



TECHNOLOGY AUDIT

Nuxeo Enterprise Platform v 5.3x

Nuxeo

SUMMARY

IMPACT

Nuxeo Enterprise Platform (EP) is an open-source enterprise content management platform that provides a foundation for organizations to deploy applications. It is ideal for medium-sized to large enterprises across a wide range of horizontal and vertical markets. The company's strategy involves developing horizontal solutions such as Nuxeo Document Management, Nuxeo Digital Asset Management and Nuxeo Case Management Framework, and vertical solutions such as Nuxeo NewsWave, solutions for education, and DAM for intelligence agencies.

- Nuxeo EP will help organizations to build ECM applications to enable them to manage growing volumes of content and ensure that they are compliant.
- This solution will benefit organizations that have a need for transactional or content-centric processes.

KEY FINDINGS

Strengths:	<ul style="list-style-type: none">✓ Nuxeo Enterprise Platform is a modular product that comprises a range of enterprise content management (ECM) features, which are delivered as services.✓ Nuxeo Studio provides a hosted web-based configuration and customization environment.
Weaknesses:	<ul style="list-style-type: none">✗ Full records management will not be available until late 2010.
Key Facts:	<ul style="list-style-type: none">i Licensing costs are much lower than for a proprietary ECM platform.i As an open-source solution Nuxeo EP benefits from a large community of developers.

OVUM VIEW

Nuxeo EP provides the core features expected of an ECM platform, including document management (DM), DAM, collaboration, business process management (BPM), and web content management (WCM). It addresses the need to manage and monitor the entire lifecycle of content, from creation through to policy-based storage for rapid retrieval and reuse, which has become imperative in today's information-driven business environment. A strength of Nuxeo EP is its DM capabilities, which enable organizations to manage the lifecycles of large volumes of information. However, a weakness is the lack of records management (RM) functionality, although this is currently in development and the company expects to submit the product for Department of Defense (DoD) certification towards the end of 2010. Other future developments include the first launch of Nuxeo Structured Documentation Server (SDS), which will meet the requirements of technical documentation creation and assembly, including fragment management, XML content, and DITA.

Recommendations

- Nuxeo EP is ideal for organizations that are committed to open source solutions, require a solution that is easy to implement and use, and have the skills to create their own applications that sit on top of the ECM platform.
- Nuxeo EP will suit small companies that require packaged solutions and do not have the necessary skills to develop their own applications.
- For organizations that have already implemented Nuxeo EP, the product should continue to provide value for money, particularly as there is a large community of code contributors, which organizations can draw on as required.

FUNCTIONALITY

SOLUTION OVERVIEW

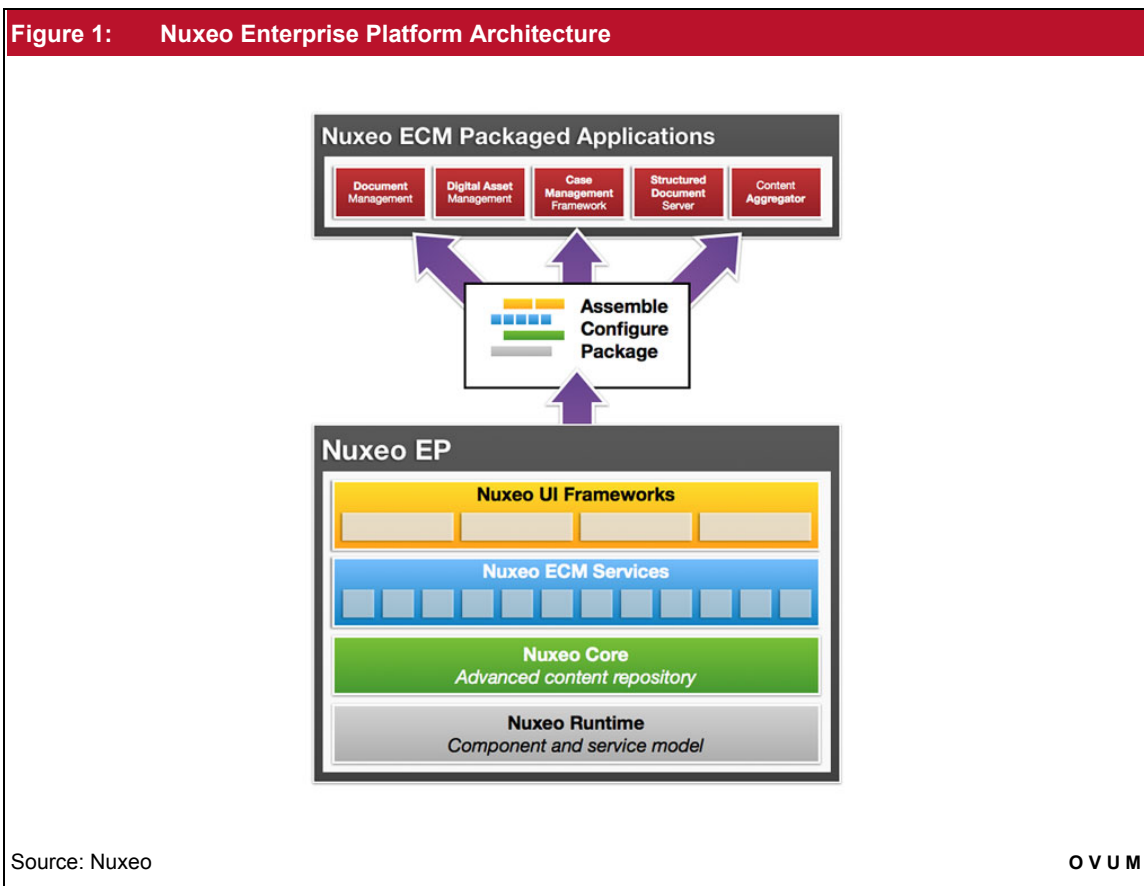
Nuxeo Enterprise Platform provides a foundation on which organizations can build and deploy content applications. It is a modular product that comprises a range of ECM features, which are delivered as services. These features and services can be combined to create content-centric applications that address specific horizontal or vertical business needs. Nuxeo provides two packaged solutions, Nuxeo Document Management and Nuxeo Digital Asset Management, with more in development.

The key areas of functionality Nuxeo offers are:

- basic library services
- document management
- digital asset management
- case management support.

SOLUTION ANALYSIS

Architecture



Nuxeo EP is a Java-based platform that comprises a set of generic components and services distributed in three layers. The Nuxeo Core, along with the content repository, forms the foundation. It can implement the JCA (Java EE Connector Architecture) to plug itself into third-party applications (for example, an RCP Eclipse application) and information systems. Nuxeo Core provides all the necessary low-level services to define, store, manage, audit, request, and search content. It also offers basic library services such as the query engine, access control, policy enforcement, content model, versioning, lifecycle management, audit trail, import/export, and metadata extraction.

The Nuxeo Service Platform (SP) sits on top of the Nuxeo Core to form Nuxeo EP, and offers high-level web services-based interfaces – SOAP, representational state transfer (REST), and Web-based Distributed Authoring and Versioning (WebDAV) – to Nuxeo Core. There are both low- and high-level services within the solution. Document lifecycle management is one of the core capabilities Nuxeo EP offers.

Lifecycle management essentially means identifying and tracking the phase or state of a document (from creation to approval to publishing) within a predefined business process or workflow. While Nuxeo Core does not provide an embedded workflow engine, it provides a generic way of defining document lifecycles, how the document properties are related to its lifecycle, and so on. This is a low-level service. A workflow engine (high-level service) is deployed alongside the Nuxeo Core. It leverages the API exposed by Nuxeo Core to define a workflow and set the document's lifecycle properties.

Based on the nature of the implementation and the context of Nuxeo's ECM solution in a production environment, Nuxeo EP proposes different technologies to implement the client side of the application. Available clients are the JSF client, Nuxeo WebEngine, RCP, GWT client, Flex client, and Nuxeo Shell.

Document management and collaboration

Document management is one of the packaged solutions provided with Nuxeo EP. It enables users to manage the complete lifecycle of content from creation or capture to destruction, and includes features expected of a document management system (check-in and check-out, version control, and fully customizable workflows to manage approvals, review, and revisions). Users can find, use, share, and secure content. Included is a virtual navigation axis with metadata, BPM, saved queries customizable user dashboards that include support for OpenSocial widgets, support for Microsoft SharePoint WSS protocols, document rendition and transformation annotations on documents, publishing and remote publishing, email fetch and capture, notifications, and content tagging. In addition, support is offered for standards such as Dublin Core (a commonly used metadata standard) and the new content management interoperability standard (CMIS), which enables integration with other content management solutions.

There are various methods with which users can capture content, including drag-and-drop from the desktop to the web browser, allowing any standard office documents to be imported into Nuxeo Document Management in a variety of formats (which include Microsoft Office, PDF, and OpenOffice.org). Content can be imported via forms-based document import using online templates. Emails and attachments can also be added to the repository. In addition, documents can be created, edited, and stored directly from Microsoft Office. A full audit trail is maintained of all actions performed on documents.

Nuxeo also includes collaboration with workspaces that allow users to collaborate on documents with colleagues, team members, and people outside of the organization wherever they are located. Nuxeo uses domains for document lifecycle management. Domains are essentially thematic spaces that comprise workspaces, sections, and templates. While content creation and modification can be performed from within a workspace, published documents can be viewed (based on user access rights) from within the section. It must be stressed that these published documents, when viewed from the section, are in "read-only" format and cannot be edited. Administrators can leverage the template to create new workspaces and sections and add users, as well as grant permissions and access rights. Documents can be created natively from within the workspace, or imported manually. Workspaces enable users to work together on projects and collaborate on documents with colleagues and team members. Users are also able to create interactive forums based on the content of documents. Each user has a personal dashboard, which provides a task list of their current work as well as recently published documents, reminders, and due dates.

Records management

Although Nuxeo manages the lifecycle of content, providing an audit trail of all actions performed on content and enabling granular security, it does not currently include formal RM features. However, RM is due to be added to the platform, and the company intends to submit its product for Department of Defense (DoD) certification towards the end of 2010. This means the product will have robust RM capabilities that will address the requirements of highly regulated organizations that require an RM solution.

Web content management

The Nuxeo WebEngine is a content-centric Web 2.0 framework that facilitates the development of websites and applications. These applications use the capabilities of the Nuxeo EP to collate and integrate unstructured information and leverage collaborative capabilities such as blogs, wikis, social networks, RSS feeds, and mashups to build content-centric web applications. The Nuxeo WebEngine uses a REST-style architecture in which access to all resources, including the content residing within Nuxeo workspaces, is provided via HyperText Transfer Protocol (HTTP). However, the WebEngine is best suited to providing the content engine for an enterprise class WCM application such as Drupal, or EZPublish.

Business process management

BPM is provided through jBPM, an open-source system, which is based on the process virtual machine (PVM) that enables it to support multiple process languages natively. It comprises a runtime engine, Eclipse designer, and Signavio as the web modeler. The BPM capability enables organizations to create content-centric processes that bring together content and transactional data.

Additional functionality

Nuxeo Studio is a configuration and customization environment available as a hosted web-based tool. It enables business users, solution providers, and systems integrators to configure Nuxeo EP and packaged applications, such as Nuxeo Document Management and Nuxeo Digital Asset Management, to their organizations' requirements. Users can create document templates; determine document attributes that are associated with a content model to display in forms; define lifecycle states and transitions with a graphical tool; include custom fields in the advanced search form; create or import terminology lists for a controlled list of choices that can be used, for example, in drop-down lists; and add company branding. In addition, users can create automation chains, which are effectively workflows that can be constructed as a list of automated tasks that form a process. More than 50 content operations are provided out-of-the-box, including "copy," "move," "create document," and "transform to PDF," and new ones can be easily added. These tasks can be set to trigger from an event or scheduled to run. This enables business users who understand the business requirements to rapidly develop processes, thus reducing the development time.

Nuxeo DAM enables organizations to manage digital media, including digital photographs, images, graphics, animations, videos, and music. Additional metadata, lifecycle, and access controls are added to digital assets, enabling them to be managed and easily located. A batch import facility enables multiple media assets to be brought into Nuxeo DAM.

Metadata that supports IPTC and EXIF standards can be automatically extracted, and bulk tagging of media assets that is specific to the requirements of organizations can be performed. Metadata can be defined for media assets, and controlled vocabularies for content description and discovery can be created. Access rights to media assets can be managed through access control lists. By allowing users to annotate assets, digital content can be commented on and discussed collaboratively, particularly with the zoom-in and zoom-out facility. Assets can be viewed as thumbnails, but multiple renditions of the same asset can be stored. Content can be watermarked to protect it from unauthorized use.

PRODUCT STRATEGY

The target market for Nuxeo EP is both horizontal and vertical. The company's strategy involves developing horizontal solutions, such as Nuxeo DM, Nuxeo DAM and to Nuxeo Case Management Framework, and vertical solutions such as Nuxeo NewsWave, solutions for education (digital collaborative workspaces for teachers, pupils, parents, and administration), and DAM for intelligence agencies. These solutions are packaged as functionally distinct applications that extend the functionality of Nuxeo EP. Nuxeo targets medium-sized to large businesses with between 500 and tens of thousands of employees.

Nuxeo adopts a direct as well as a partner network-based route to market. Direct sales are facilitated by the company's offices in Paris, London, and Boston. The company has established reseller agreements with systems integrators around the world, the most notable being with : Atos Origin, Thales, CapGemini, Logica, Steria, Smile, Eurocis, Yerbabuena Software, MetaLogic, CTA and Revolution Linux, and Think Hemisphere. The company's technology partnerships include Red Hat and Sun Microsystems.

Nuxeo's release strategy involves one minor version (which caters for bug fixes and patches) every quarter, along with one major release every 18 months.

IMPLEMENTATION

The resources that implement Nuxeo within any organization are tasked with adapting the solution's interface, customizing the document topology, and installing a business-proofed production instance of the solution. To this effect, Nuxeo offers a five-day training course that provides the basic concepts required to configure, customize, and install the solution. The company also offers a two-day post-installation training course that deals with monitoring the solution and configuring it for tasks such as replication and backups. Organizations have the option of deploying Nuxeo through their internal resources (in which case it is recommended that they undergo the aforementioned training courses) by working with systems integrators. Nuxeo offers an intensive two-week training course for SIs and partners.

The average time for deployment varies depending on the project scope and complexity. For example, a simple deployment that involves customizing the interface and configuring one set of metadata and one customized search interface can be performed in ten to 20 days. For larger ECM projects, the implementation time typically ranges from three months to one year.

Nuxeo EP can be implemented in a modular manner, since it leverages the OSGi standard. The solution's architecture uses a component-based framework that offers specific pieces of functionality, which can be activated or deactivated as needed.

Post-implementation, the resources that maintain Nuxeo typically perform basic operations such as checking the database connection pool and file system space. From past deployment examples, Nuxeo states that these resources are mostly provided from within the end-user organization.

Nuxeo's software is available on platforms such as Solaris, Linux (RHEL, Debian, and Ubuntu), Windows (XP, 2003, and 2008) and MacOS X. Nuxeo ties itself to one of the following databases: Oracle, PostgreSQL, Microsoft SQL Server, MySQL, or IBM DB2. Legacy integration is available using the following approaches: WebDAV access, legacy file system import, and Windows SharePoint Protocol (which is in the pipeline). Once implemented, Microsoft Office and Windows Explorer can browse Nuxeo's repository as a SharePoint Server.

Nuxeo's platform, as well as the horizontal- and vertical-specific components that sit above this platform, is available free of charge under the LGPL license. Nuxeo Connect is the company's offering available to organizations that opt for professional support. Nuxeo charges for its support on a per-application basis and offers three service level agreement (SLA) levels.

Cengage Learning is an educational and learning solutions company that delivers content to universities, instructors, libraries, governments, and companies worldwide. It uses Nuxeo EP for its content creation and publishing activities. One application that provides a database of information on animal life is used by educational institutions in the US. Nuxeo EP is used as the content repository for the online version and is available 24x7.

The BBC uses Nuxeo EP for its mobile portal, which receives in excess of 100 million hits per month. Nuxeo EP provides the content management infrastructure for a number of BBC sites, including audio and music as well as the mobile site. The requirements of the BBC include 24x7 availability in a highly fault-tolerant environment.

The French Air Force selected Nuxeo EP to form the foundation of a content and knowledge management solution to enable the Air Force to train its officers. In order to train sub-officers, an application to manage, enrich, and distribute educational content to the right audience was required. The ability to easily edit content in XML and automatically render it into the relevant format for the student (such as PDF or Word) was needed.

Vilogia is a private real estate and rental property company in France. It uses Nuxeo EP as its DM solution to manage information for its rental portfolio of more than 52,000 units throughout the country. It required a unified, scalable, and secure platform to control documents within teams and across various departments, as well as the ability to integrate with its existing architecture. The first departments to be deployed were IT and land management, with about 1,000 end users between them.



Table 1: Contact Details	
Nuxeo 18 rue Soleillet 75020 Paris, Métro Gambetta France Tel: +33 (1) 40 33 79 87 Email: contact@nuxeo.com www.nuxeo.com Source: Nuxeo	Nuxeo 202 – 55 Cambridge Street Burlington, MA 01803 USA Tel: +1 781 328 0520

OVUM

Headquarters

Shirethorn House,
37/43 Prospect Street,
Kingston upon Hull,
HU2 8PX, UK
Tel: +44 (0)1482 586149
Fax: +44 (0)1482 323577

Australian Sales Office

Level 46, Citigroup Building,
2 Park Street, Sydney,
NSW, 2000,
Australia
Tel: + 61 (02) 8705 6960
Fax: + 61 (02) 8705 6961

End-user Sales Office (USA)

245 Fifth Avenue,
4th Floor, New York,
NY 10016,
USA
Tel: +1 212 652 5302
Fax: +1 212 202 4684

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