

Web Content Management in the Enterprise Portal - Quo vadis?

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Mainz, Germany, January 20, 2006

The future of traditional Web Content Management (WCM) systems is uncertain. Businesses are increasingly implementing enterprise portal solutions that are primarily focused on application and business process integration. However, existing Web Content Management systems that concentrate on the creation, maintenance and provision of web-based content, for example for intranet operation, have become established in today's enterprise. This development presents a new challenge for enterprise IT departments: These two very separate system worlds must be unified both in design and technology.

Enterprise portals represent a direct advancement for intranets and dynamic websites, mainly due to the user-specific integration of applications and information in a single, unified user interface. In order to make a clear distinction, the terms "intranet" and "portal" should be defined:

An intranet provides employees with information using static HTML pages and/or a Web Content Management System. Access to individual web-based applications from the intranet is made possible by simple links. Consequently, an intranet is designed mainly for the purpose of information distribution and is only marginally involved in process optimization. Since there is no logical connection between the applications, users are forced to log in separately to various applications with different user registration data. The required user names and passwords are usually not consistent throughout a company. Furthermore, roles are not part of intranet design and it is not possible to customize the user interface ("user customizing").

An enterprise portal is a complex integration infrastructure that consolidates application systems, services and information from a variety of different sources within an enterprise into a central, unified user interface (e.g. web browser) that is individually adapted for each employee and accessible from every desktop. Enterprise portal content is individually adapted for every employee or group; this is made possible by corresponding role concepts.

Enterprise portals have opened a single point of entry for a variety of different business applications. So why not simply present the complex content required directly within the enterprise portal and completely replace existing extranet or intranet solutions? Most new generation portal software products neglect this concept. The Content Management they offer out of the box is rudimentary at best. Unfortunately, many IT decision makers are either partially or completely unaware of this shortcoming.

On the other hand, there are highly sophisticated Web Content Management systems and products on the market – functionalities range from Internet building blocks for creating simple homepages to adequate workflow integration within the Information Lifecycle. Moreover, these systems include additional tools for generating navigational structures as well as editing and authoring tools for managing content on websites. Link management, approval workflows and access controls for designated areas of the web-based solution are practically taken for granted. A Web Content Management system delivers the technologies, tools and methods for creating, managing, storing, preserving and providing electronic content throughout the entire enterprise. This generally recognized defi-

dition originates from AIIM International (Association for Information and Image Management International). Unlike document management, which can be described as a database-supported management system for electronic documents, Web Content Management encompasses web publishing, publishing intranet or internet pages and provides structured publication of web-based information.

At first glance, deploying Web Content Management systems allows enterprises to unify web-based content and application-based information within a single enterprise portal, regardless of the format in which the information is available.

Some WCM software manufacturers have already taken action and provide – specifically for the SAP NetWeaver™ Portal – comprehensive integration packages that integrate their high-performance Web Content Management systems in the portal software.

But how do companies manage and supply the content to be published in an enterprise portal created on the basis of business-oriented portal software? At a time when users are already confronted with heterogeneous environments in their day-to-day work, every additional system is simply another burden. Integrating a high-performance, technologically advanced Web Content Management system in an enterprise portal is problematic because, to a great extent, both software solutions implement competing concepts and technologies which must be further explained.

Both systems require their own server infrastructure and rely on their own, completely proprietary software architecture based on a separate database and/or data storage system. As a result, additional expenditure is incurred for all of the following aspects:

- Parallel expenditure for hardware
- Parallel expenditure for operation and monitoring
- Parallel expenditure for backup & restore
- Parallel expenditure for security design and implementations
- Parallel expenditure for performance optimization
- Parallel expenditure for administrator training

From the perspective of an enterprise portal infrastructure, a Web Content Management system is a third-party system which must be integrated via interfaces. Thus, the following issues must be addressed:

- (1) Parallel existence of two navigational structures: a) navigational structures, pages and roles within the enterprise portal and b) menu items and storage structures within the external WCM system.
- (2) Editors are required to learn how to work with two different tools and user interfaces.
- (3) A search function must be developed that can be utilized for both systems; access rights for both systems must be given special attention here.
- (4) Parallel existence of two authorization concepts. Defining access rights in an enterprise portal is generally possible on the basis of users, groups, and portal roles in particular. Access rights management in a WCM system has its own administrator interfaces and authorization objects which need to be aligned.

- (5) Parallel workflow concepts: An enterprise portal has application-oriented workflow procedures that are usually based on the user administration integrated into the portal (users, roles and groups). A WCM system often uses its own staging concept for approving web pages based on its own workflow which exists parallel to the portal workflow.
- (6) Parallel user registration data management: Enterprise portals offer powerful features for user administration which must be used in addition to or in competition with the WCM system user administration. It makes sense to use a single LDAP interface for both systems. However, this does not solve the key problem: both systems have their own administration tools for user management.
- (7) Parallel security concepts: Enterprise portals offer very powerful security design concepts and functions; a WCM system has its own design concepts and these must also be managed and taken into consideration.
- (8) Some external WCM systems generate portal objects (e.g. menu items in portal roles) via interfaces. Changes to these generated objects are overwritten during each generation process making it impossible to use all of the functionality of the portal tools. Only the features that are generated and/or supported by the WCM system can be fully leveraged.
- (9) Parallel concepts for link management: There are different methods for creating and managing links in both software systems. A particular problem is posed by targets that affect the role-based navigational structure of the enterprise portal which generally cannot be conveniently selected as most editors would expect.
- (10) Parallel page creation and layout concepts (look & feel): Both systems have their own concept of performance-optimized page presentation. Similarly, both systems offer different methods and tools for editing the "look & feel" of the pages.

Taking the above issues into consideration, serious thought should be given to integrating an external Web Content Management system in an enterprise portal. From a long-term perspective and when taking the Total Cost of Ownership into consideration, operating two IT systems as complex as these parallel to one another is impractical, even if the WCM system manufacturers offer portal-specific integration packages for their software. A closer look at these packages shows that many of the interface problems and design redundancies detailed above will nevertheless continue to persist.

From the author's perspective, every project involving Web Content Management in enterprise portals should question whether or not the desired editing processes and WCM requirements could be served with the standard features of the enterprise portal or covered by an expansion package or implementation and project work. This solution path is further explained in the following practical example.

Practical example: Web Content Management in the SAP NetWeaver™ Portal

With its SAP NetWeaver™ Portal, SAP not only provides the basis for a successful backend system for business process optimization, but also delivers basic Web Content Management functionalities. In order to structure the content, the SAP NetWeaver™ Portal utilizes a central tool - the Portal Content Studio.

The Portal Content Studio offers a central environment for developing and managing all types of portal content, such as portlets (iViews), pages, layouts, worksets, roles, and packages.

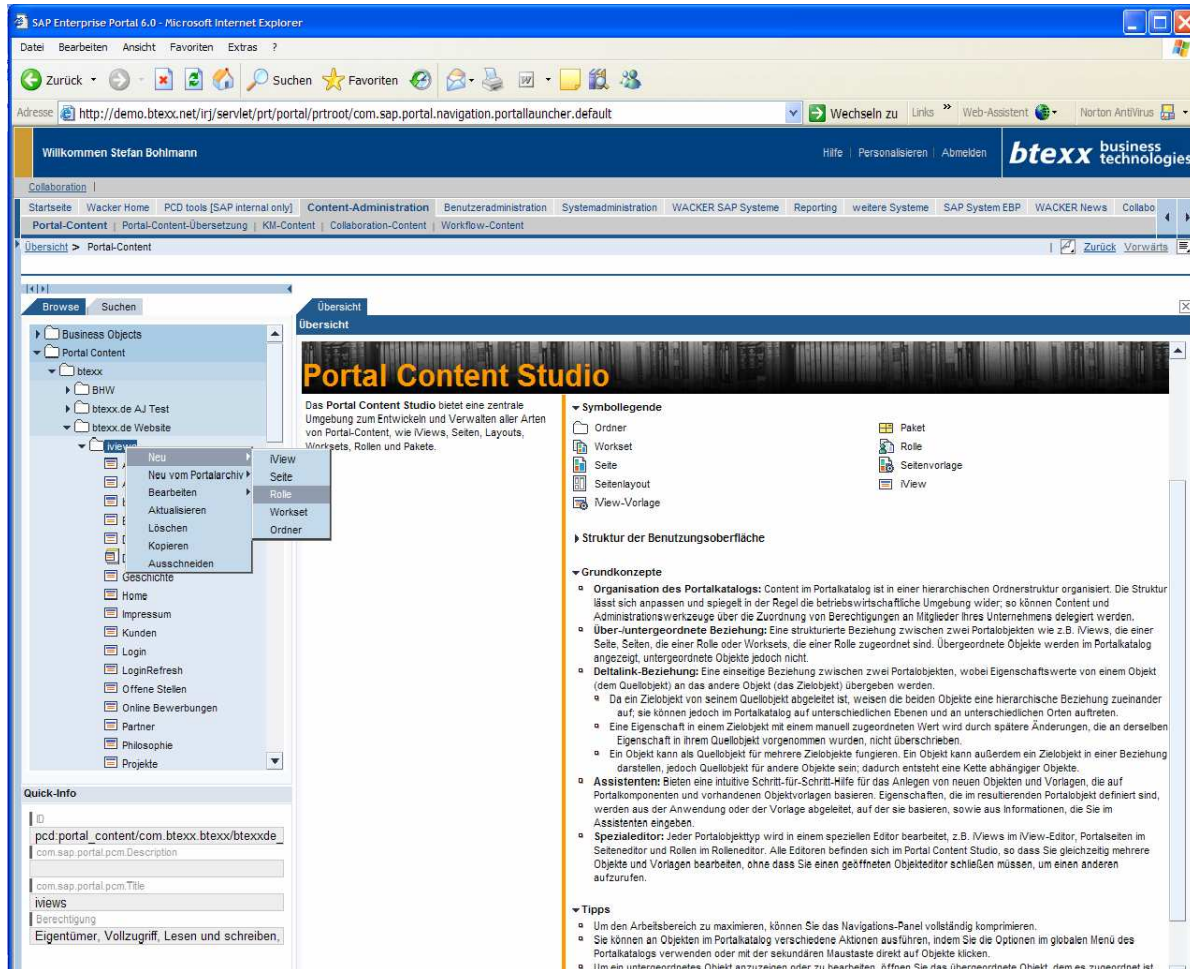


Figure 1: Portal Content Studio for the SAP NetWeaver™ Portal (source: btexx Portal)

The most important object in the Portal Content Catalog is the role, which serves two purposes: First of all, the role is assigned to users or user groups, achieving the typical personalization required of an enterprise portal, secondly, the role in the SAP portal defines the menu structure that is linked to the role at the same time.

A role can be implemented as a hierarchical tree structure with an infinite number of nested objects. The tree structure is formed by creating folders. Pages or iViews can be positioned at any level within the hierarchy. There are different types of iViews; typical examples of iViews are R/3 transactions, eBusiness applications, Internet/intranet applications, or content-based iViews (HTML content, text, graphics). iViews are typically positioned and arranged on pages but they can also be independently built into roles.

Within a role, so-called Entry Points must be defined which are then included as a menu item in both of the top navigation bars of the portal menu. The portal menu is generally

comprised of multiple roles (with corresponding Entry Points). However, the order of the menu items can be defined (using the Attribute Priority).

Additionally, SAP provides an Internet platform that offers a selection of ready-to-use portal contents in a general catalog that can be imported into the Portal Content Studio. SAP calls these out-of-the-box solutions SAP Business Packages. Partners and other software manufacturers are able to provide solutions and/or interfaces based on this platform and have them certified by SAP (SAP offers a certification program especially designed for these solutions). The iView list for the so-called Portal Content Portfolio (formally iView Studio) includes thousands of iViews.

The SAP Portal Content Portfolio can be accessed here:
<https://www.sdn.sap.com/irj/sdn/developerareas/contentportfolio>

In many aspects, the tools and capabilities of the Portal Content Studio are comprehensive and advanced yet they are not sufficient for comprehensive Web Content Management. First and foremost, the Portal Content Studio supports the establishment of role-based navigational structures and the definition of portal pages on which iViews can be positioned and arranged. This method of content creation is comparatively complex and not suited for the daily business of an editor, who is typically less involved in changing content structures and more involved in changing the content elements contained therein (text, graphics, flash files, links, documents, etc.). Pragmatic methods and simple mechanisms are desired for the management of this content. The material in the content-based iViews must be freely definable through simple and intuitive means and editors should be able to create content themselves.

The SAP Knowledge Management (KM) component is available for storing content and documents in SAP NetWeaver™. The content to be presented can be stored and managed via a folder structure that must be managed parallel to the Portal Content Directory. However, in the standard feature set of the SAP NetWeaver™ Portal, the KM folder where this content is later to be saved must be defined for every content-based KM iView. An automatic link between the current role position and the KM location is not created. Simple shifting between read and edit mode is another feature that is not available in the standard version despite the fact that this functionality is extremely important for editors.

Despite the multitude of existing functions, the standard SAP NetWeaver™ Portal offers insufficient capabilities for comfortable Web Content Management. Editing capabilities for XML forms, so-called docs iViews, URL-iViews or TRES searches are offered but their use is anything but intuitive and involves a great deal of administrative expenditure. This makes a high level of knowledge in building web content within the SAP NetWeaver™ Portal a prerequisite. Above all, there are little or no possibilities for using Web Content Management functionality such as the construction of generic content structures, link management, multi-language support or a navigational context available from the search results without the relevant programming or HTML knowledge.

This is where an enhancement from btexx business technologies GmbH, the Business Package easyWCM for Web Content Management in SAP NetWeaver™ Portal comes in. It uses the Portal Content Studio as a central tool yet significantly accelerates editing processes. It allows content elements to be linked effectively with portal objects that are created automatically through the use of easyWCM iViews. Every authorized user can create, publish and edit information.

This Business Package automatically stores the content elements in the KM component assigned in the navigation structure in the background and makes them available for further editing on portal pages, greatly simplifying subsequent content management work. This is why the editor no longer requires technical knowledge of where the content is stored in the KM. Thanks to easyWCM, both the editor and the end-user work with the same portal role and costly multiple management of the navigation and content storage structure is unnecessary. Using the "Inplace Editing" feature, the editor is able to edit content directly on the portal pages on which the content is presented and visualized.

The Business Package is based 100% on the SAP NetWeaver™ Portal and Knowledge Management Components; no third-party servers or additional software products are required. The portal server is solely responsible for providing the runtime platform.

A third-party Content Management System may be able to offer a larger selection of features than easyWCM but implementing and operating the additional solution will require a great deal more resources. The easyWCM Business Package for the SAP NetWeaver™ Portal provides Web Content Management simply and effectively while supporting the following essential requirements:

Complete integration for SAP Portal Content Studio

An editor does not need any tools other than the SAP Portal Content Studio. The desired navigational structures are provided as SAP portal roles in the SAP Portal Content Studio - the application of easyWCM iViews is thereby possible anywhere within portal roles, worksets and pages. The main advantage of this solution is that the editors enter content in a single environment in which all web content and navigational structures are stored and administered.

Inplace editing:

End-users and editors work with the same portal roles. Therefore, no separate portal roles for providing and maintaining the content are required! As an editor, easyWCM iView offers you the ability to add and work on content components directly within the portal (Inplace Editing). Furthermore, the editor is able to use SAP KM standard functions (e.g. authorization assignment, workflow, feedback, rating, etc.) directly within the content component.

Automatic creation of KM folders

A general standard is that everyone must indicate the respective KM file path in which the content components are to be stored. This requires a great deal of effort when maintaining portals with a large number of web content elements. easyWCM automatically produces the necessary listings with the desired KM authorizations at runtime and simultaneously activates the desired KM services (life span, manual arrangement, history, workflow). During shifting or copying processes in the SAP Portal Content Studio, the elements are automatically moved and copied within the KM!

Preview functionality from Portal Content Studio

A preview function for each form is easily accessible with a single click. It is also possible to preview items directly from the Portal Content Studio in order to view the complete portal page, for example. easyWCM iViews were designed in a way that also enables users to enter and edit content directly from the SAP Portal Content Studio preview function.

Multiple use of content elements

easyWCM iViews may be adjusted in such a way as to allow content to be used more than once. Using this option, the content is not stored by the role and/or page, but is linked centrally within the easyWCM iView. The multiple use of content components is important, for example, if the right column of the portal presentation is exactly the same for several pages (e.g. for contact data, partners, advertisements, etc.).

Approval workflow

If desired, the SAP KM approval workflow may be activated in order to manage content elements. Changes to content elements will only be visible after the approval. All XML forms provided by easyWCM support the SAP KM approval workflow and indicate the permission status by using traffic lights.

Version management

If desired, the SAP KM version management may be activated in order to manage content elements. An editor with the proper authorization can specify the portal pages on which version management should be activated. When version management is activated, it is possible to replace older content components or to cancel incorrect modifications. With each change, a new version is automatically stored and documented including the date and the person who made the change.

Life span

If desired, the SAP KM life span function may be activated in order to manage content elements. An editor with the proper authorization can specify the portal pages on which the life span function should be activated. Activating the life span function makes it possible to publish a content component for a specific period (this is useful for news or events, for example).

Authorization-based search functionality

The SAP NetWeaver™ standard component TREX is used for the search function. One of the key advantages of easyWCM compared to external WCM solutions is that the search is implemented completely on the basis of the SAP NetWeaver™ platform and, in particular, that it is dependent on the authorization status. A separate search machine with its own user and authorization administration is not required.

Multi-language support

easyWCM automatically detects the language of the editor and stores the content in separate folders. Folders for content in different languages are created based on the active portal language.

Ready-to-use forms and pages

easyWCM contains a set of immediately useable portal roles and pages which may be used for your desired menu structures and page layouts. As such, easyWCM provides the ability to create and maintain Internet pages without special HTML programming knowledge. easyWCM also contains more than 30 XML forms based on the XML forms builder (SAP standard) which can be used for content creation. These XML forms may also be custom designed to fit your needs.

Personalized user interface

easyWCM determines the user interface depending on portal authorizations of the user/editor and the corresponding authorizations of the respective KM folders. The easyWCM package contains different KM layout sets which may be activated via customization, if desired. Working on content is simple; an editor with the appropriate KM write permissions receives access to all the necessary processing functions by using a special symbol in the author's KM layout set for submitting approvals, version administration, editing, etc.

You will find additional information along with demonstration videos on the solution presented here at: <http://www.easywcm.de>

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