

Oracle WebCenter Suite Provides Web 2.0 Services for Enterprise Developers

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Web 2.0, a phrase coined by O'Reilly Media in 2004, refers to a supposed second-generation of Internet-based services — such as social networking sites, wikis, communication tools, and folksonomies — that let people collaborate and share information online in previously unavailable ways.

INTRODUCTION

Web 2.0 is generating an incredible amount of interest and subsequent momentum around services on the Internet. And many enterprise developers want to determine how these exciting new services can be leveraged within their companies. The nature of Web 2.0 services is to empower users to combine all the relevant information they can find into a single location so that they can be more productive in their work environment. In addition, end users can form ad-hoc associations with users inside and outside their organizations as part of a “social network”. And they need an easy way to track all these sources of information so that they become more productive while at the same time traversing all this new content.

Rarely in IT organizations today will one hear a statement that developers don't have enough to do. There is always a shortage of resources to address all the business needs of the organization. For these Web 2.0 services to be accessible for the Enterprise, all the available applications and information needs to be made available to end-users in a secure, standard way. And developers need to provide tools to end users to allow them to quickly and easily assemble these services together in a meaningful way.

Oracle is the only vendor that provides a complete, integrated, and standards-based suite of products for developers to speed the rapid exposure of application and information services that can be combined with easy-to-use end-user tools to deliver Web 2.0 services for the Enterprise.

People are seizing far more control of what they do online. In the process, those efforts are putting skin on the bones of Web services, the long-delayed promise of software and services that can be tapped on demand. "They're taking little bits and pieces from a number of companies and stitching them together in some clever way," Amazon Chief Executive Jeffrey P. Bezos noted recently. "You'll start to see the real power of Web services."

http://www.businessweek.com/magazine/content/05_30/b3944108_mz063.htm

ENTERPRISE REQUIREMENTS FOR WEB 2.0 SERVICES

Initially, Service Oriented Architectures (SOAs) provided a platform for developers to enable applications to work together and new composite applications to be assembled from a set of singular services. End users demand access to these key sources of application capabilities so that they themselves can relate the information they need to be more productive. In Web 2.0 terminology, this assembly of complementary sources of

information is called a Mashup. However, current write-ups on Mashups don't go much beyond integration with simplistic mapping services or price comparisons. For Mashups to provide value to the Enterprise, and to be considered an Enterprise Mashup, the application and information sources must be delivered in an accessible, standard, and secure manner within the context of a business task.

In addition, developers need a standard approach to enable end users to deliver new streams of information to other users so they, in turn, can create their own Enterprise Mashups. The key challenge for IT is that social networks are traditionally unstructured and uncontrolled and IT applications are inherently controlled and structured. So for IT to consider injecting Web 2.0 services such as Wikis, Blogs, and Discussion Forums into their enterprise requires structured and secured interactions that don't impede the ad-hoc nature of this new user model.

WEB 2.0 STANDARDS EXIST TODAY

Propelled by standards-based technologies such as XML, Web Services, and SOAP, the Oracle SOA Suite provides a means for developers to rapidly enable all their applications for Web 2.0 Mashups. Coupled with Oracle's Web Service Manager, developers can now, in a secure, standards-based approach, expose their existing applications to provide the foundation for new Enterprise Mashups. See the *Building a Portfolio of Services* white paper for a detailed description of the standards in the SOA space. The Oracle SOA Suite provides a standards-based, publishing model (Web services) for IT to deliver services but there remains the need for some additional tools to really make Web services more approachable for end users.

For developers wanting to publish or expose information from different systems, leveraging RSS (Really Simple Syndication) feeds and Atom are two quick approaches for providing these capabilities. RSS 2.0 with its copyrights belongs to Harvard University and is frozen. No significant changes to RSS 2.0 can be made unless under a different name, Atom is one such work. Essentially, both standards provide an XML description of your information and are used primarily to aggregate information from news services and blogs into a user's environment. There are many popular RSS/Atom aggregators on the market today burdening end users with yet another tool to visit during their working day.

Relying on Web services as the standard way to expose functionality and using XML feeds to publish content and information requires developers to pull these technologies together into a useable model for end users. This is not a small task, but Asynchronous JavaScript and XML (AJAX) can help by providing a standard approach for delivering rich user interfaces in the Web 2.0 world. Unfortunately, beyond the common

Representational State Transfer (REST) strictly refers to a collection of architectural principles. REST design seeks to define a set of resources that clients can interact with uniformly, and to provide hyperlinks between resources that clients can navigate without requiring knowledge of the whole resource set. The Atom Publishing Protocol for publishing to blogs is considered the canonical RESTful protocol.

development languages, AJAX offers very few standards. This means that developers are left with lower level tasks such as marshaling and unmarshaling data between a client and server and, since there are few standards, there is very little chance any interoperability. Through Oracle's work with the Java Community Process, JavaServer Faces (JSF) provides a server-side application framework that establishes a standard for building Web-based user interfaces. It provides a component-centric development model and enables developers to easily plug-in their user interface behaviors and presentations. The JSF rendering architecture is the essential ingredient necessary to create reusable AJAX-enabled java Web applications. To learn more about Oracle's work in JSF, the *Rich Internet Applications for the Enterprise: JavaServer Faces, AJAX, and Flash* white paper is a valuable resource.

Using AJAX in combination with Java portlet standards (JSR 168/286 and WSRP 1.0/2.0) provides enterprises with a real solution to making Web 2.0 services accessible to a larger population of users and enabling one component to communicate with another. The next version of the Java Portlet Standard (JSR 286/WSRP 2.0) plans to eliminate most of the limitations of the initial standard (JSR 168/WSRP 1.0) and proposes enhancements such as interportlet communication and portlet filters. Oracle was a key participant in the JSR 168/WSRP 1.0 standards and is one of the key architects on the committee for JSR 286/WSRP 2.0. These new standards will allow context to flow between all the core services that a developer has placed on a page creating this concept of Enterprise Mashups. But wiring together these composite application (portlet) to composite application (portlet) interactions still requires technically savvy people.

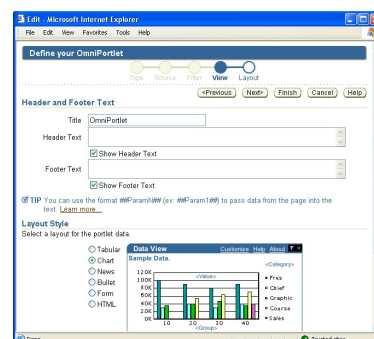
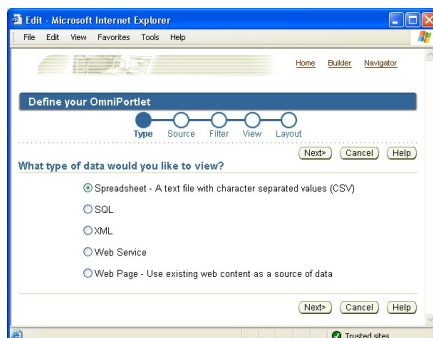
As a result, many organizations simply deploy Web 2.0 standard components like Wikis, Blogs, and Discussion Forums in their infrastructures and suggest that the Web 2.0 for the Enterprise requirements have been met. A Wiki is a type of Web site that allows the visitors themselves to easily add, remove, and change some available content, in many cases without the need to login. This ease of interaction and operation makes a Wiki an effective tool for collaborative authoring. There is a standard markup language or Wiki syntax that is used to aid in the creation of these new pages or Web sites. A Blog is a Web site where entries are made in journal style and displayed in a reverse chronological order. Blogs often provide commentary or news on a particular subject. And Discussion Forums enable groups of people to carry on conversations via a Web site and track the related responses to each topic that is posted. While these Web 2.0 components do provide a set of standard content and interaction models to allow users to form ad-hoc communities for working together on business objectives, they also increase the proliferation of content and systems for IT to manage and

users to wade through. Developers then need to integrate these services within their infrastructure and as part of their applications.

ORACLE'S WEBCENTER SUITE DELIVERS ENTERPRISE MASHUPS

Recognizing that each Web 2.0 standard provides tangible benefits on its own and that the real value comes when developers can leverage these standards in concert, Oracle has introduced Oracle WebCenter Suite as the solution for delivering Enterprise Mashups quickly and easily.

WebCenter Suite provides a core component, OmniPortlet, which allows business developers to quickly leverage Web services, RSS or XML feeds as data sources for their Enterprise Mashups. Using a wizard-based approach, business users can quickly produce new Mashups from all the standard feeds that developers produce. In addition, developers can easily build AJAX-based user interfaces and add them into the wizard for users to select. The screen shot below shows how quickly users can define new Mashups from existing Web services and XML or RSS feeds.



Once the data source has been selected, business users can choose a presentation format for

the information. In this way, developers focus their attention on building the layouts required for end-user presentations and business users create Mashups in minutes.

In addition, by leveraging the new standards of WSRP 2.0 and JSR 286, developers and business users can connect Mashup components together by passing information from one component to the next. This allows components to be used in context with the rest of the applications on the page to create Enterprise Mashups. A business user can quickly assemble a context-rich user interface that allows them to focus on their current task. And more importantly, the user interface can be instantly transformed as the user changes from one context to the next. For example, a developer can provide a Web service that lists a sales representative's key customers. This context can be passed to the pending proposals for each of the customers as the sales rep scrolls from one customer to the next. Someone in the Support organization could

use the same Web service to view the list of customers but combine it or “mash it up” with a list of open issues. Then the Support engineer will be able to quickly respond to each issue for each customer as they arise.

A bigger challenge is how developers will be able to keep up with the demand for new services each organization requires. Even if developers could keep up with the demand, there is always new information flowing from Wikis, Blogs, and Discussion Forums that can be combined through RSS feeds. Oracle’s WebCenter Suite includes pre-integrated applications for each of these areas: Wikis, Blogs, and Discussion Forums. Each of these applications are secured through either Oracle’s Web Service Security or via JAAS/JAZN and provides RSS feeds to be quickly integrated into the end-user’s favorite aggregator or directly into OmniPortlet to be combined with other services. With Wikis, Blogs, and Discussion Forums, developers can use the published set of Java APIs and Web services to tie the capabilities directly into their applications. This provides the developer with an approach to embed these standard Web 2.0 capabilities directly into their enterprise applications.

However, there is a huge number of unstructured Web pages that still need to be tapped as a source for new “data feeds” for users to get all the information and combine them into Enterprise Mashups.

WebClipping is a critical part of the solution as a visual Mashup tool and ad-hoc source creation to keep pace with this fierce production of information. Oracle WebCenter Suite has a very easy-to-use WebClipping component to handle both public and secured content. It enables any business user to create new data sources of information from any Web page that publishes the data they require. Then this new feed can either be combined with OmniPortlet or placed directly on a page to Mashup the desired information. In this way, developers can allow business users to find the information they want for their Mashups and then work to structure the information through a standard feed for others in the enterprise to use.

CONCLUSION

In order for business users to be more productive, they need all the information sources pulled together in the context of their task at hand. However, developers are consistently challenged with meeting the needs of business users and at the same time ensuring secure and reliable interactions with all the supporting systems. There are many standards currently in place to help bring Web 2.0 services to the enterprise.

To meet the rapid customer demands and to remain competitive in today’s marketplace, corporations will need to leverage Oracle WebCenter Suite. Built on standards, Oracle WebCenter Suite builds an enterprise social network of developers and business users, enabling them to keep

pace with the market demands. Using Oracle's SOA Suite and Oracle WebCenter Suite, including components like OmniPortlet, WebClipping, Wikis, Blogs, and Discussion Forums, developers and business users have the core set of tools they need to produce Enterprise Mashups of all the information sources required in the context of their business task. Leveraging this approach, they will be empowered with richer, more dynamic information to make better choices in business today and to set their company on the right path for the future.



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