Nuxeo, an open source platform for content-centric business applications

Stéfane Fermigier, Nuxeo
Laurent Doguin, Nuxeo
Nuxeo, the Company

• Providing an Open Source **Content Management Platform for Business Applications**

• 11 years old, 40+ employees, **500+ customers**, 5000+ installations

• Sells **Nuxeo Connect, a Service Subscription** providing added value software and services

• Dual HQ **Paris & Boston**, VC backed

• Global **Partner** Network

• **On the forefront of innovation**, with a dedicated research lab contributing to several industry initiatives, consortiums and open source foundations (**OW2**, Eclipse, Apache, Systematic, Cap Digital, PLOSS...)

---

Wednesday, November 23, 2011
The Nuxeo Solution Portfolio

**Technology**

- **Nuxeo Platform Technology**
  Complete set of components covering all aspects of ECM. Extensible modular architecture designed for content application development.

**Vertical Applications**

- **Construction**
- **Publishing**
- **Government**
- **Life Sciences**

**Read-to-use Applications**

- **Document Management**
- **Digital Asset Management**
- **Case Management Framework**

**Technical Applications**

- **Correspondence Management**
- **Contracts Management**
- **Invoice Processing**
- **Records Management**

**Marketplace**

- Solution Catalog

**Studio**

- Customization & Configuration

**Support**

- with SLAs

**Maintenance**

- Patches & upgrades

**Nuxeo Connect**

- Subscription

**Content Application Platform**

A packaged development framework for building content-centric applications, is designed for java developers and architects.

**Nuxeo Platform Technology**

Complete set of components covering all aspects of ECM. Extensible modular architecture designed for content application development.
The Nuxeo Platform
Nuxeo Platform is

a set of building blocks

mainly ECM related
Nuxeo Platform is

a set of building blocks

for deploying customized Content Applications
What the Platform provides

• **Extensible and configurable ECM services**
  *(Document storage, workflow, indexing, security, relation management, …)*

• **UI building blocks and frameworks**
  *(Web, RIA, Mobile …)*

• **High level frameworks**
  *(Nuxeo CAP, Nuxeo Case Management Framework …)*

• **Ready to use pre-packaged applications**
  *(Nuxeo DM, Nuxeo DAM …)*
What’s in it for me?

• For the Java developer
  • A rich set Java services API for ECM features
  • Support for several client technologies
  • A plugin model, OSGi support (Eclipse Apricot)
  • Unit testing framework

• For the system integrator
  • An extensible Web Services API
  • CMIS support
  • OpenSocial
Tools

- **Build** and assembly tools
  - **Maven** based build
  - nuxeo-distribution-tools

- **Customization and development** tools
  - Nuxeo **Studio** (web based)
  - Nuxeo **IDE** (Eclipse based)

- **Testing** tools
  - Non-regression testing
  - Performance testing
The Nuxeo Content Repository
Documents in Nuxeo

• In Nuxeo, a “Document” is not just a simple file
  • One **document** = a **set** of fields
    *(String, Date, File, Complex types ...)*

• **Document types**
  • A document type is defined by XSD **schemas**
  • **Inheritance** is supported

• **Life cycle**
  • A document type is associated with a **life cycle** (ex: *draft, published, obsolete*...)*
Documents in Nuxeo

• **Facets** can be used to qualify documents *(Folderish, Hidden, Commentable …)*

• Facets can be associated
  • With a **schema**
  • With a Business Object **adapter**

• **Mixins**
  • Facets and Schemas can be added on a per-instance basis
Security

- Security in **always on**
- **ACL**-based default security policy
  - Multiple-ACL support
  - Ordered ACL support
  - Grant / deny support
  - ACL inheritance
- Additional **pluggable** security policies
  - Implement custom security (ex: meta-data based)
Other Core features

• **Query** system
  - NXQL or CMISQL: SQL-like query support
    - Keyword search
    - Full-text search

• **Reporting** (using, e.g., BIRT)

• **Versioning** in Nuxeo
  - Configurable versioning policy
  - Configurable versioning storage
Repository backend

- Nuxeo Visible Content Store (VCS)
  - Dedicated **native SQL** storage
  - Provides **clean** SQL mapping
    (*ie: usable by a DBA or a BI tool*)
  - Multiple database vendor support
    (*PostgreSQL, Oracle, MySQL, MS SQL, H2, Derby*)
  - Storage adapters
    - Metadata and structure: SQL DB
    - Binaries: Filesystem, SQL DB, S3 ...
Advanced features

• Built for **performance**
  • Lazy-loading, pre-fetching, cache, blob streaming...

• **Transaction** management
  • Exposes JCA connector
  • Support for operations and manual tx management

• Pluggable **event** system

• **Efficient storage**
  • Snapshottable, automatic deduplication…
  • Support for hot backup and GC
Nuxeo as a service platform
Java API

• All Nuxeo services are exposed via Java Interfaces
  
  • Access to services is simple
    `Framework.getService(ServiceInterface.class)`
  
  • In addition you can also access the underlying components
    `Framework.getRuntime().getComponent(name)`
  
• In Java EE servers, Java services can be exposed via RMI
Service APIs

- Services can also be exposed via Web Services (with different granularity)
Content Oriented APIs

- Access Nuxeo Repository
  - Via **CMIS** (uses Apache Chemistry)
  - Via MS Windows **SharePoint** Services
  - Via **WebDAV**
Automation APIs

- Flexible and pluggable **REST** API
  - Contribute custom operation
  - Assemble custom chains via Studio / XML
  - Generic marshaling
Using the Nuxeo Platform
Nuxeo EP use cases

• **Turn-key** ECM applications (*DM, DAM...*)
  • Pre-packaged application
  • Add configuration via Nuxeo Studio

• **Vertical** or **bespoke** business ECM application
  • Extension and configuration Nuxeo platform
  • OEM or SI integration

• **Embedding** Nuxeo Services in third party apps
  • Configuration and Nuxeo service stack usage
  • OEM or ISV providers
Nuxeo on the Cloud
Nuxeo on the Cloud

- VM deployment (**IaaS**)
  - Leverage services like EC2 and S3, or OpenStack / OpenNebula

- Java Cloud (**PaaS**)
  - Leverage existing Java PaaS (ex: Cloudbees)
    (issues about storage and dynamic plugin system)

- Pure OSGi deployment on Cloud (via JOnAS?)
  - Requires Nuxeo to run in full OSGi Mode

- See the Compatible One project (OW2)
Roadmap for 2012
Nuxeo 2012 Roadmap

• Extend **OSGi** support for all platform
  • Extend the subset that is already full OSGi
  • Deploy Nuxeo as embedded OSGi app
• Provide support for **Java EE 6**
  • CDI / JSF2
• Use Nuxeo Platform as a **PaaS**
  • Work in progress on OSGi and CompatibleOne (OW2 project)
Thanks!

Wednesday, November 23, 2011