

Drupal: A Serious Alternative to Oracle Webcenter Interaction Portal

How Migrating to Drupal Could Benefit You and What it Might Cost

Ross Brodbeck and Fabien Sanglier
Project Performance Corporation

October 2011

Introduction

Because innovations in IT happen so quickly, a technology three-to-five years old may easily seem obsolete compared to newer products and platforms. For this reason, the need for technology “recycling” in enterprise IT often happens within five years of the initial purchase. Trends from the past few years have reshaped the corporate IT landscape and open source and cloud computing models are increasingly dominating the enterprise. More companies and government agencies are moving towards “leaner” community-supported open source products due to the lower total cost of ownership, perceived higher quality, improved reliability, and better/faster patch cycles.

Portal systems for intranets and extranets are no exception. This paper will illustrate these trends applied to portal systems by examining the reasons, benefits, potential concerns, and key technical considerations when migrating from Oracle WebCenter User Interaction portal product (formerly BEA Aqualogic User Interaction/Plumtree) to Drupal, an open source content management system (CMS).

The goal of this paper is to provide “food for thought” on a specific case study that is relevant to all current WebCenter Interaction owners. It is not intended to outline a complete portal content migration strategy. Such a portal content migration should be approached from a technical point of view and considered after the completion of a careful evaluation of needs and a detailed definition of plans. To learn how Project Performance Corporation (PPC) approaches portal content migration projects, please refer to a white paper by one of PPC’s senior Knowledge Management experts: “*Nine Steps to Planning and Executing a Successful Portal Content Migration*”¹.

The Future of Oracle WebCenter User Interaction

In 2007, Oracle announced that it was acquiring middleware provider BEA Systems. If you were a portal customer, particularly one using the Aqualogic stack, you were worried about the future of your technology platform. After all, that same platform had just survived a similar acquisition when Plumtree was acquired by BEA in 2005. With Oracle’s reputation for acquiring, merging, and dismantling, there did not seem to be much hope. However, the portal has continued to live on as part of Oracle’s Webcenter offering, in the form of Webcenter User Interaction.

With the recent release of Webcenter User Interaction 10gR3 patches, one might expect that the post-Oracle demise of Plumtree is on hold. However, a closer look reveals what we have known has been coming for a long time: Oracle wants you to migrate to their Webcenter portal stack and is not giving much love to the older technology. In fact, a brief glance at the Webcenter Interaction home page² reveals content from 2008 and nothing under a year old. The 10gR4 release has not been announced.

What does Oracle want loyal Webcenter Interaction customers to do? They want you to migrate to their flagship Webcenter portal platform. The platform is a more comprehensive take on the enterprise portal, containing more social features, integration with Universal Content Management, SSO, Universal Search, and the rest of the Oracle technology stack.

¹ <http://www.ppc.com/Documents/Portal%20Content%20Migration-Nylund-07-08.pdf>

² <http://www.oracle.com/technetwork/middleware/webcenter-interaction/overview/index.html>



Webcenter has many advantages. For example, the entire stack is from one vendor who has spent time and money to ensure that everything fits together. People who adopt this model will get the benefit of developing in an Oracle product (JDeveloper), using an Oracle SSO solution (Oracle Access Manager).

Unfortunately, there are also quite a few drawbacks. First, there are licensing costs, which will likely be higher than Webcenter Interaction (you get more, you pay more). Second, you are getting products that, while integrated, used to be their own technology stack. For example, UCM is formerly Stellant and OAM is formerly Oblix. While they have been integrated, everything is not fully “baked in” yet. Third, you are pretty much locked into Java. Yes, there are some REST services and .NET connectors, but these are window dressings on a Weblogic/Java-centric platform. Finally, you are getting a portal platform that is still fairly immature and extremely heavyweight. Performance, reliability, and rapid development are not the strong suits of this stack.

Drupal: A Viable Alternative for the Enterprise?

With all that being said, many Webcenter customers are looking in other directions. Some are looking into SharePoint³, while others are looking at Java alternatives, such as LifeRay⁴. When it comes down to it, the portal model of an intranet/extranet is dying a slow and painful death. The idea that all tools and technologies available to an end user need to be integrated in a single place is losing traction to the newer software as a service (SaaS) and cloud models. Users are accustomed to navigating for functionality; integration APIs are more readily available, and implementing branding on external providers is easier than ever.

Drupal, an open source web content management system, embodies this new wave of technologies and it represents a true revolution in the field of enterprise websites that offer first class publishing, collaboration, and social media features. Ever since the White House launched its web site on the platform, government agencies and private companies have taken to migrating legacy platforms to Drupal in droves. It now powers many large high traffic community sites, such as [we.com](http://www.ewe.com), [energy.gov](http://www.energy.gov), and [grammy.com](http://www.grammy.com).

Reasons to Consider Drupal

With the recent buzz around Drupal, many are asking the question “Why choose Drupal over another web framework?” Here are three reasons we think are noteworthy:

- First class web content management
- Proven solution
- Open source community

First class web content management. Where other portal/umbrella stacks may treat content as a second-class citizen or plugin, Drupal is an integrated CMS at its core. For example, WebCenter Interaction users created site structures using communities and pages and put Publisher portlets on Pages within Communities and then customized for “edit in place” to create a final web product, Drupal users simply “Create Content.”

Proven solution. Drupal is built on a widely-accepted technology (PHP), available on a wide variety of platforms (IIS, Apache, nginx), integrates with many common performance technologies (memcached, Varnish), and has proven to be performant and stable on all of them. There are many use cases and actual production websites that provide both a proven path and a set of referenceable implementations. You can be sure that this technology works in the field.

³ <http://sharepoint.microsoft.com>

⁴ <http://www.liferay.com/products/liferay-portal/overview>



Open Source Community. Drupal is built on an open source technology that has a diverse and innovative community. The core of the “Drupal spirit” is not “build me this functionality,” as it would be with a COTS product, but “find me a functionality someone has already built.” As of this writing, Drupal has over 12,000 modules that implement various pieces of a web site, such as forums, blogs, wikis, and collaboration tools. In addition, numerous modules offer integration points with enterprise products, such as Single Sign On (SSO), document management systems (Alfresco), and enterprise search (Solr, Google Appliance.) All are free to download, install, and customize to meet your needs.

No other COTS technology can boast of the flexibility and availability of Drupal. In addition, the platform and its associated modules are entirely **FREE**.

Key Considerations With Drupal

As with any technology, it is important to read the fine print. Drupal is no exception. Although the technology itself is free, implementation is not. However, one could argue that implementations of COTS products, such as Webcenter User Interaction, are usually very expensive and complex endeavors as well. When looking at Drupal, you should consider the following challenges:

- **Extra functionality is “sold” separately.** When you choose Drupal as a solution, you will not be getting much with the basic Drupal installation. A base version of Drupal does not include workflow, integration, or number of other key pieces of functionality. Most additional functionality in Drupal must be downloaded as an additional module or can come in a prepackaged “distribution” (set of modules). What this means is that you will not be getting a fully-featured COTS system out of the box, as you might have with Webcenter User Interaction. In addition, these modules may not be from the same vendor and may not even play together nicely. When building a Drupal site, putting together a comprehensive package of modules that meets your needs is one of the greatest challenges.
- **No concept of composite applications.** As explained in the migration analysis, Drupal does not provide a mechanism for “composite applications” (there are no portlets). With each Webcenter Interaction portlet, you will have to consider alternatives and ask these key questions:
 - Are the features of current portlets provided by Drupal modules?
 - Are portlet applications really needed inside the portal/site?
 - Are portlet applications using any of the portal APIs?

Depending on the answers to these questions, some architectural decisions and extra custom coding may likely be needed.

- **Some PHP required** (although not always necessary, due to a wide availability of custom modules). Coming from the Webcenter Interaction world, it is unlikely that you have a staff of PHP developers. However, PHP is an easy language to learn (it is a “scripting” language and not necessarily object-oriented) and the community of knowledgeable PHP developers is large.
- **You will have to migrate.** Webcenter Interaction to Drupal migration is not a one-to-one mapping. Some custom coding and integration will likely be required (see below). However, there is no direct migration path to SharePoint, Liferay, or even Webcenter itself, so migration costs will be inherent to any move off of Webcenter Interaction.
- **You will have to do maintenance to keep current with bug and security fixes.** Drupal maintenance requires a bit more effort than typical COTS maintenance. This is because Drupal is rapidly improving. Patches, bugfixes, and updates are constantly being submitted by the community. On the plus side, the open source community around Drupal virtually ensures that the product will not stagnate and that it will not be hard to find support. It also means that you will have to update the product more often as security patches are released.



In-Depth Feature-to-Feature Migration Steps

No migration is going to be a one-to-one process. There are certain pieces of the Webcenter Interaction stack that easily map to Drupal and other pieces that are much tougher to move. As with any technology migration, the level of effort and the steps needed are variable, depending on the specific configuration. The time spent developing a component mapping, specific migration strategy, and post-migration taxonomy are important steps that are not discussed in this white paper.

With that being said, it is helpful to look at the typical Webcenter Interaction components and compare them to their Drupal equivalents. The table below lays out those components, their Drupal equivalents, and some basic migration guidance.

Table 1 - Comparison of Typical Webcenter Interaction Components and their Drupal Equivalents

Portal Component	Drupal Equivalent	Description	Effort Level
Community	Menu / Organic Groups	Drupal provides two possible alternatives to Communities - a menu structure built for creating traditional web sites, and a number of modules that organize content in groupings (Organic Groups being one of the most popular).	Low - Although there is no direct mapping, there are many easy ways to create a Webcenter Interaction site structure in Drupal. Typically, it is easier to get a coherent hierarchy in Drupal than it was in Webcenter Interaction.
Pages	Menu / Blocks / Panels	Drupal does not lay out content in a traditional folder -based hierarchy and has a variety of ways to set up page layout. As such, this may not be a one-to-one migration.	Low - Despite not being a simple one-to-one migration, creation of page structure in Drupal is relatively straightforward using a variety of methods.
Portlets	Blocks / Other	Drupal does not provide any easy mechanism for an "HTTP proxy" - like the gateway. As such, most portlets will need to be re-architected as separate applications, customized Drupal modules, or other solutions. Webcenter Interaction API methods are also no longer available to portlets.	High - Drupal is an easy system to customize, so recreating and mapping portlets is not necessarily impossible, but it is a non-trivial task that requires architecture decisions and custom coding.
Properties	Taxonomy, CCK	Drupal allows for robust content tagging and properties using CCK (native to Drupal 7). This is one of its strong points.	Low - Drupal property migration is a simple one-to-one process.
Users	Users, Profile, Profile2	Drupal typically handles user synchronization on login, which allows it to be more robust than the portal (which uses batch jobs). It also supports user and profile synchronization.	Low - Drupal synchronizes to third party user/group stores in much the same manner as the portal. Finding equivalent modules and customizing security are the challenges here.



Portal Component	Drupal Equivalent	Description	Effort Level
Knowledge Directory, Crawlers	Views /Search	Drupal provides most of the functionality of the Knowledge Directory via its built-in Search. Much of the other functionality can be replicated with Views. However, the integrated nature of crawlers (and wide variety of options) makes this a tricky migration task. It will not always be a one-to-one mapping, depending on the crawler.	High - Custom coding may be required. Search optimization/customization may also be required.
Collaboration	Nodes, Organic Groups , Event Calendar , Advanced Forums	There will not be an exact one-to-one mapping of Collaboration content to Drupal content. That said, much of the collaborative functionality is baked into Drupal as part of the modules mentioned. It provides a more robust, integrated collaborative experience.	Medium - Some manual migration required. Mapping of Collaboration project to Drupal site map required.
Publisher	Nodes, Event Calendar , Migrate	Although not an exact one-to-one map, each piece of published content can be recreated as a node in Drupal. The migration module can assist with this process. Views could also be used to organize lists of content and replace Publisher "templating" functionality. In extreme cases, PHP can be used to mimic scripted Publisher functionality.	Medium - Content migration always requires some transformation of HTML, styling, etc. Luckily, the Publisher mapping is fairly straightforward.
Studio	Web Forms , Poll	Not every piece of Studio functionality comes across directly, but Drupal has a high level of support for the same quantitative "form builder" functionality.	Medium - Recreating the desired functionality in Studio is easy. Migrating the existing records is a bit more challenging, but would simply require some transformation.
Security	Organic Groups , Taxonomy , Access Control	Drupal does not have the same ACL based security model as the portal. It can be "faked" with organic groups and other modules, but the reality is that you would not want to build the same security model. In addition, looking at the "how" and "why" of your security is a necessity.	High -- There is no one-to-one mapping between Drupal (role-based) and Webcenter Interaction (group-based) security. Various modules exist to mitigate this, but re-architecting the security framework is likely a requirement.

Conclusion

No migration is a simple one-to-one process, and careful consideration should be taken across the board: content analysis, taxonomy, architecture, custom code, security, and migration effort must all be taken into account. The good news is that Drupal is an easy framework to customize to suit your individual needs. The Webcenter Interaction product line is coming to an end sooner rather than later - if not from an official standpoint, at least from a practical standpoint. Moving on with Drupal is a very enticing and cost effective option.



About Project Performance Corporation

Project Performance Corporation is part of the AEA group, a 1,200-person, multi-disciplinary team of information technology and knowledge management professionals, project management experts, scientists, technologists, and regulatory specialists. With more than 20 years of experience in information management and enterprise services implementation, we specialize in delivering effective, reliable answers to the most complex challenges. At the heart of it all are our people - innovative thinkers, well versed in business processes and drivers, with unequalled focus on delivering quality products and services.

About the Authors

Mr. Ross Brodbeck has been building things with open source web technology since his early days studying Computer Engineering at Lehigh University. He has architected and developed web-based solutions using a variety of platforms, including PHP, Java, .NET, and even Javascript. Ross is especially adept at working with the WCI stack and he has deployed and implemented a variety of web portals using various iterations of the Plumtree/BEA/Oracle platform. He currently enjoys dabbling in Drupal, node.js, and Solr search. Ross has been architecting and building web solutions for clients such as Intercontinental Hotel Group and the National Labor Relations Board for over nine years.

Mr. Fabien Sanglier is an accomplished Senior Solution Architect with more than 10 years of experience in Enterprise Portal and Content Management platforms, as well as general Web Application development using both JAVA and .NET technologies. An expert with the Oracle Web Center User Interaction product suite, Fabien architected, deployed, and developed numerous custom solutions for various commercial and government clients using this enterprise platform. Based on his growing interest of Open source technologies, Fabien has expanded his focus to architecting and building Enterprise Solutions with Open Source Content Management and Portal products such as Alfresco, Atlassian Confluence, Drupal, and LifeRay. His technical and project management skills coupled with his bilingual skills in French and English have allowed him to successfully implement numerous Enterprise IT projects in both the U.S., Canada and France. On his own time, Fabien enjoys spending time with his growing family and trains arduously to compete in triathlons across the country.

For more information contact:

Ross Brodbeck

Project Performance Corporation
1760 Old Meadow Rd., McLean, Virginia 22102
p: 703.748.7021
e: rbrodbeck@ppc.com

Fabien Sanglier

Project Performance Corporation
1760 Old Meadow Rd., McLean, Virginia 22102
p: 703.748.7220
e: fsanglier@ppc.com

