



International Journal of Advanced Research in Computer Science and Software Engineering

Research Paper

Available online at: www.ijarcscse.com

Enterprise Content Management on Cloud

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Abstract-- At present, the attention of many organizations concentrates on the Enterprise Content Management (ECM). Unstructured content grows exponentially and ECM system helps to capture, store, manage, integrate and deliver all forms of content across an organization. Today, decision makers have possibility to move ECM system to cloud and take advantages of Cloud Computing. Cloud can reduce fixed IT department cost and ensure fast ECM implementation. It is important to understand all possibilities and actions during the implementation. ECM is dynamic mix of technologies adding multifarious business need by disruptive technologies such as social, mobile and cloud analytics. ECM mostly designed for government, corporations and media publisher etc. To streamline the workflow while enhancing the online experiences of user product increased productivity. ECM enables to systematically manage the content and makes it simple to find, govern, use and share in an organizations process. Enhance the collaboration and increase compliance with workspaces to work together efficiently.

Keywords: WCM, ROI, multifarious business needs, Disruptive Technology.

I. INTRODUCTION

For many organizations, the challenges of surviving global market often seem overwhelming. One of most time-consuming and costly tasks a company faces in dynamic business environment is translating all its web and print documents. The rate at which the information is generated, transmitted and utilized in an organization is generated, transmitted and utilized to manage information.

Enterprise Content Management in Business

In large business, information is created, shared, edited and stored at a fast pace. With this heavy flow of content, it is easy for documents to become lost, deleted, changed or distributed without proper approval. An enterprise content management system manages all company's content in one central location, making it easy to share, store, protect and control important information. With an enterprise CMS, can convert physical content into digital content.

Most enterprise CMS solutions label documents using keywords and more easily to find the company content. Using full text-search capabilities, and easily find documents for special cases.

Enterprise Content Management Looks

The system should be easy to use with powerful workflow solution that makes creating, editing, and sharing content to simple process. Strong security features are also to ensure any confidential information is not accessed or distributed illegally.

Management and Collaboration

The primary purpose of an enterprise CMS is to manage company's documents. The best solutions provide metadata management options, allowing finding documents by searching keywords instead of sorting. Select full-text search capabilities, meaning the program can search entire documents for keywords.

Document Tools and Integration: Document management gives full access to view and making any necessary changes to companies' documents. Document management system allow to collaborating with other employees to edit document asynchronously.

Security and Compliance: Security is critical when working with the confidential information. The best systems set permission not to access documents, also allowing specific employee to check documents in and out of the system. Additionally, the most capable enterprise CMS solutions offer auditing options. With auditing options can track to whom the documents are shared. It shown in figure.1

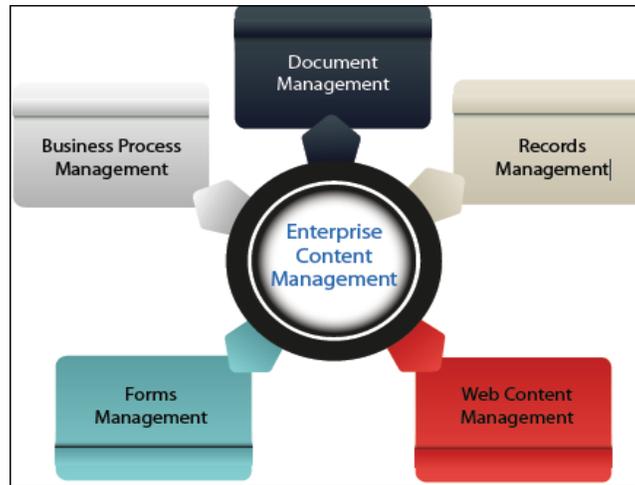


Fig:1 Describe ECM

ECM is to ensure various information places and effectively integrated with the required technology. The rate at which information is generated, transmitted and utilized in an organizations have to devise a way to manage information in order to be readily available to customers, they can use when it needed.

Integrated content management is manifested in such a way that organizational issues such as cost decrease, automated process, reduction of resources to share content effectively, minimizing the number of lost documents and risks management is controlled.

Enterprise Resource Planning (ERP)

The systems and other Information Systems are unable to exchange workflow information easily resulting in a lot of unstructured data being re-keyed manually elading to errors, inaccuracies and duplications.

Document Management

Document Management (DM) use of computer system and software to store, manage and track electronic images of paper based information captured through the use of document scanner or mail. The term document is defined as “recorded information or an object which can be treated as unit”. DM system allows documents to be modified and managed the lack of records and disposition functionality for managing records.

1. Check in/ Checkout and locking
2. Version Control

Records Management

RM as the field of management responsible for efficient and systematic control of creation, receipt, maintenance, use and disposition of records, including the processes for capturing and maintaining information about business activities and transactions in forms of records.

Business Process Management (BPM)

BPM is controlling the processes that are present in an organization. It is an effective methodology to use in times of crisis to make certain processes for efficient and effective result for an organization.

ECM Objective

ECM System aims to combine the functionalities of the Web, content management and to systematically incorporate not only traditional publishing activities but e-mail, financial records, human resource, documents, etc., for an entire organization. Organizations are adopting the Enterprise Content Management Systems as a strategic investment with the intention of improving the supporting activities of their business processes.

Enterprise information is increasingly growing and as such distinctions among various forms of data are becoming obvious and irrelevant. In response to these problems, ECM seeks to manage organizations information.

Emerging content collaboration tools are disrupting the management of company information. End user adopts content collaboration technologies such as Drop Box to easily access and shares information between colleagues and partner. Such tools expand the file share interface, previously limited by security controls and firewalls to a self-service model extends the company controls.

Business content originates within the enterprise and helps workers complete day-to-day tasks and share ideas. Business content includes familiar formats such as office documents, presentations, spreadsheets and multimedia.

II. IMPLEMENTATION

To provide the Enterprise Content Management and PAAS have to implement the cloud environment. The cloud environment has 5 layers also called as modules. The enterprise architecture has been figure out below Fig 2.



Fig:2 Architecture diagram

Implementation is most crucial stage in achieving a success and giving confident to new user. ECM solution and assure an efficient usability. ECM systems are tightly bounded with company's business processes. It is not enough to cover cultural change issues in implementation plans; cultural transformation must be actively and effectively management by service provider.

IaaS- Infrastructure as a Service- OpenStack Open Stack Used in Cloud Environment

Cloud is providing computing for end users in a remote environment, where the actual software runs as a service on reliable and scalable servers rather than on each end users computer. Cloud computing can refer to lot of different things, but typically the industries running about different items "as a service"—software, platforms, and infrastructure.

Infrastructure means that Open Stack makes it easy for users to quickly add new instance, upon which other cloud components can run. The infrastructure then runs a "platform" upon which a developer can create software applications and delivered to the end users.

PaaS- Platform-as-a-Services: Cloud Foundry

Cloud Foundry is providing a choice of clouds, developer frameworks and application services. Cloud Foundry makes it faster and easier to build, test, deploy and scale applications. It is an open source and available in a variety of private cloud distributions and public cloud instances.

Cloud Foundry is a cluster of VMs/Services working together inside of OpenStack tenant. Multiprogramming language and services supported. Language runtimes like Java, PHP, Ruby, Node.js and Perl. Attached non OpenStack services such as Mysql, PostGre, Rabbitmq, Redis, cache.

It clearly defines and provides a PaaS that will run very well on any OpenStack deployment. Stackato has shown that Cloud Foundry will also work equally well on any infrastructure such as Amazon EC2, Cloud Stack, vSphere or KVM.

Use of Cloud Foundry

Cloud foundry is ideal and complexity of configuring infrastructure for their applications. It allows developers to deploy their applications to cloud foundry using their existing tools and their modification of their code.

III. PORTAL SERVER: LIFERAY

Introduction:

Liferay Portal is an enterprise web platform for building business solutions that deliver immediate results and along long-term value. Liferay is extremely flexible in its deployment options. Liferay provides servers application bundles. It pre-configured application servers with Liferay and made into production-ready systems.

A bundle is an application server with Liferay preinstalled. Liferay is bundled with number of application servers, otherwise start with Tomcat bundle, a Tomcat is one of the smallest and most straight forward bundled to configure.

Liferay Database grants User ID full access to it. Liferay use user id to create its indexes and tables automatically. Liferay's ability to automatically maintain its database during upgrades or creates table of their own.

Portal:

Portal is a term, which is gateway for World Wide Web site or proposes to be a major starting site for users when they get connected to the web. Large number of access providers offer portals to the web for their own users. Most portals adopted Yahoo style of content categories with a text-intensive, faster loading page. Companies with portal sites attracted much stock market and viewed as able to command large number of advertising viewers.

Portlets:

Portlets are managed and displayed in a web portal. Portlets produces fragments of markup (HTML, XHTML, and WML) code that are aggregated into portal. Portal page is displayed as collection of non-overlapping portlet windows, where each portal window displays a portlet. Hence portlet resembles as web-based application hosted in a portal. E.g.: email, weather reports, discussion forum and news.

Introduction to Java Standard Portlets

Portlets are small web applications that run in a portion of a web page. The main portion of any portal implementation is Portlets, because Portlets are where the functionality of any portal resides. Liferay's core is a portal container, and the container is only responsible for aggregating the set of Portlets that are appears in any particular page. Portal applications come generally in two flavors:

1. Portlets can be written to provide small amounts of functionality and then aggregated by the portal server into a larger application
2. Whole applications can be written to reside in only one or a few portlet windows. With Liferay, developers are free to use all of the leading frameworks in the JavaEE space, including Struts, spring, and Java Server Faces.

Cloud Controller

Cloud controller is responsible for managing the lifecycle of applications. When a developer push an application to cloud foundry, that targeting the cloud controller. The cloud controller then stores the raw application bits, creates a record to track the application. The cloud controller maintains records of orgs, spaces, services, service instances, users' role and more. Database services: are deployed outside it, plan infrastructure with high availability.

Authentication Authorization

OAuth2 provider, the UAA issues tokens for client applications to use when they act on behalf of Cloud Foundry users. The UAA can also authenticate users with their Cloud Foundry credentials, and can act as an SSO services.

Applications can bind to services such as databases, messaging, and key-value stores.. An application can only bind to a service that has an existing instance in the target application space.

Content Management – Alfresco

Alfresco provides modern software built on open standards that unlock the power of business-critical content. Alfresco's open source technology enables global organizations to collaborate more effectively across cloud, mobile, hybrid and on-premise environments. The intersection of content, collaboration and business process, alfresco manages over documents. Improve business process, eliminate information silos and experience smarter enterprise content management.

Alfresco is not yet a full Web Content Management like Joomla or Drupal, but a ECM. Alfresco is a general purpose content repository with content management services. It can manage all business documents and transform them in web-ready formats and categorize them linking into overall site and index pages.

Lower risk:

Alfresco offers single repository for all electronic documents, workflow portfolios and other unstructured content – reducing information and redundant data. Unified management of all electronic files reduces maintenance; leverages single content standards and remove end-user complexity and versioning error.

Compliance:

Alfresco platform simplifies record keeping, and its automated document retention and destruction models enables repository compliance created by them. Alfresco also fully provides and automated routines that convert document from proprietary format such as PDF /ODF.

Business Process:

Existing organizational workflows and provide BPM capabilities that can reduce the decision cycle times and increase productivity.

Cost-Efficiency:

Alfresco subscription based model covers all upgrade and maintenance, based on number of server rather than concurrent users, it is easier and most cost effective to scale. Alfresco is also virtualization and cloud-friendly and enables secure mobile access and collaboration for cloud-based content.

Agility and flexibility

Alfresco enables applications to be quickly built, deployed and modified by avoiding vendor lock-in to choice opportunity to existing technologies with platform to deliver a complete ECM solution. Open and modern BPM platform allows flexibility for automating, customizing and rapidly adapting business processes. Support for on-premise and in the cloud options ensures flexibility of process deployment and execution.

Phone Gap

Phone Gap is a mobile development framework; it enables software programmers to build applications for mobile devices using JavaScript, HTML5 and CSS3, instead of relying on platform-specific APIs like iOS, Windows Phone, or Android. It extends the feature of HTML and JavaScript code depending upon platform devices.

Applications are hybrid; they are native mobile application and not purely web-based. Software using in phone gap is Apache Cordova. The software are previously called phone gap or apache callback.

Hybrid App

A hybrid application is one that has features of both a web application and a native application. Certain features, such as Image Capture, NFC or Android Open Accessory, may be implemented natively since there is currently no way to do this in JavaScript. But the application logic and the UI are implemented using web technologies to allow for a consistent and unique user experience across devices.

IV. CONCLUSION

As organizations struggle to manage an ever-growing volume of unstructured business data, they need to develop a strategy for effective content management applications across the enterprise. A Cloud ECM platform makes it possible for companies to overcome the high development and maintenance costs, administrative complexity, and barriers to adoption of traditional, deployed ECM software solutions.

The emergence of cloud platforms as secure, stable, enterprise class solution providers mean that organizations can now deploy multiple ECM applications cost-effectively throughout the enterprise without adding new hardware, software resources.

ECM component—document management, records management, Web content management, and forms management. Organization provides with an overall solution that addresses a number of use cases and reducing time it takes for return on investment. While ECM may seem like a daunting task at first glance, organizations offer ECM. It becomes integral business processes and a valuable contributor to business success.

V. FUTURE ENHANCEMENT

The rise of cloud computing, social networking and mobile usage is dramatically changing the way, and major implications for the management of enterprise content. The users need to share information easily with collaborators, and they want to access their content anytime, anywhere and using any device. While delivering content to range of devices, organizations need to ensure users for security of their content.

. Major challenges for users to work offline with the content and they are not connected to network, smart phones and tablets are the key and convenient platforms for users to work with enterprise content in offline.

In future hybrid ECM is right model for Enterprise solutions. It is enterprise solution for mixed deployment environments. ECM is tightly coupled to the applications that consume enterprise content. It's difficult to move ECM to cloud when applications continue to run behind the firewall. A hybrid ECM is right solution for cloud based applications such that mobile user can enhance collaboration without distributing existing production applications.

ACKNOWLEDGEMENT

I have taken efforts in this project. However, it would not have been possible without the kind support and help of many individuals and organization. I would like to extend my sincere thanks to all of them.

I am highly indebted to Sri shakthi institute of engineering and technology and Mrs. N Saranya for their guidance and constant supervision as well as for providing necessary information regarding the project and also their support in completing the project. I would like to express my gratitude towards my parents and member of Sri Shakthi Institute of Engineering and Technology with kind co-operation and encouragement which help me in completion of this project. I would like to express my special gratitude and thanks to industry persons for giving me such attention and time. My thanks and appreciations also go to my colleague in developing the project and people who have willingly helped me out with their abilities.

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