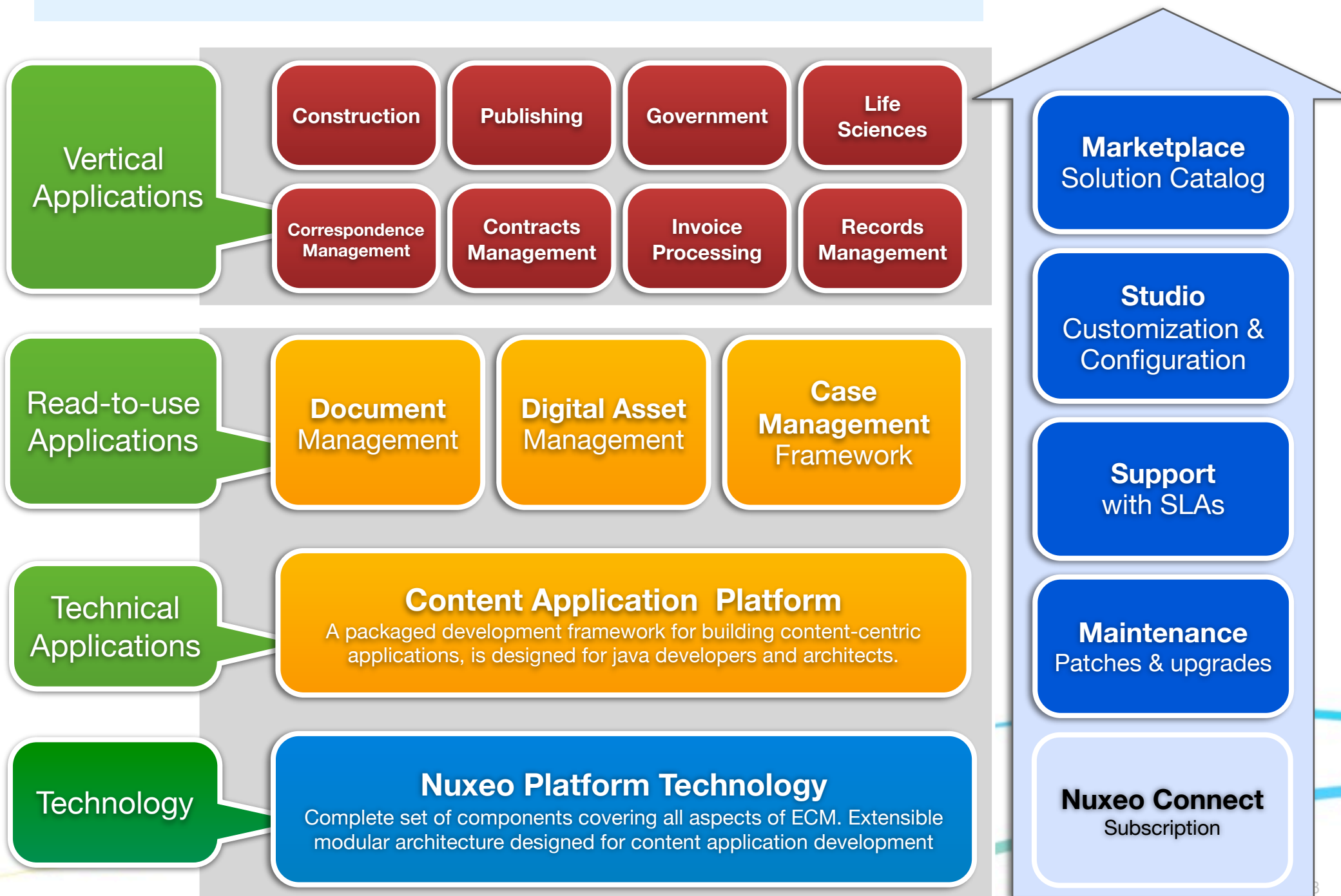# Nuxeo, an open source platform for content-centric business applications

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...)
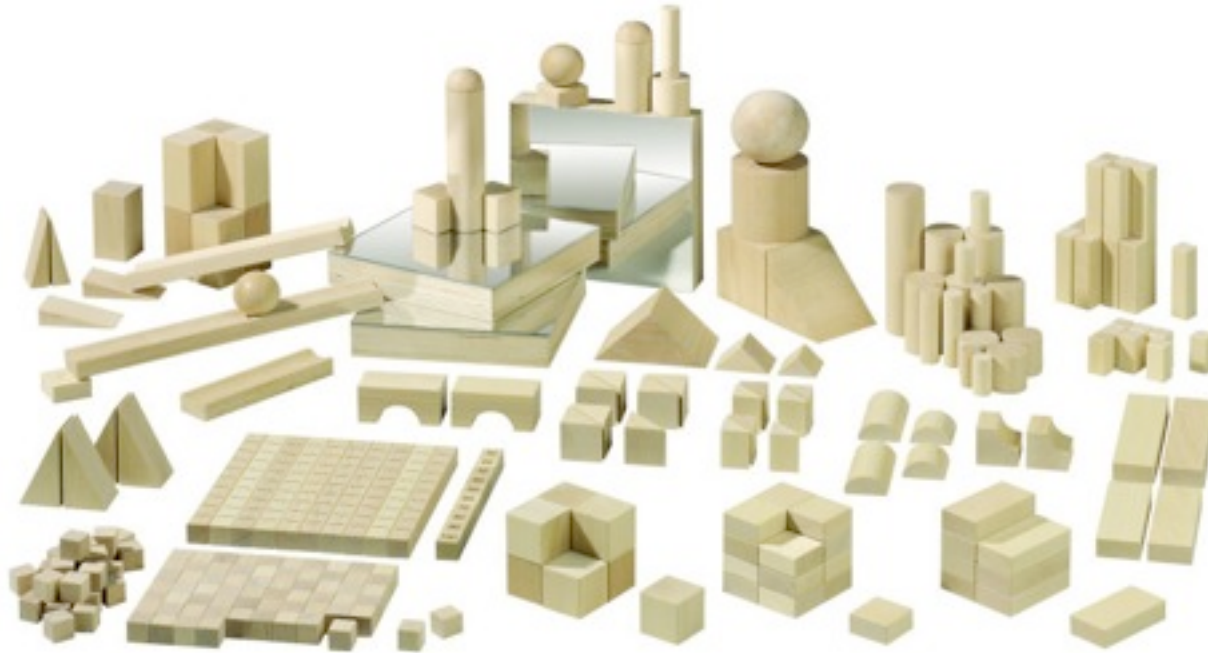
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The Nuxeo Solution Portfolio

Vertical Applications

- Construction
- Publishing
- Government
- Life Sciences
- Correspondence Management
- Contracts Management
- Invoice Processing
- Records Management

Read-to-use Applications

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

Technical Applications

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

Technology

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

Marketplace
Solution Catalog

Studio
Customization & Configuration

Support
with SLAs

Maintenance
Patches & upgrades

Nuxeo Connect
Subscription

The Nuxeo Platform

Nuxeo Platform is

a set of building blocks

mainly ECM related

Wednesday, November 23, 2011

Nuxeo Platform is

a set of building blocks
   for deploying <u>customized</u> Content Applications
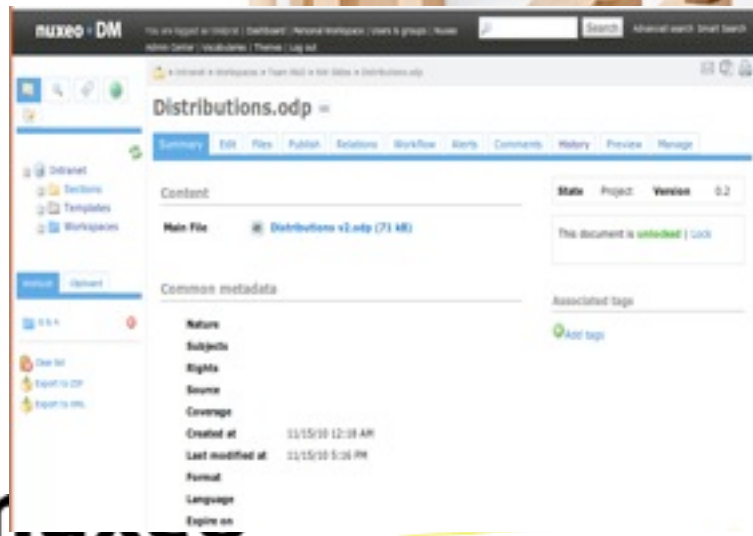
What the Platform provides

- 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 ...)

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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**

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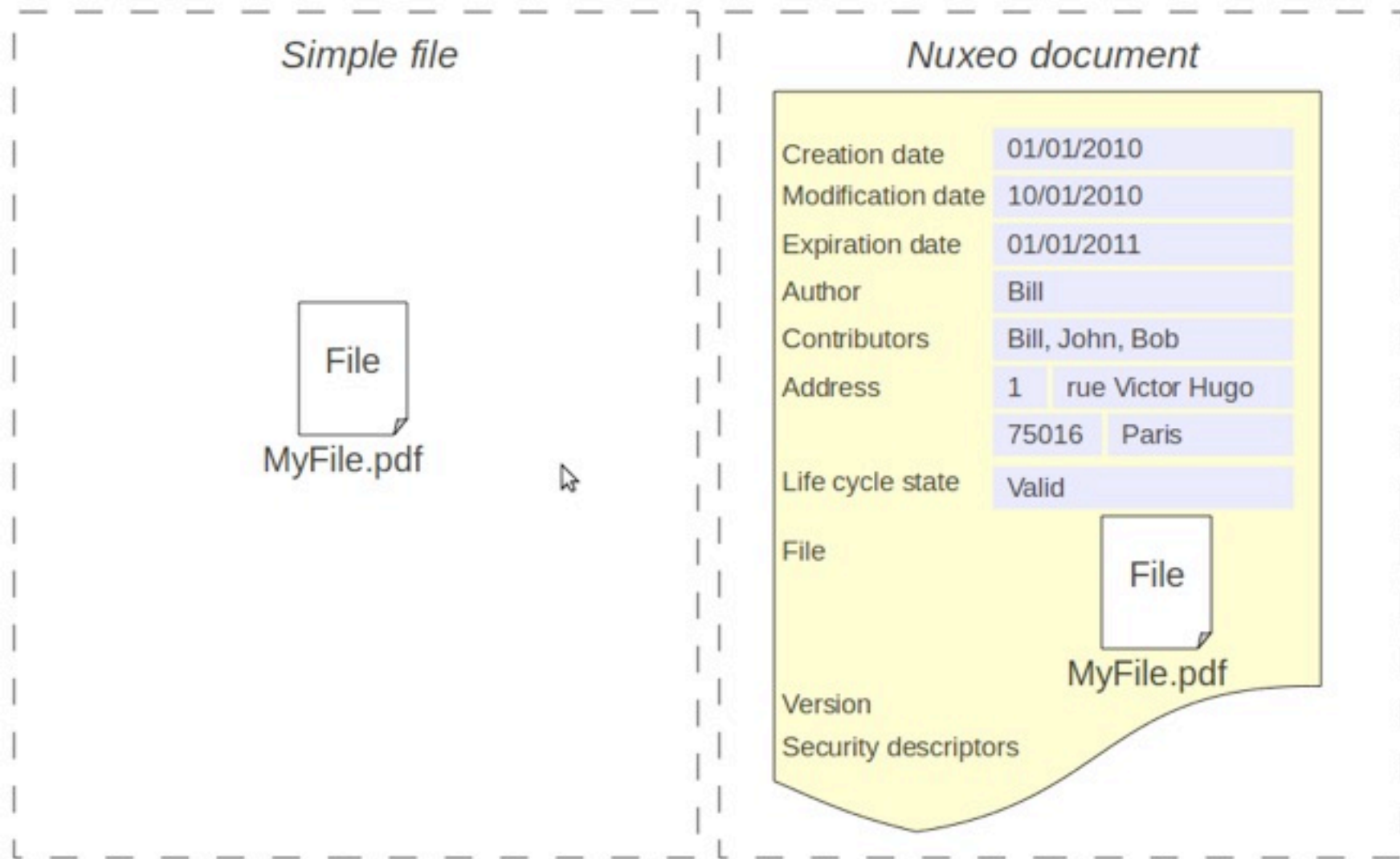Open Source ECM

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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

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The Nuxeo Content Repository

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Nuxeo Document

	Simple file	Nuxeo document

Simple file: File — MyFile.pdf

Nuxeo document:

Creation date	01/01/2010
Modification date	10/01/2010
Expiration date	01/01/2011
Author	Bill
Contributors	Bill, John, Bob
Address	1 rue Victor Hugo
	75016 Paris
Life cycle state	Valid
File	File — MyFile.pdf
Version	
Security descriptors	

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*...)

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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

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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 ...

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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**

  - Snapshotable, 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)`

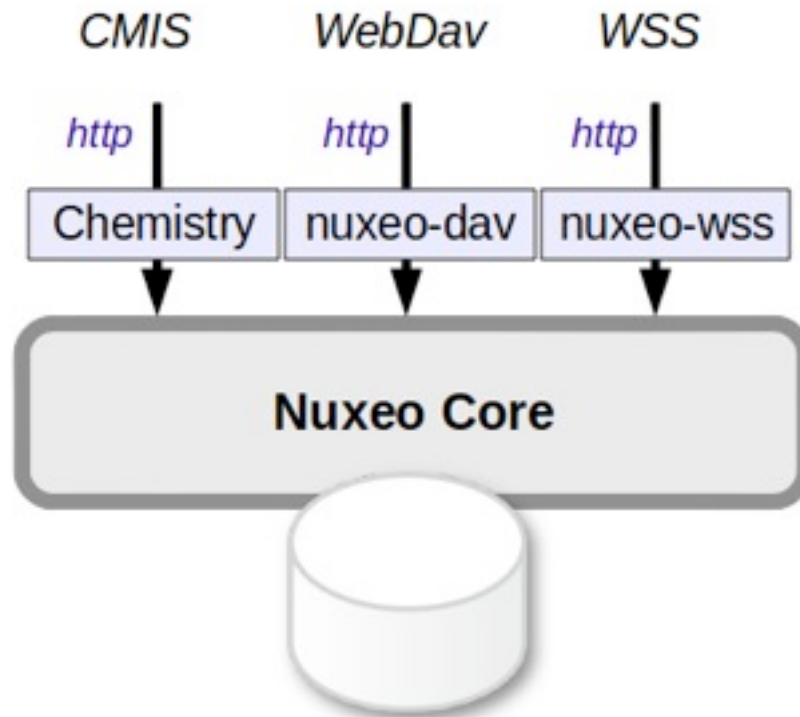- In Java EE servers, Java services can be exposed via RMI
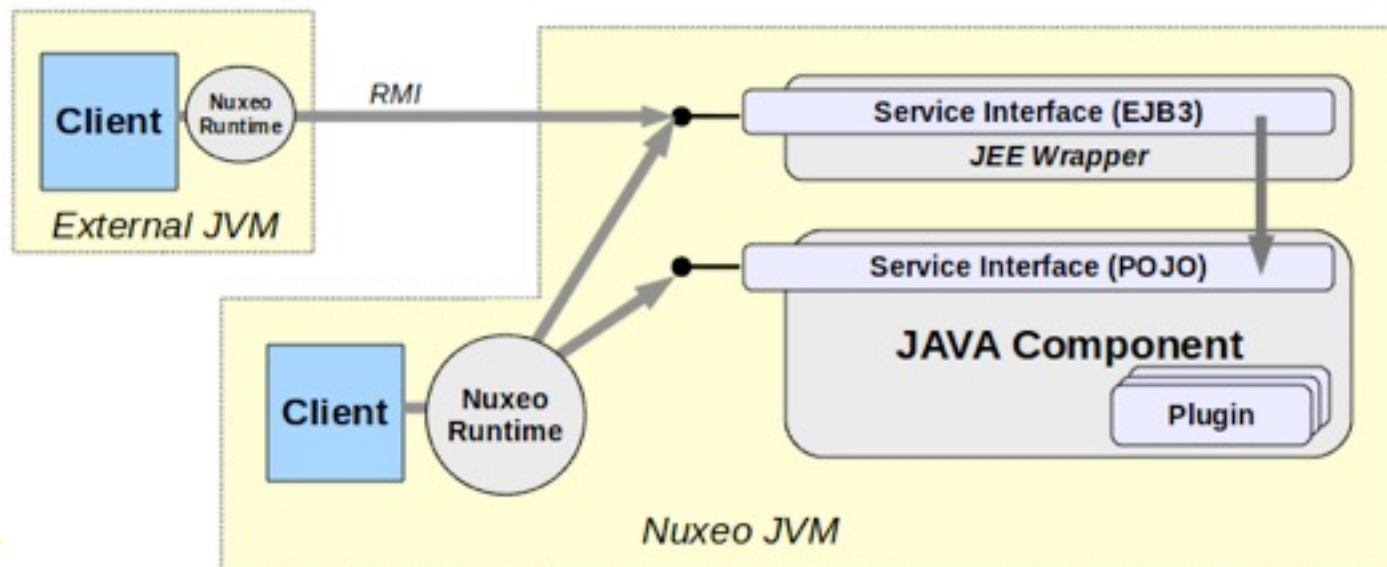
Service APIs

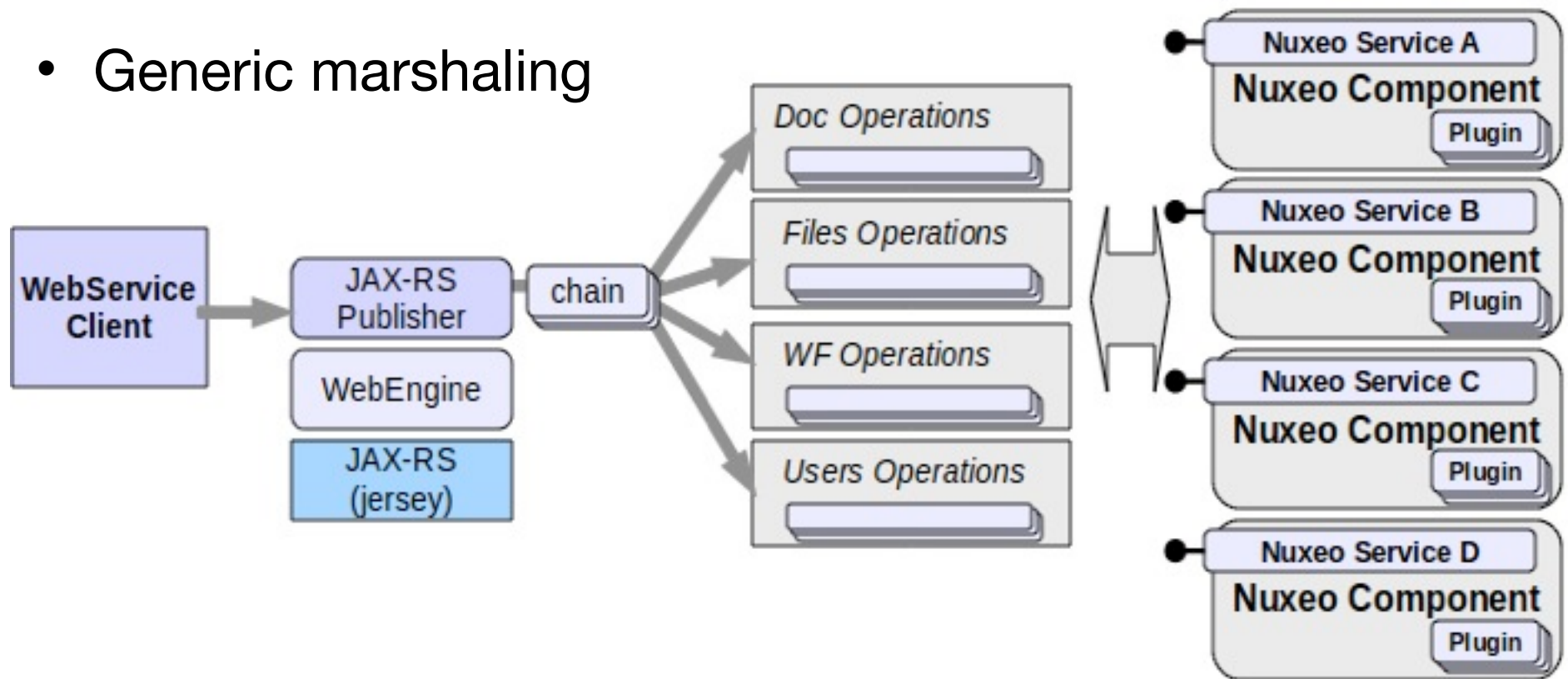- Services can also be exposed via Web Services *(with different granularity)*
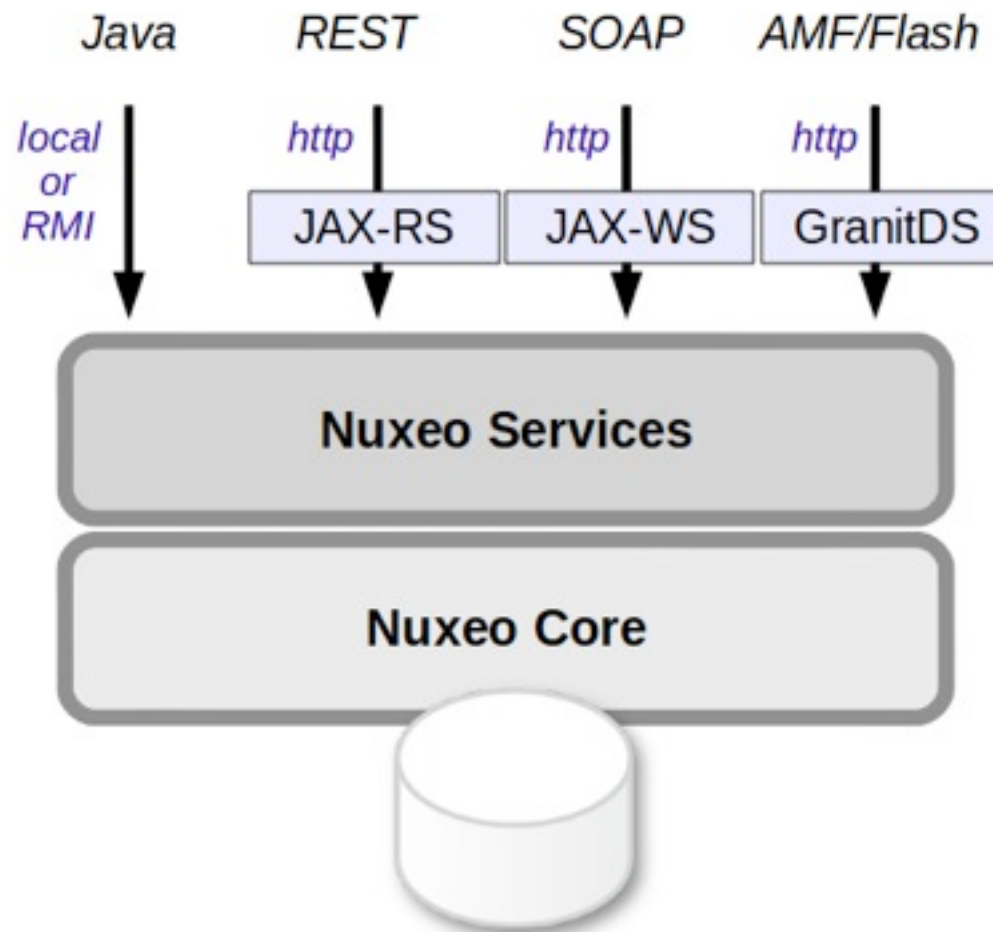
Content Oriented APIs

- 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

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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)

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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)

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Thanks!