portal application. Unlike static public facing search scenarios, use of search crawlers can be much more difficult given that custom application components built within the site are not easily crawled and generally only accessible by the authorized user.

## Accelerate Your Self-Service Project with Oracle WebCenter Portal

Oracle WebCenter Portal provides IT with a comprehensive and flexible enterprise portal and composite applications solution to quickly build portals, Websites and composite applications. This common user experience architecture is based on ADF and combines run-time and design-time customization of applications in one unified platform. Additionally, Oracle WebCenter Portal provides prebuilt templates, spaces/communities, and social components.

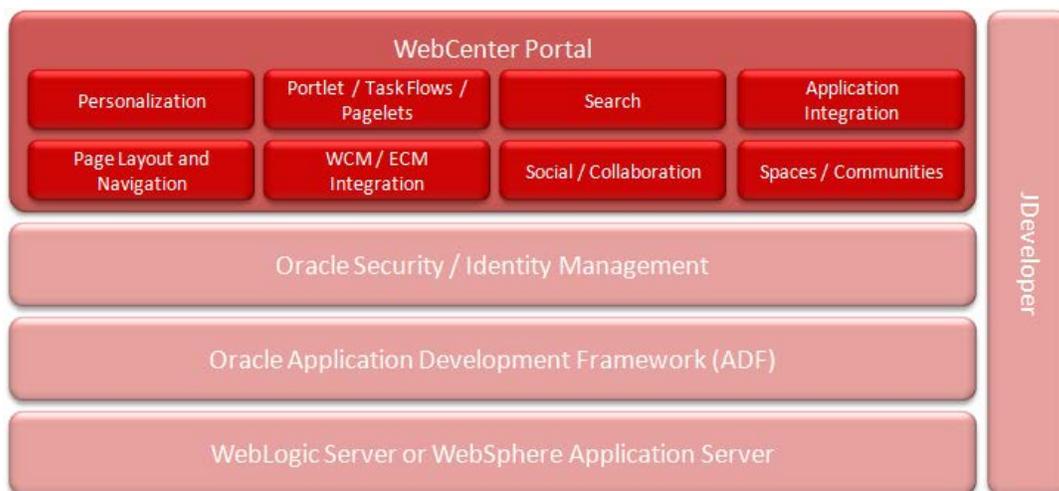


Figure 4. Oracle WebCenter Portal

The following table outlines key capabilities of Oracle WebCenter Portal which are most relevant to a self-service project:

TOPIC	ORACLE WEBCENTER PORTAL CAPABILITY
Personalization and Site Administration	<p>Explicit personalization can be handled as a Security Attribute and/or as an expression. Oracle WebCenter offers extensive number of interfaces for developers, administrators, and or business owners to specify which portal components or services are available to a given user. End-users can be targeted individually and/or be grouped under existing user directory (LDAP) structures. Rules can also be easily defined by the use of an expression to formulate an outcome which determines if an individual should or should not get access to a given object or view.</p> <p>Implicit personalization of portal content or other services can be driven, built and managed by the Personalization Server, which provides a way to construct and execute scenarios which control the users' experience.</p> <p>Alternatively, the Oracle WebCenter Sites' Engage personalization services can be integrated to allow for centralizing management and consistency of targeted content across public and the authenticated portions of the user's experience.</p>
Integration with Identity Management technologies	<p>Prebuilt integration with Oracle Internet Directory (OID) and Active Directory allows developers, administrators, as well as business users the ability to easily leverage user data which resides within the directory server (LDAP). Oracle WebCenter Portal is also certified with Oracle Access Manager (OAM) and CA Siteminder to simplify implementations which require single-sign on.</p> <p>Oracle WebCenter Portal offers support for Dynamic roles which provides for rule-based role membership. Membership to an application role is provided through a dynamic group. Dynamic group definitions can include constraints for user profile attributes, and date and time that provide a flexible way to provide access to an application. For example, a user could be allowed to access an application during their shift or during maintenance periods without explicitly having to grant them that access.</p>
Application-Level Security	<p>Oracle WebCenter Portal offers fine grained permissioning for access and administration of the entire site including portal specific services and components. User activity auditing is available through integration of Oracle Platform Security Services (OPSS).</p>
Site Navigation	<p>Oracle WebCenter Portal includes an extensive library of prebuilt UI components (menu, tab, tree, and breadcrumb ) can be customized to meet a wide variety of use cases. Custom navigation models can be constructed to drive the overall navigation experience and can consist of both static links as well as dynamic portal assets (based on a queries, security, or type). The navigation model can be easily built and managed using either the browser based tooling (for administrators and business users) or from within the development environment (for developers).</p>
Component Development	<p>Customers can choose the component development model of their choice – Oracle WebCenter Portal offers support for JSR168/286, WSRP V1/V2, Pagelets, Application Development Framework (ADF) Task Flows, as well as Microsoft .Net applications.</p>

Inter-Component Communication	Easily create interactions between portal components/services by leveraging JSR286 and/or page parameters. For example, you could wire custom component so that when a user clicks a particular document, an event is raised that changes a different component on the page such as re-render with content relevant to the clicked document.
Cross-Site Search	Fully integrated search capability allows for search across all portal assets and allows for indexing of custom components.
Content Integration	Tightly integrated with Oracle WebCenter Content for Web content as well as document management. Oracle WebCenter Portal includes Content Publisher which allows developers and administrators to easily publish Web content to the portal as a component within the page. Oracle WebCenter Portal also includes a large number of prebuilt document library components for publishing documents within the site.

## Oracle Delivers the Complete Platform

Oracle is the only enterprise software vendor that provides a complete, open, and integrated approach across social, mobile, and cloud technologies. Oracle offers the efficiency of working with a single, strategic partner for all of your middleware requirements, as well as the cost effectiveness of certified integrations with Oracle Database, Oracle Applications, and Oracle Engineered Systems. With best-in-class offerings across every product line, Oracle Fusion Middleware can enable you to maximize the processes and applications that drive your business today and provide a foundation for innovation in the future.

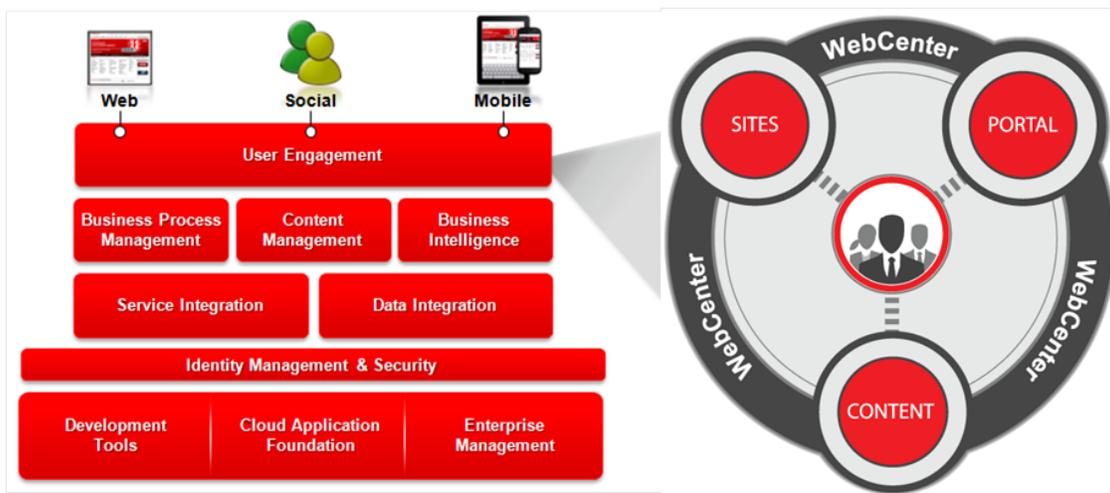


Figure 5. Oracle Fusion Middleware

The following section briefly describes related Oracle technologies that are often used for self-service projects.

- **Oracle Internet Directory (OID)** is a general-purpose LDAPv3 compliant directory storage that is extremely scalable, highly available and secure. Oracle Internet Directory serves as the central user repository for Oracle Identity Management, simplifying user administration in the Oracle environment and providing a standards-based application directory for the heterogeneous enterprise. Its unique and agile design includes built-in synchronization that allows seamless integration with other enterprise user repositories, and facilitates enterprise directory standardization.
- **Oracle Access Management Suite Plus** combines authentication, authorization, Web single sign-on, identity federation, mobile security and social interfaces, with platform services including session management, identity context, policy, risk analytics, configuration and audit. Each package is built with simplified installation and centralized configuration via the Oracle Access Management centralized administration console.
- **Oracle SOA Suite** offers a comprehensive, hot-pluggable software suite to build, deploy and manage Service-Oriented Architectures (SOA). The components of the suite benefit from common capabilities including consistent tooling, a single deployment and management model, end-to-end security and unified metadata management. Oracle SOA Suite's hot-pluggable architecture helps businesses lower upfront costs by allowing maximum re-use of existing IT investments and assets, regardless of the environment (OS, application server, etc.) they run in, or the technology they were built upon. Its' easy-to-use, re-use focused, unified application development tooling and end-to-end lifecycle management support further reduces development and maintenance cost and complexity.
- **Oracle JDeveloper** is the integrated development environment which supports the complete development life cycle with integrated features for modeling, coding, debugging, testing, profiling, tuning, and deploying applications.
- **Oracle Application Development Framework (Oracle ADF)** is an innovative, yet mature Java EE development framework available from Oracle and directly supported and enabled by the award winning development environment, Oracle JDeveloper 11g. It simplifies Java EE development by minimizing the need to write code that implements the application's infrastructure allowing the developers to focus on the features of the actual application. Oracle ADF implements the Model-View-Controller design pattern and offers an integrated solution that covers all the layers of this architecture with solution to such areas as: Object/Relational mapping, data persistence, reusable controller layer, rich Web user interface framework, data binding to UI, security and customization.
- **Oracle WebCenter Sites** enables organizations to deliver a compelling online experience to customers by deploying and managing Web content across online channels. This Web experience management solution enables the entire process of managing the Web—including content creation, content targeting, user-generated content, social networking integration, end-user personalization, and mobile Web delivery.

- **Oracle WebCenter Content** provides the most complete, open, and integrated enterprise content management (ECM) platform – allowing you to consolidate unstructured content on a low-cost, flexible content management system while ‘content-enabling’ business processes throughout your organization. By better managing content as a strategic asset and integrating content into enterprise applications and business processes, Oracle helps you lower costs and reduce risks while improving business productivity and agility.

## Conclusion

Self-Service Websites have become an integral element of a Web user’s interaction with organizations they do business with. Oracle has proven to be a trusted partner for organizations that are looking to build new or replace existing Self-Service Websites. Oracle's approach to delivering a comprehensive and pre-integrated collection of enterprise products and tools reduces the overall risk and total cost of the project.



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Author: R. Maldonado

Oracle Corporation  
World Headquarters  
500 Oracle Parkway  
Redwood Shores, CA 94065  
U.S.A.

Worldwide Inquiries:  
Phone: +1.650.506.7000  
Fax: +1.650.506.7200

oracle.com



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