



JBoss DNA

Randall Hauch

Principal Software Engineer

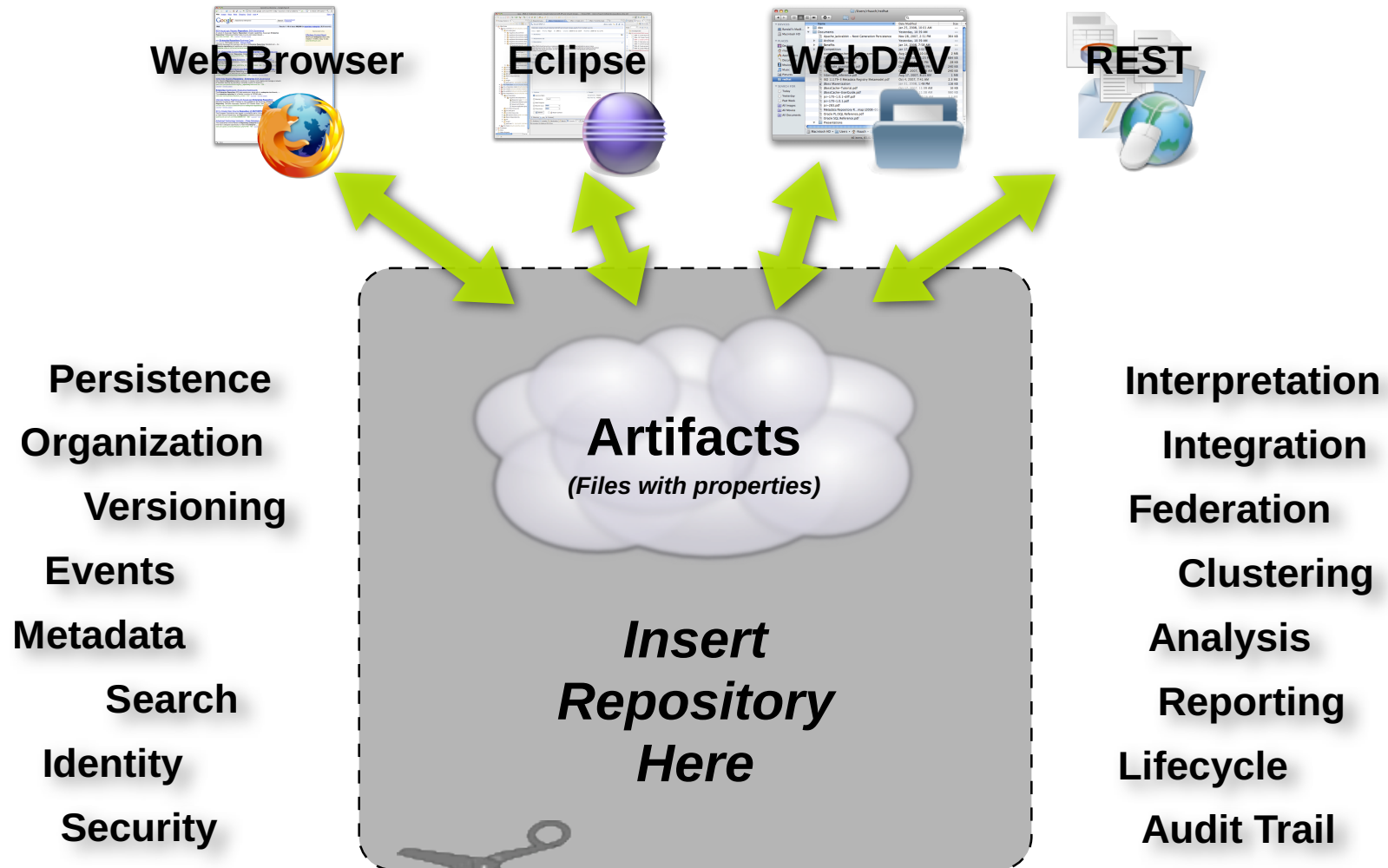
JBoss Data Services



JBoss DNA

- **New project**
 - A few months old
 - <http://labs.jboss.org/dna>
- **Prior repository experience and IP**
 - MetaMatrix Repository
 - Drools BRMS
 - JBoss Portal (CMS)
- **Interest and community is growing quickly**
 - JBoss SOA-Platform and SOA-Governance
 - MetaMatrix
 - Partners
 - **You!**

What is an enterprise repository?

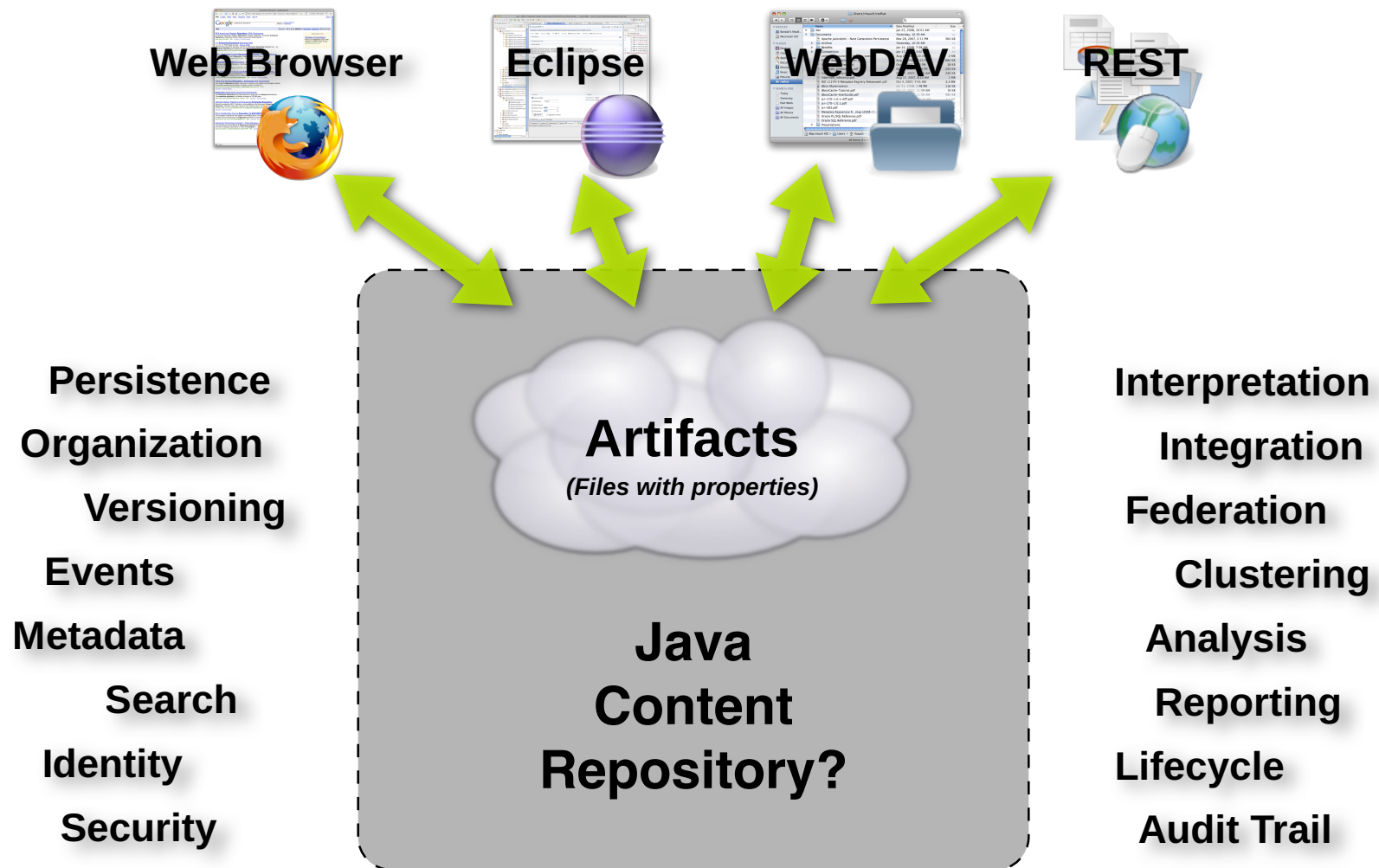




Where will it be used?

- **JBoss SOA Platform and SOA Governance**
 - Manage service metadata, service binaries, business rules, workflow tasks, process control information, and policies
 - Integrate with UDDI registry to provide single view
 - Enable governance: policy enforcement, lifecycle management, and service discovery, testing and deployment
- **JBoss Enterprise Data Services Platform (MetaMatrix)**
 - Manage data source, data service and connector metadata, transformations, connector binaries, and virtual databases
 - Integrate with data sources to provide unified view of metadata and data
 - Adapt with customers extensions and additional files
 - Enable discovery, analysis, reporting, and data-driving apps

Is JCR an enterprise repository?

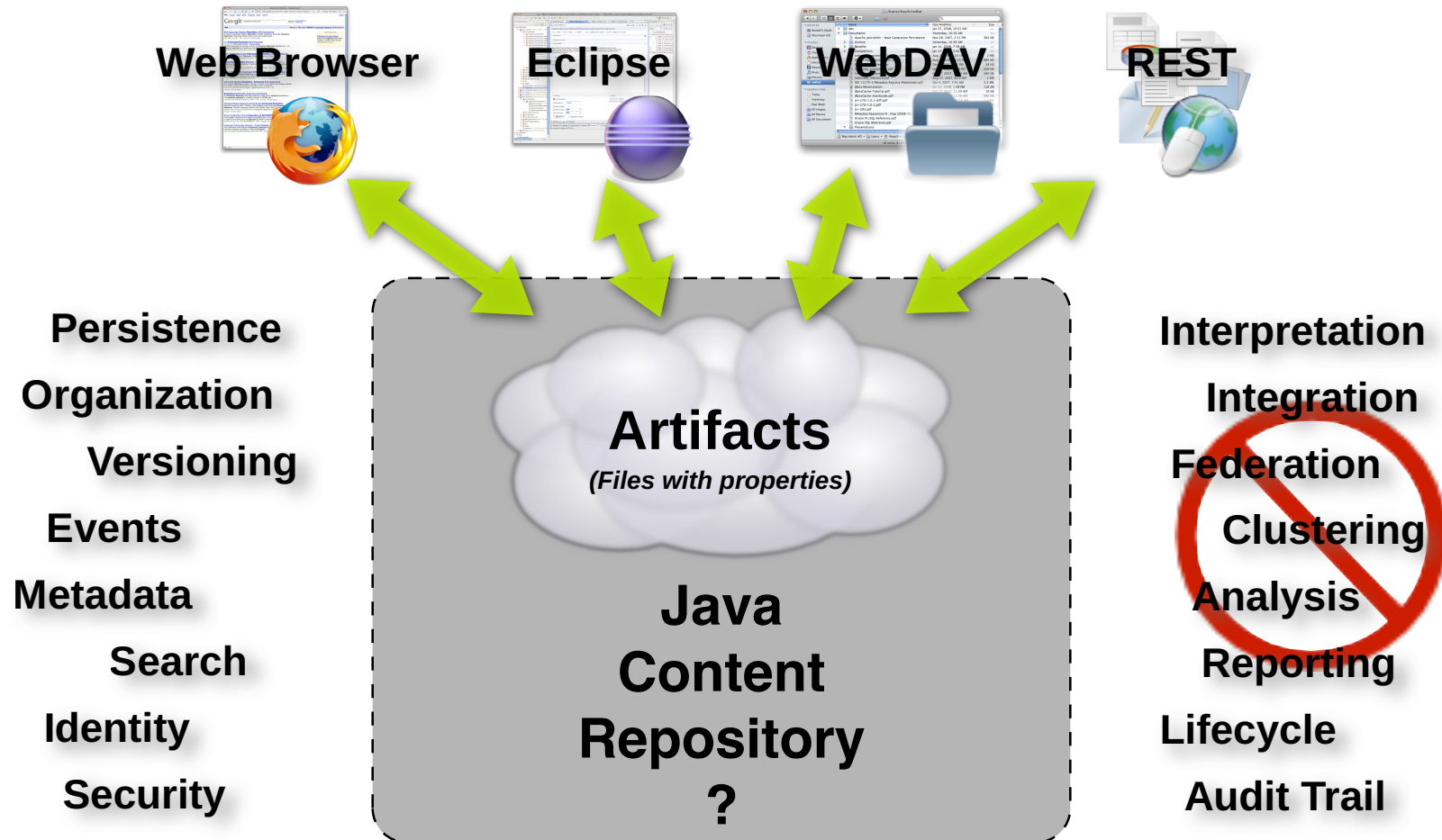




Java Content Repository (JCR)

- **JSR-170 (JCR 1.0) and JSR-283 (JCR 2.0)**
- **Graph model**
 - Nodes with properties and relationships to other nodes
 - Node types dictate kinds of properties and type and number of child nodes
 - Mixins dictate useful sets of properties for specific purposes
 - Hierarchical structure and naming
 - Integrated versioning and events
- **Simultaneously supports both**
 - Structured graphs with predefined structures; and
 - Schema-less graphs where the structure can evolve to take on any shape and meaning
- **Usage in Content Management Systems**

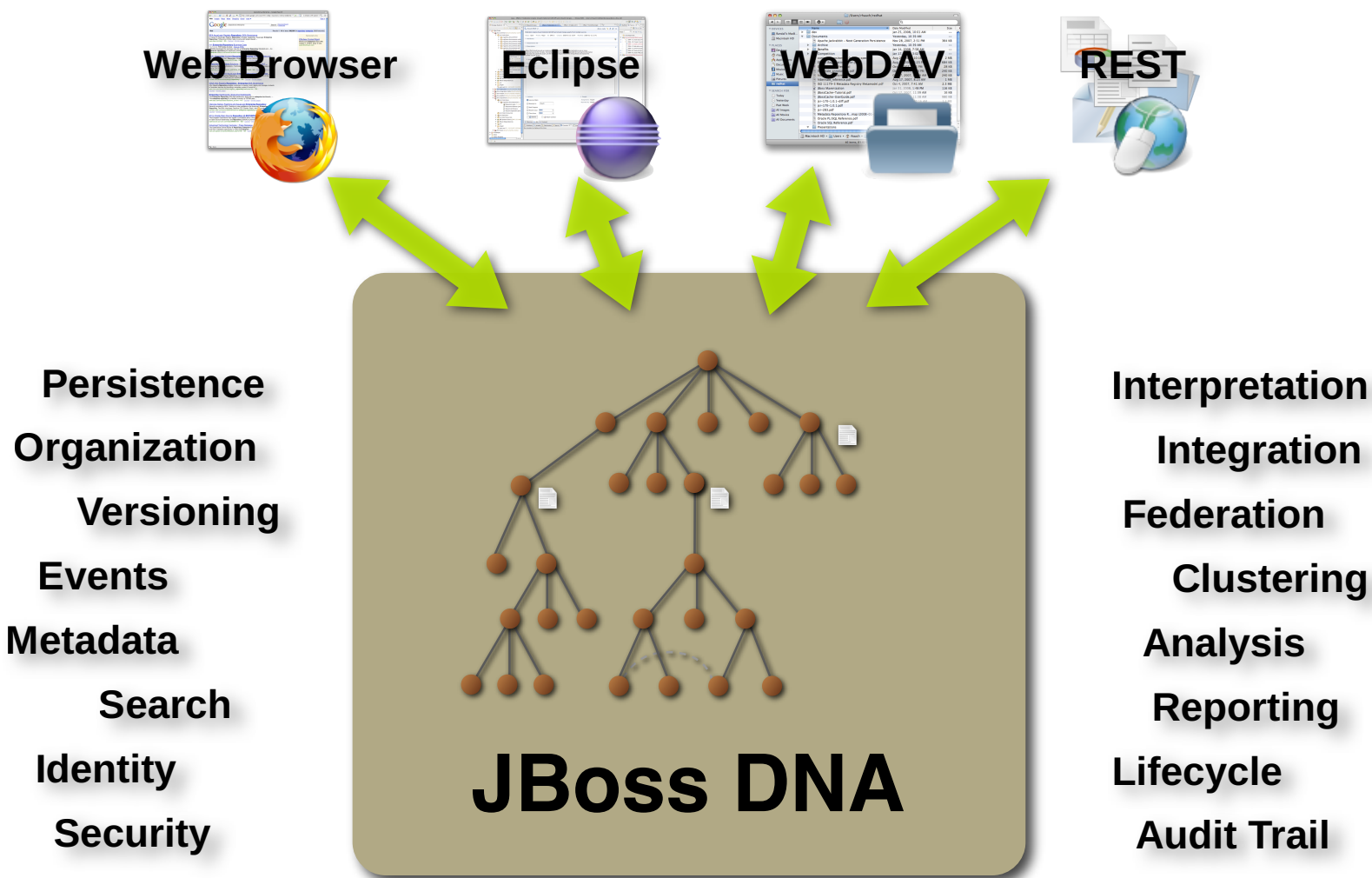
Is JCR an enterprise repository?



But JCR is a good foundation for JBoss DNA



JBoss DNA is an enterprise repository

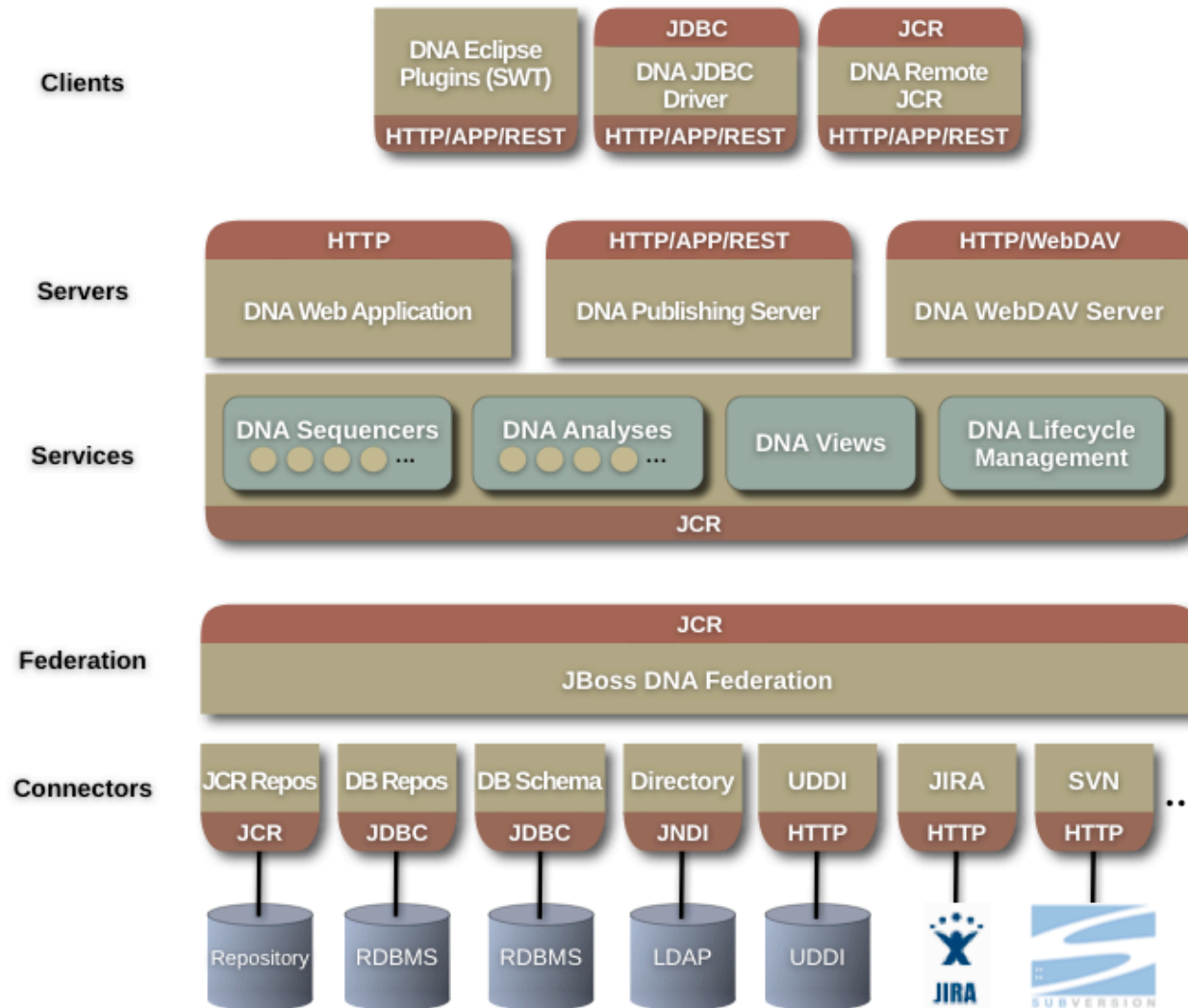




JBoss DNA is an enterprise repository

- **A place to manage various kinds of artifacts**
 - Upload, version, view, edit, classify, manage lifecycle, etc.
- **Extracts the information's DNA (building blocks)**
 - Metadata about the file
 - Meaning and structure of contents
 - Relationships between artifacts
- **Makes all this information useful and accessible**
 - Visualize using “domain-specific” views
 - Search text and query structure
 - Analyze and report (patterns, structure, statistics, etc.)
 - Use web application, Eclipse plugins, service interfaces
 - Federated with external sources integrated

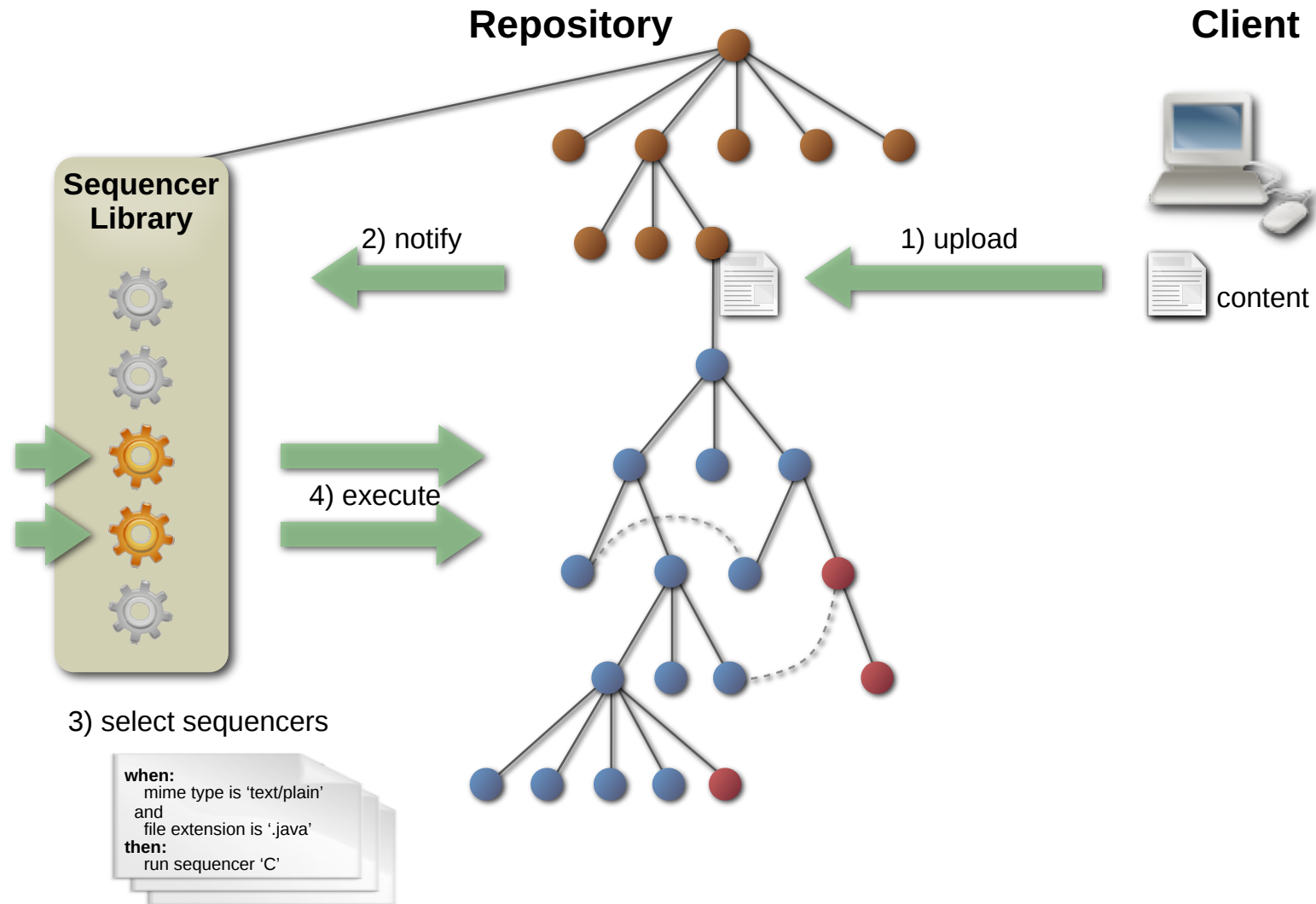
JBoss DNA Architecture



Up Next ...



Sequencing content



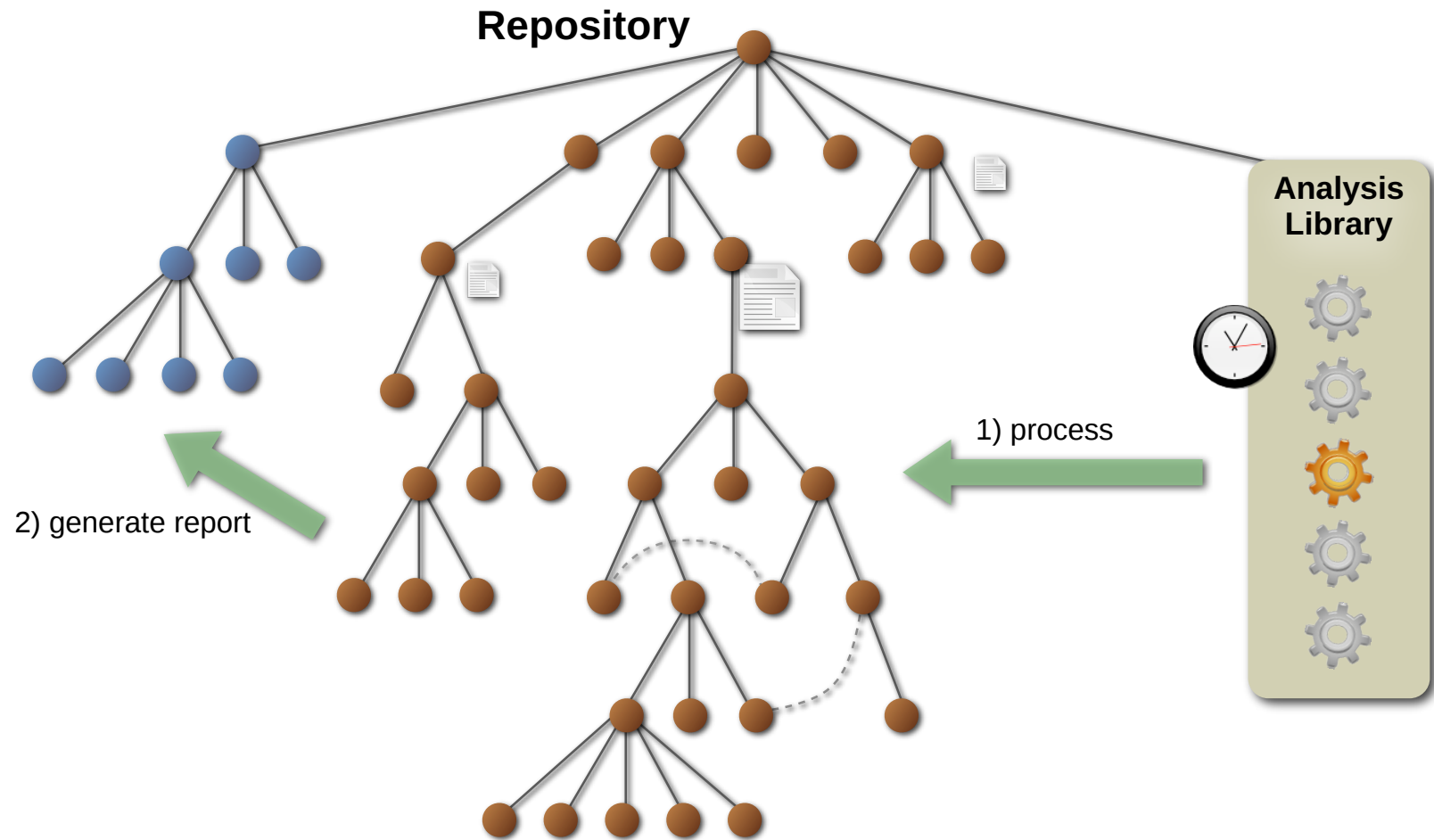


Sequencer library (planned)

- ZIP/JAR archive
- WSDL
- XSD
- XML
- Images
- Java source files
- Java class files
- Hibernate/JPA
- Seam
- Drools rules
- jPDL
- MetaMatrix models
- DDL
- ANTLR grammars
- Maven POM
- Maven test results

... and more

Analysis and reporting



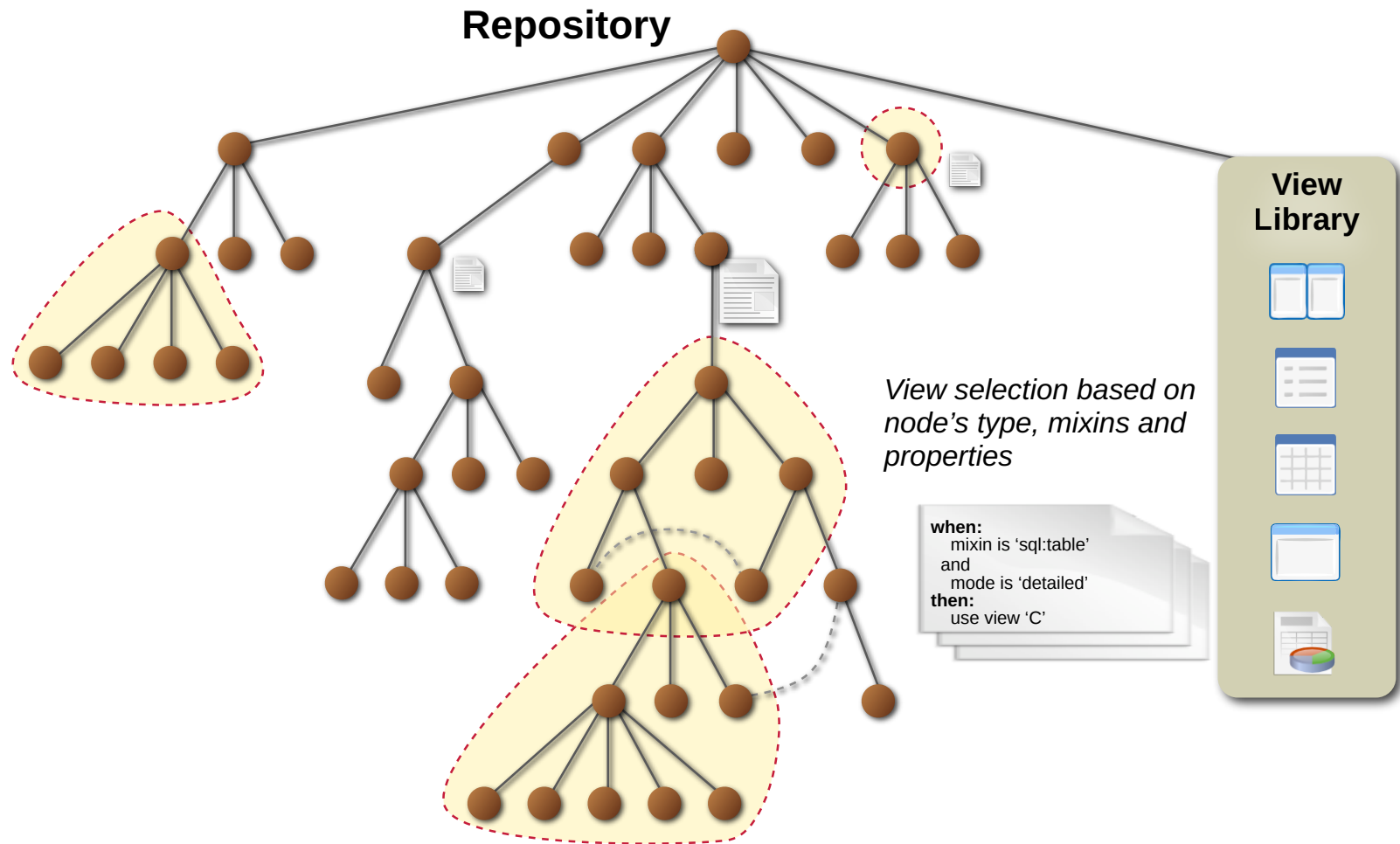


Analysis library (planned)

- Dependency
- Impact
- Classification (tagging) indexes
- Statistics
- Traceability
- Affinity (“closeness”)
- Compliance
- Provenance

... and more

Domain-specific views



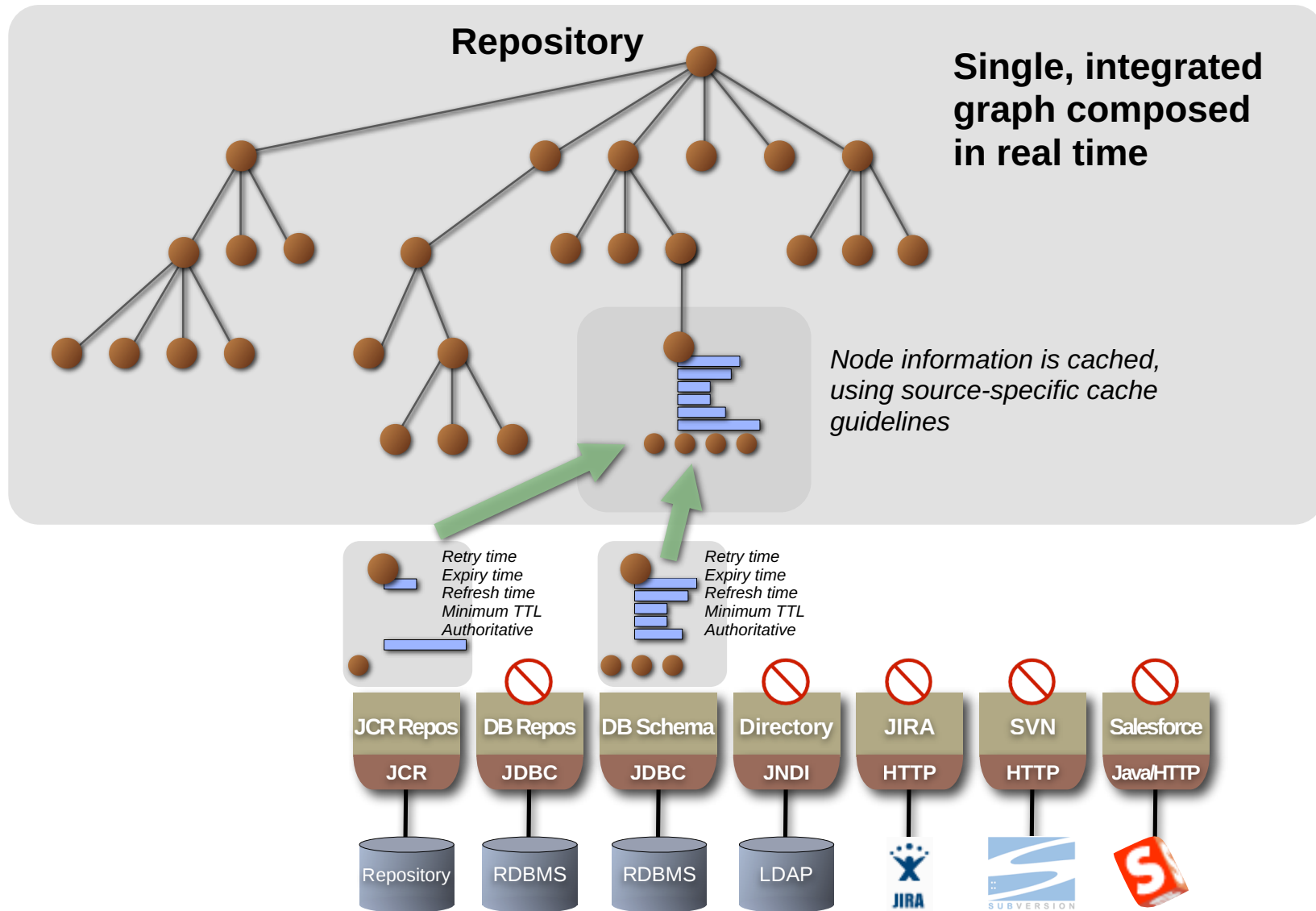


Examples of views

- Web service definition
- Web service operation
- Web service policy
- Relational table
- Relational database
- Business process
- Business process tasks
- Business rule
- XML Schema document
- XML Schema element
- XML Schema complex type
- XML Schema simple datatype
- Java library
- Java package
- Java class
- Session bean
- Entity bean
- Image
- DNA sequencer
- DNA analysis
- DNA connector
- DNA view

... and more

Federation and integration



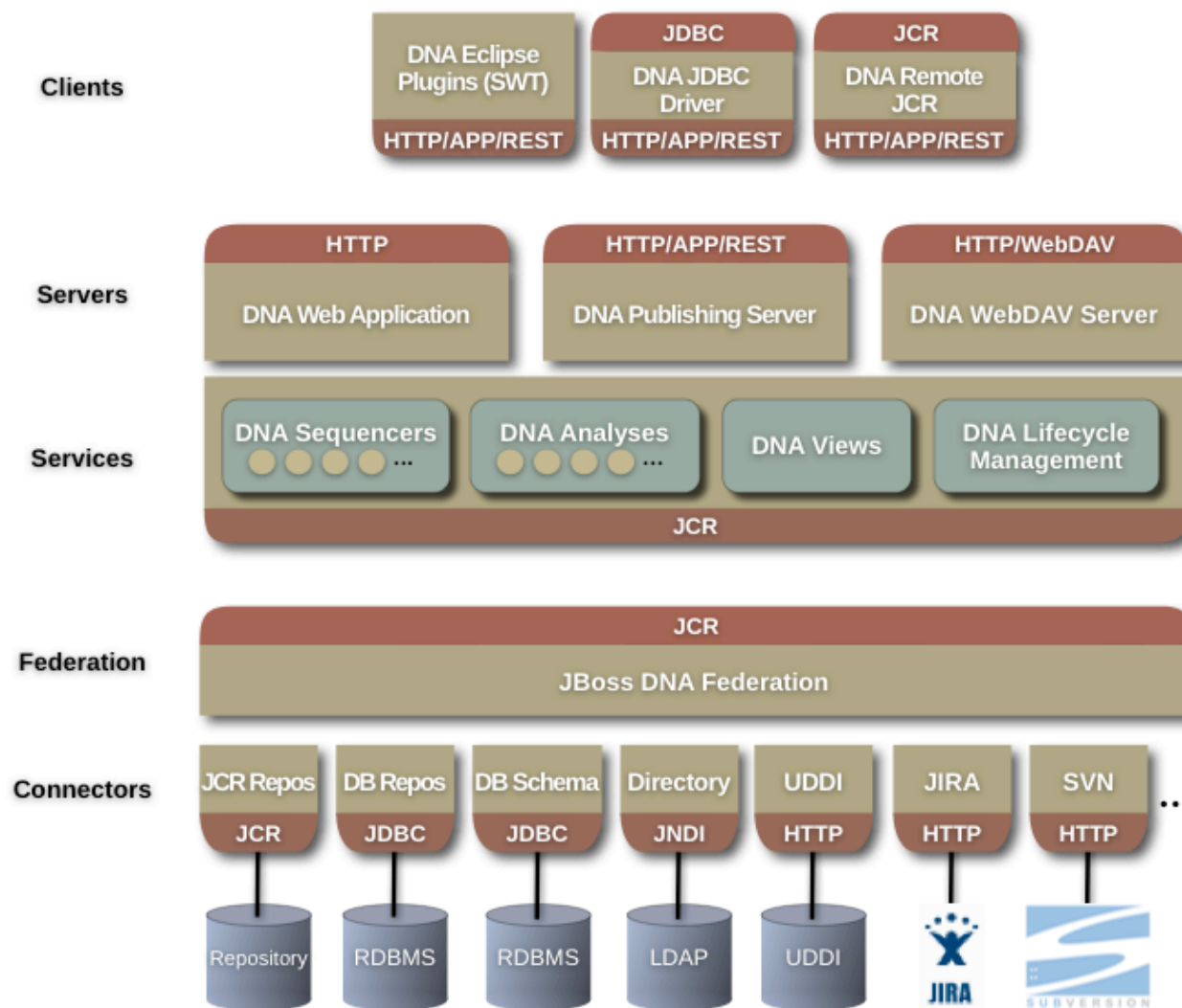


Federation and integration

- **Distribution model similar to DNS**
 - Information obtained from authoritative source, then cached locally
 - Sources dictate caching parameters (TTL, refresh, expiry, etc.)
- **Clustering & XA transactions**
- **Anticipated connectors**
 - JCR Repository
 - Relational storage
 - JDBC databases & schemas
 - JNDI (LDAP)
 - UDDI
 - SVN
 - JIRA
 - Salesforce
 - ... and more



JBoss DNA architecture (another look)





JBoss DNA

- **Our cross-project repository**
- **Throw stuff in, get much more out**
- **Speaks your language**
 - Sequencers for different file formats
 - Analyses and reports
 - Domain-specific views
 - Eclipse plugins, web apps & frameworks, and REST service
- **Federation and integration**
 - Integrate live information from external systems
 - Distributed caching with TTL (DNS-like)
 - Distributed transactions
 - Clustering



Project status

- **Roadmap**
 - Release early, release often (~8 weeks)
 - Release 0.1 (sequencers) in April
 - REST server and/or views are next, followed by federation
- **What you can do**
 - Know we're here
 - R&D call on Feb 26 (details to follow)
 - Give us feedback and advice
 - Join the project
 - Build sequencers, analyses, connectors, etc.
 - Use it!

<http://labs.jboss.org/dna>