

ENTERPRISE INFORMATION PORTAL:

A new Paradigm in Resource Discovery

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ABSTRACT

Portals represent a wide variety of information. As organisations try to leverage more and more internal and external information and knowledge assets for competitive advantage and developing core competencies, variants of custom developed portals have burst on the scene. Enterprise Information Portals (EIP's) have started acting as the gateway to the Implicit and Explicit knowledge assets for organizations. This paper intends to discuss the evolution, benefits and architecture of an EIP. In the end the future roadmap for EIP's is also outlined.

INTRODUCTION

The final years of the twentieth century have been widely acknowledged as the dawning of the knowledge age, an era in which organisations and communities are flooded with knowledge, information and data. The effective harnessing of these is essential to the continued success and existence of the organisation. Exponential

expansion of communications network has changed dramatically the way of doing business in the last two decades. The world has moved from an industrial to a service economy, and now to a knowledge economy.

The industry is buzzing with talk of Web services and their potential impact on business strategy. Web services are appealing because they aim to simplify the integration of back-end systems, and allow the Internet, as a network backbone, to be leveraged to its full potential. While much is being discussed about the operating and security platforms that will support the rollout of Web services, it is the portal that will most probably be one of the real killer applications of this computing model.

The most daunting challenge facing business management is delivering information to the virtual organization worldwide — information anytime, anywhere, and on any device. Web technologies are the foundation of today's intranets and over the past six years business, government, and education have discovered the power of these technologies as a new computing paradigm for information sharing and collaborative computing. The Enterprise Information Portal (EIP) represents a significant evolution in the advancement of the organisational Intranets and Graphical User Environments (GUE). EIP technologies are rapidly becoming the foundation for many Business-to-Employees (B2E), Business-to-Consumers (B2C) and Business-to-Business (B2B) e-commerce initiatives. As a powerful enabling technology, the EIP 's ability to aggregate information and enterprise applications into a Web-enabled GUE facilitates many strategic organizational initiatives including collaborative e-commerce, Customer Relationship Management (CRM),and Knowledge Management (KM)— including intellectual capital management and the development of communities of interest/best practice.

Enterprise information portals are bringing together the worlds of business intelligence and knowledge management into a new, centralised desktop environment —the knowledge portal. In the millennium, the knowledge portal will play a key role in empowering the virtual enterprise and employees by providing a personalized single point of access to all relevant information — enabling better, faster-decision making. EIPs, or knowledge portals, are also beginning to help organizations capture and leverage their intellectual assets by facilitating assembly of communities of interest, best practice, and expert systems within a single, intuitive, Web-based user interface. The EIP should be viewed as an evolving technology platform, and in the future EIPs will incorporate streaming video and audio to include e-learning and e-training components, thereby potentially reducing overall organizational training costs.

MEANING

In Latin, "portal" means a door or gateway. Enterprise Information Portal is a gateway to better, faster, smarter business decisions. A portal provides an integrated and personalized Web interface to the information, applications, and expertise required by business users.

An **Enterprise Information Portal** is an application that enables a company to unlock internally and externally stored information, and provides internal and external users with a single gateway to personalized information needed to make informed business decisions. Enterprise information portals integrate access to data, information and applications, and present it to the business user in a useful format. The portals are used by the business user, but include IT administration tools, and have some level of the following functionality native to them:

- Role-based or rule-based administration,
- Collaboration,

- Content Management and search, and;
- Access to structured data such as user query and reporting.

DEFINITIONS

According to Shilakes and Tylman, "Enterprise Information Portals are applications that enable companies to unlock internally and externally stored information, and provide users a single gateway to personalised information needed to make informed business decisions". They are: ". . . an amalgamation of software applications that consolidate, manage, analyze and distribute information across and outside of an enterprise (including Business Intelligence, Content Management, Data Warehouse & Mart and Data Management applications)." ¹.

Colin White defines an EIP simply, as providing "business users with a single web interface to corporate information scattered throughout the enterprise" ²

EIPs, according to Viador, are "applications that enable companies to provide access to internally and externally stored information, and offer users within and external to the enterprise a single window to personalized information needed to make informed business decisions. An Enterprise Information Portal is a browser-based system that provides ubiquitous access to vital business information in the same manner that internet content portals like Yahoo are the gateway to the wealth of content on the web." ³

Sqribe, Inc. defines the EIP as an "automated information gateway that delivers information to users based on their level of security, job, and interests". ⁴

NEED FOR EIP

An enterprise information portal (EIP), a vessel in which a company can aggregate online content and applications, serves employees broadly, in contrast with point solutions that serve individual groups such as sales, R&D, customers, or partners.

There are many compelling arguments for implementing an EIP, most of which focus on cost savings. But widespread adoption is the key to success.

From an IT perspective, an EIP enables an enterprise to consolidate the sometimes hundreds of rogue internal Web sites and, so doing, reduce hardware, maintenance, and support costs for such sites.

From a corporate communications perspective, an EIP can efficiently disseminate a message to a broad base of employees in a consistent way. Early adopters of corporate communications-driven EIPs have seen significant employee adoption during times of internal change, such as during a merger or a change in corporate leadership; but that adoption level is not often sustained:

Employee participation drops when the period of transition has passed. The benefits associated with IT cost savings and corporate messaging risk being hollow if employee adoption is poor and if the EIP is unsuccessful in fostering long-term adoption.

BENEFITS OF ENTERPRISE INFORMATION PORTAL

An enterprise portal transforms a general-purpose PC into a self-service desktop that provides users with a quick, flexible gateway to corporate data. The enterprise portal's most significant benefit is supplying relevant knowledge to facilitate decision-making.

The main benefit of a corporate portal is the increased employee productivity that results from the following improvements:

- Organized and structured information, which is easier to navigate
- Quick access to relevant personalized news, information, services, applications, and documents
- A highly interactive and personalized interface that provides targeted information based on employees' roles and preferences
- Enhanced search capabilities that reduce the amount of time necessary to find sought after information
- Filtered, targeted, and categorized information so users receive just what they need.⁶
- Leveraging intranets and extranets. The portal aggregates, categorizes, and delivers pertinent content to critical business audiences while, lowering operating costs, increasing sales, facilitating better customer service, and making the supply chain more efficient.
- Built-in security. Because individual users must be authorized, enterprise portals offer another level of corporate security.
- Support of multiple corporate functions. The enterprise portal unifies disparate parts of the enterprise, including accounting, forecasting, and marketing.
- Competitive advantage. Without an enterprise portal, valuable information is locked away in poorly integrated data repositories. Only companies that can access timely information on markets, sales performance, and customer satisfaction via an enterprise portal can develop an advantage over competitors.

ENTERPRISE PORTAL BUILDING BLOCKS

While the defining characteristics of Enterprise Information Portals continue to evolve, a number of common functional components serve as essential building blocks. These include (but are

certainly not limited to): *Content Management, Application Integration, Data Access and Reporting, Collaboration, Personalization, Search, and User Management and Security.*

Content Management

Content management facilitates the processes of creating, using, storing, indexing, and retrieving primarily *unstructured* information, historically in the form of office productivity documents (MS Word, Excel, etc.), images (logos, brochures, CAD drawings), email messages, project plans and other binary and text documents. These documents generally possess no intrinsic meta data, and can be stored virtually anywhere within the organization – from the creator's desktop PC, to network file servers and floating laptop computers.

Increasingly, content management concerns itself with the *workflows* employed to create documents, as well as document *components*: the granular elements of a document, separated from their structure and presentation. The goal of current content management practices is to support a wide variety of access devices—standard web browsers, micro-browsers (found in cellular phones and palm-top devices), server peers, and search engines—without additional device-specific formatting.

Content management systems often serve as the backbone of large web sites, provide version control and site management facilities, and may act as integration points for external sources of unstructured data through syndicated news and information services.

In a similar vein, *knowledge management* systems attempt to capture the tacit information embedded in an organization, and make it explicit. Much of an organizations information capital is unwritten and undocumented, and is instead filed away in the minds of its employees. Knowledge management employs tools intended to entice employees to document what they know, and then store this explicit information in repositories that are highly searchable, and widely shared.

Business Intelligence Applications

While Content Management Systems serve *unstructured* data, Business Intelligence Applications (Data Marts, Data Mining, OLAP, Query and Reporting products) aid organizations in discovering actionable business information in their *structured* data systems. On the whole these are large, complex and often expensive products, increasingly fronted by web browsers which serve to increase the potential for information distribution.

Together, these product segments provide access to enterprise data, presentation services, business analytic services, multi-dimensional views and complex pattern analysis and trending capabilities, all with increased user efficiency and less impact on production systems.

Business Intelligence Applications increasingly employ web-derived technologies (through various APIs, XML and other data “hooks”) in both their access and presentation service layers, making them excellent targets for incorporation into the Enterprise Information Portal.

Collaboration

Collaboration among teams and workgroups is among the most critical of business practices, and yet it proves an elusive goal for organizations with the highest operational capabilities. Much of the effort of today’s “knowledge worker” revolves around teams, and team-based activities: shared projects, discussions, calendars and ideas.

Collaboration is the root-stock of the Internet. Web-based collaborative tools exist in many forms: email, threaded discussion groups, chat, and instant messaging – each with its distinct factors for persistence, search and archival capabilities and immediacy. The number and variety of these tools may lead to yet another issue: how to choose? A single worker may have a number of collaborative tools

at his disposal, and may be unaware of the both tools and the preferences of the other members of the team.

Hosting collaborative tools on the Enterprise Information Portal can solve the “which tool?” dilemma, while at the same time providing a means of ensuring that ideas and concepts are not “lost” to applications that afford little persistence. Portal-based collaborative environments play a fundamental role in knowledge management, by capturing tacit information, and making it both explicit and durable.

Personalization

Personalization comes in many forms—from simple name recognition, to checkbox-based profiling, to advanced collaborative filtering and dynamic rules engines. Typically personal and preference data is saved to the individual user’s profile, where it can be referred to by dynamic pages and applications alike. In terms of functionality, personalization can provide user-customizable interfaces and “themes” at a very basic level. More advanced personalization systems allow for content filtering and prioritization, customized access to frequently-referenced data, even timely notice of relevant events, or notification that new materials and updated documents are available.

Personalization plays a significant role in the user’s experience, and can make or break a portal application in terms of its usability. As a rule, applications that are difficult to use *are not used*, or are used only ineffectively.

Search

If there were but a single phrase to sum up the collective frustrations of our information age, it would probably read, “I know it’s here... somewhere.” While nearly every desktop productivity tool, and many of our enterprise systems incorporate index and search capabilities, tools that serve only specific data stores are inadequate to the task.

The Enterprise Information Portal is uniquely suited to host unified search and taxonomy services that span multiple data stores, web sites, collaborative applications and other unstructured data sources. Portal-based directories can supplement key-word and conceptual searches by offering a hierarchy of subjects that can be casually browsed, or used to narrow a search domain.

Search results can be made more relevant by matching application-specific meta data to user preferences, and by employing search agents that crawl Enterprise file systems and data stores, automatically generating taxonomic classifications for the documents they discover.

User Management and Security

Security is a necessary component of the Enterprise Information Portal. It's clearly important to safeguard access to sensitive and strategic information assets. Equally important is the ability to share user credentials between multiple applications – even if the applications themselves aren't integrated.

A policy store with delegated administration capabilities can provide single user sign-on capability, while maintaining flexible user rights / roles definitions. Users log in once to access information on multiple applications, on multiple servers, across multiple platforms. The result is a higher quality user experience, personalized content, lower administrative costs, and simplified password management for large groups of user.⁷

FUTURE

By simplifying information access and by providing an organised view on mission-critical data, an organisation can streamline its operations and increase user productivity. Improved efficiency of business processes can be achieved through greater collaboration and knowledge sharing. The ability to make better

informed and faster decisions, enabled by access to up-to-the-second data will also impact competitive advantage.

With the buzz around Web Services, the portal is destined to share some of the spotlight. And as companies prepare for their Internet future, portals must become an integral part of an organization's business strategy, as they become the essential and ubiquitous information access tool.

Within a decade, enterprise businesses would move into the fourth generation era where they will be characterized by their ability to maximize the use of automation in every business process. Use of Enterprise Information Portal or EIPs will be a characteristic trait of the transformed enterprise as EIP is part of a technical evolution that reveals itself as a unified window to islands of information sources including applications where business process integration and EAI are the fundamental building blocks.

Huge investments made into EIP are often substantiated by high ROI promises. But it is a daunting task to make the EIP architecture competent to provide better ROI. The customization of Intelligence, Collaboration, Personalization, and Categorization components of EIP along with its fitment on the right architecture platform forms the success of EIP implementation.⁸

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