

Introduction to JSR 170: The Java Content Repository

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1. What isn't JSR 170?
2. What is JSR 170?
3. What are the advantages of JSR 170?
4. Competing Standards?
5. JSR 170 in the CM space
6. What can be expected in 2007?
7. Questions?

What isn't JSR170?

JSR 170 is **NOT**

- A Java Content Repository.
- A competitor of Hypercontent
- A competitor of **ANY** other Content Management System or Repository in existence.
- A Content Management Client
- An Enterprise Content Management API
- An API which defines repository administration

What is JSR 170?

JSR 170: Java Content Repository

- Java Community Process
<http://www.jcp.org/en/jsr/detail?id=170>
- Led by Day Software
- Officially released June 17, 2005
- “Content Repository API for Java”
- Two levels of compatibility with optional

features

● Day

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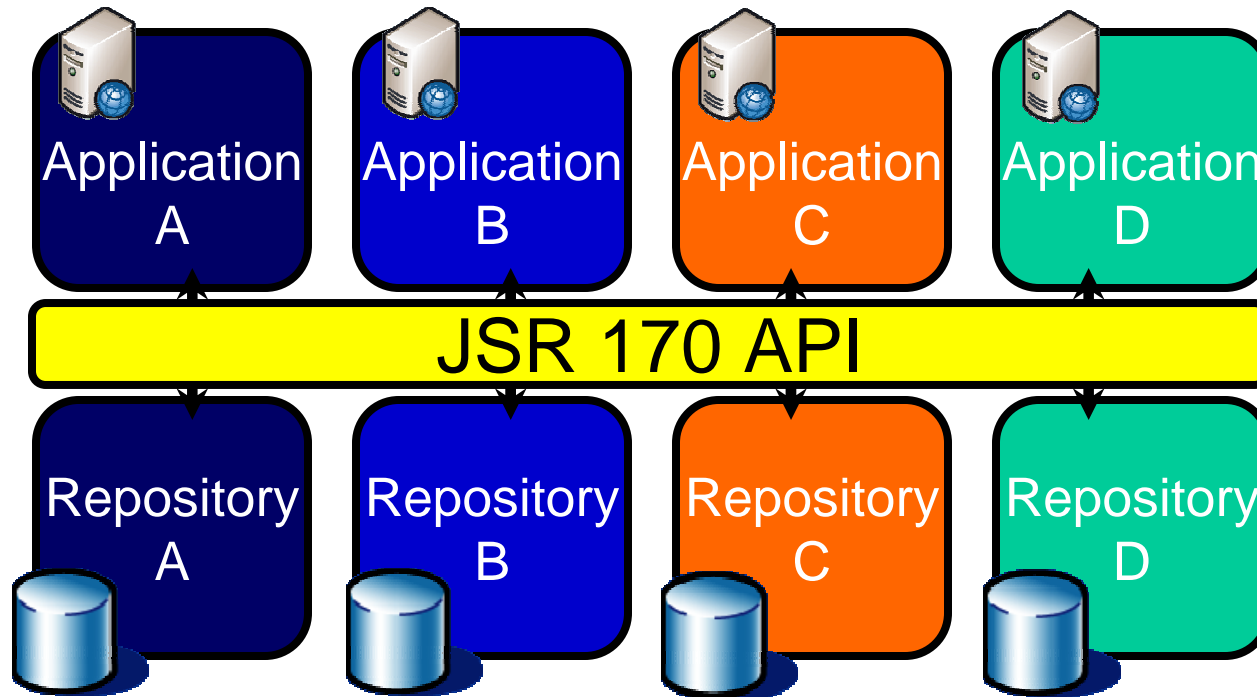
VIGNETTE

Pacific Northwest National Laboratory
Operated by Battelle for the U.S. Department of Energy

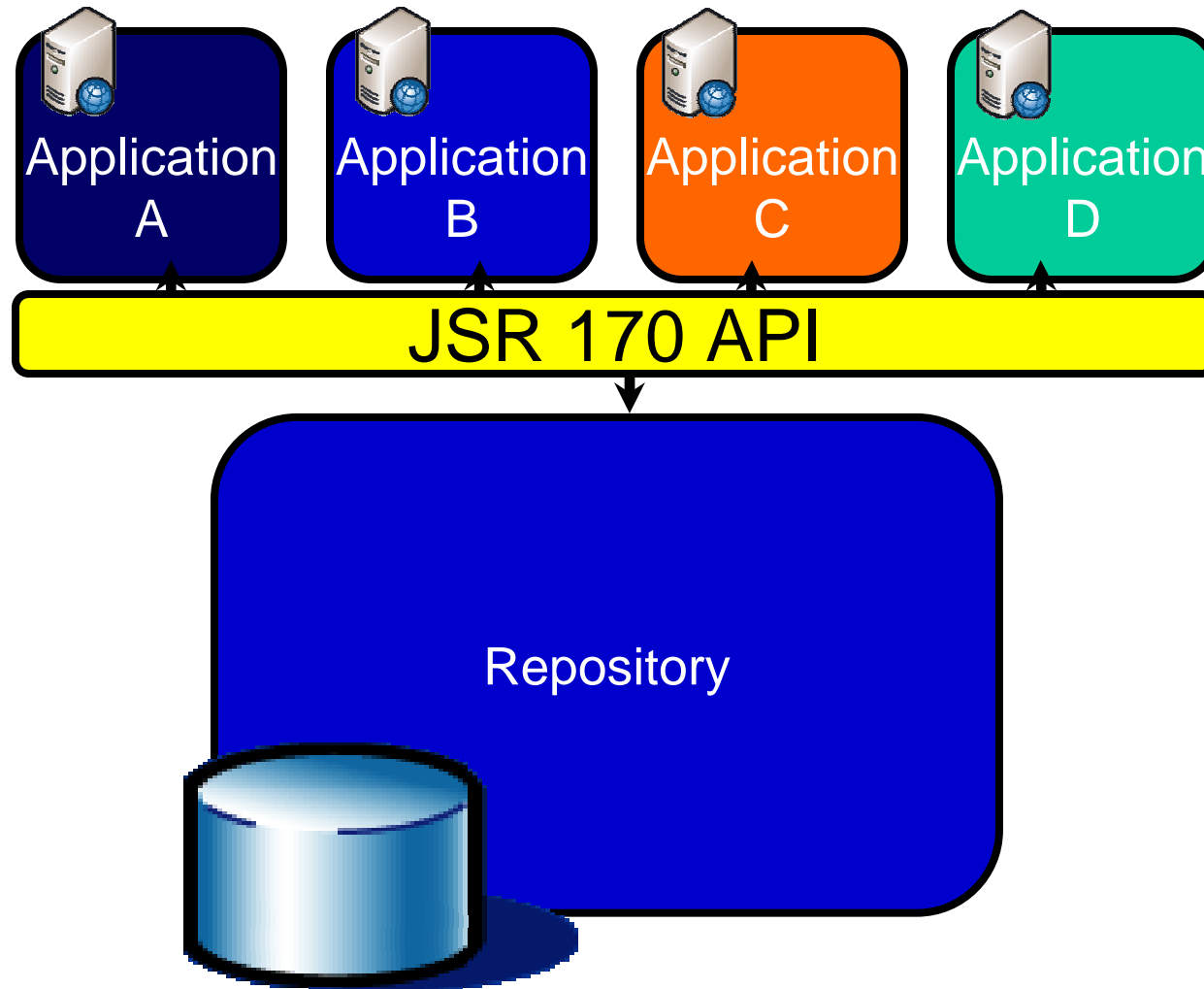
“ The API should be a standard, implementation independent, way to access content bi-directionally on a granular level within a content repository. “

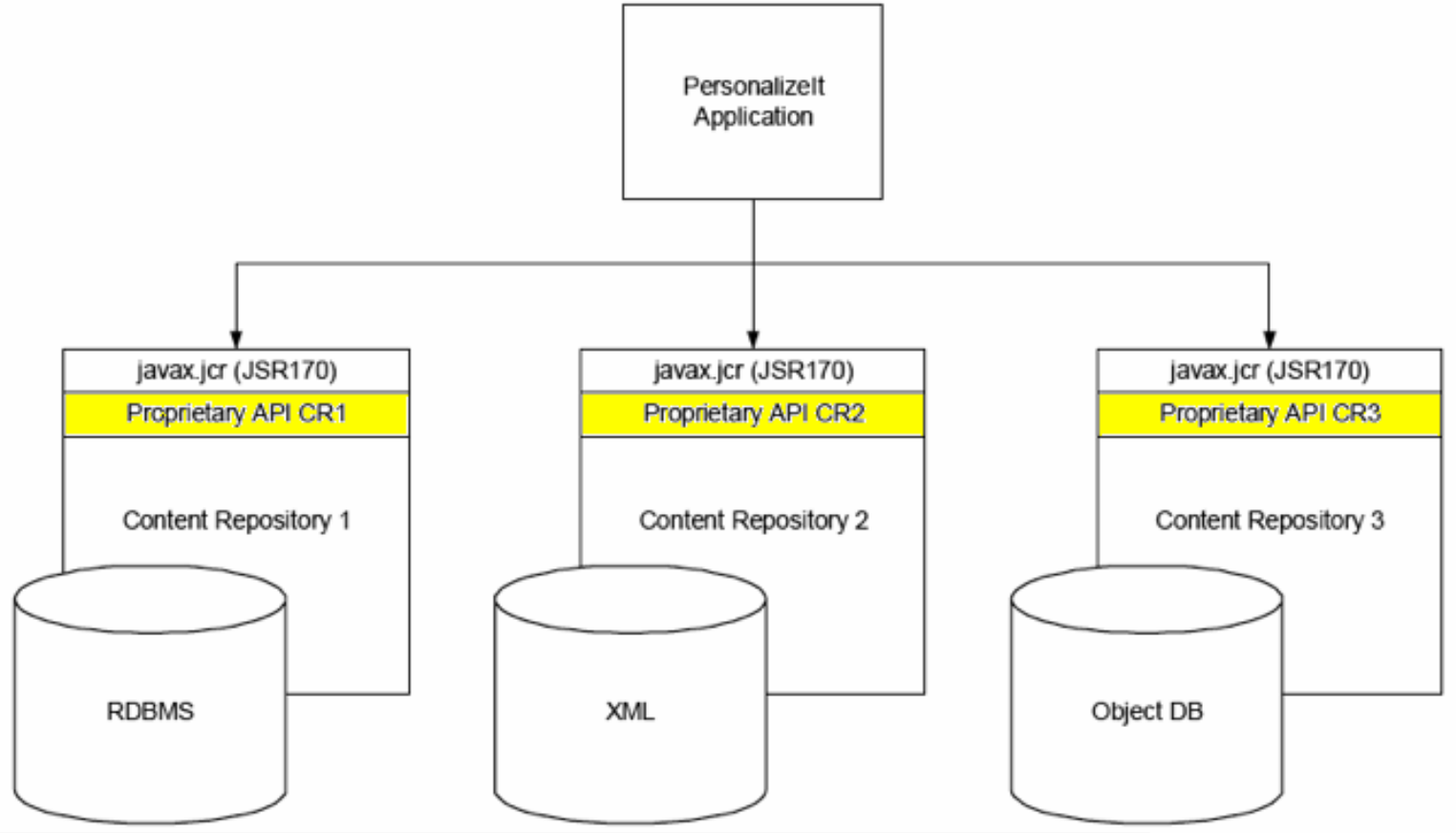
JSR 170 Specification

Using JSR 170



Using JSR 170: Infrastructure

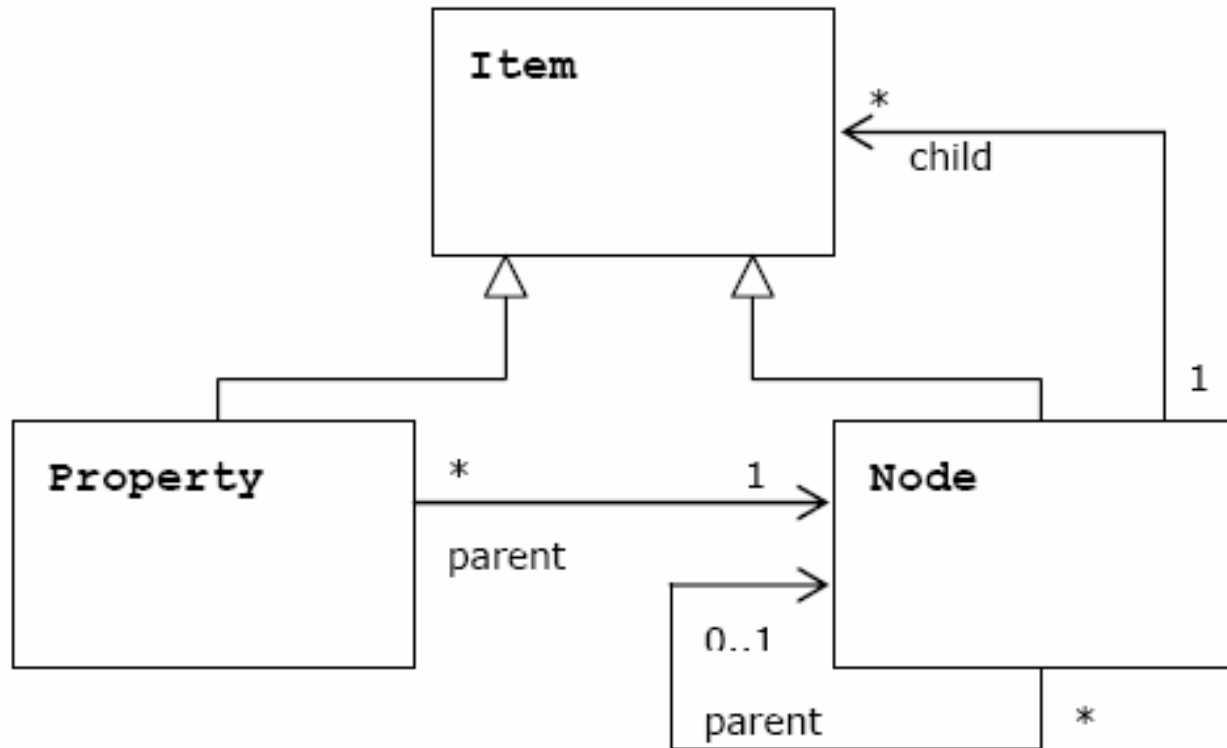




Basic Repository Model

- A **repository** consists of one or more **workspaces**
- A **workspace** contains a tree of **items**
- An item is either a **node** or a **property**
- A **property** can only be a leaf
- **nodes** encapsulate the content structure
- The values of the **properties** is where the data is stored

JSR 170: Data Model



JSR 170: Level 1

Defines a read only repository

- Accessing Repository
- Reading Repository Content
- Transient namespace remapping
- Export Repository Content
- Search Repository Content (XPath)
- Discovery of NodeTypes

JSR 170: Level 2

Includes level 1 and adds ability to mutate

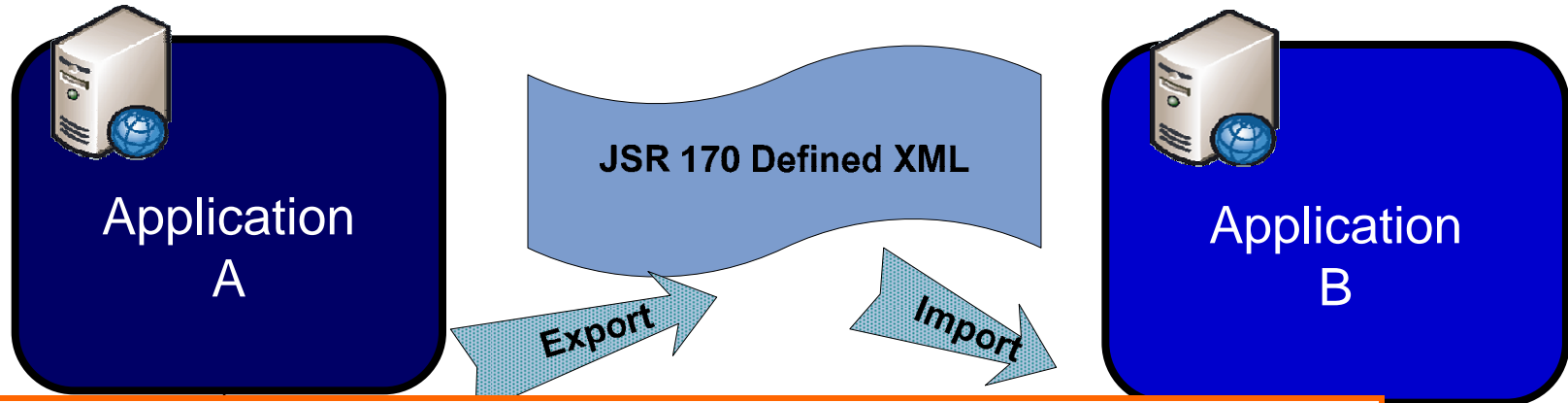
- Adding and removing nodes & properties
- Writing the values of properties
- Import from XML
- Assigning node types to nodes
- Persistent namespace changes

JSR 170: Optional Features

Optional features?

- Transactions
- Versioning
- Observation
- Locking
- SQL Search

JSR 170: Migration



Export

```
File outputFile = new File("systemview.xml");  
FileOutputStream out = new FileOutputStream(outputFile);  
session.exportSystemView("/zoo:ferret", out, false, false);
```

Import

```
File inputFile = new File("systemview.xml");  
FileInputStream in = new FileInputStream(inputFile);  
session.importXML ("/", in, ImportUUIDBehavior.IMPORT_UUID_CREATE_NEW);  
session.save();
```

**What advantages does JSR 170
provide?**

Engineers

- Better and more **consistent** separation of concerns
- Common API for all Content Repositories
- Swapping out Content Repositories no longer requires a massive changes to client applications.
- Single flexible API, eases development for multiple applications

Business

- Reduce Risk!
- Reduce Costs
- Avoid Vendor Lock-in
- Greater flexibility when dealing with legacy storage systems

Competing Standards?

1. ODMA and DMA
2. WebDAV
3. iECM

ODMA and DMA

- ODMA: standard for integration and interoperability of desktop applications with document management systems
- DMA: standard for the federation of document management systems which faced out to server islands
- Both ODMA and DMA were **dissolved** prior to 2000
- Both are **dissolved**... no competition for JCR

WebDAV

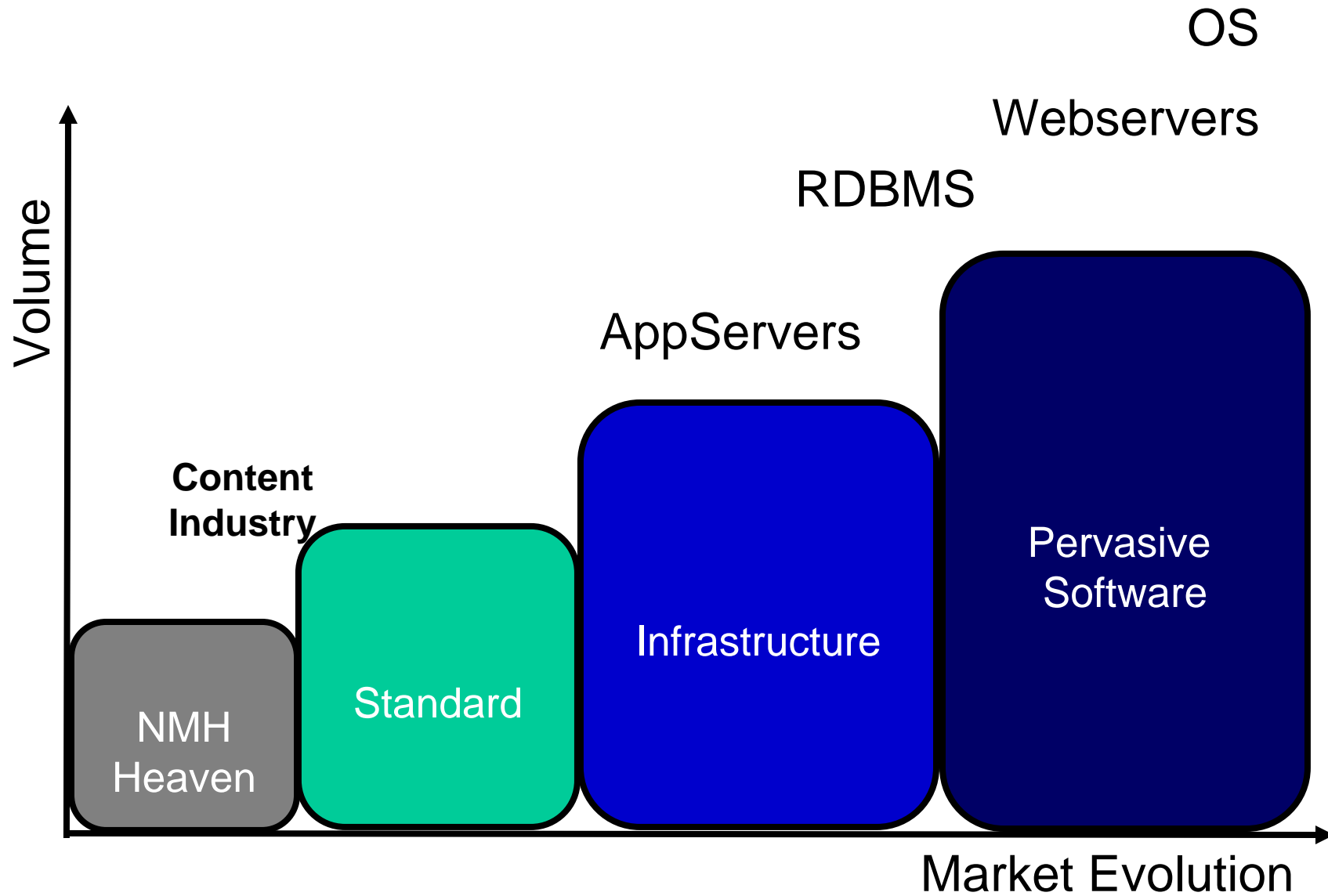
- Currently managed by AIIIM
- 1996 – First Working Group Meeting
- WebDAV is a standard for a **protocol**
- WebDAV is an extension of HTTP
- Adoption of this standard is widespread
- WebDAV is a protocol, **not an API**. It is **NOT** competing with JCR.

iECM

- Managed by AIIM
- SOA standard in formative stages.
- No scheduled release date
- Standard is not yet defined and has a stated goal to be **synergistic** in its relationship with the JCR.

JSR 170 in the CM space

Software Evolution



Repositories with JSR 170 Connectors

- Jackrabbit
 - Apache Software Foundation
 - Reference Implementation
 - Opensource
- CRX
 - Day Software
 - Level 1, Level 2 and all optionals implemented (TCK)
 - First Commercial JSR 170 Content Repository
- Alfresco
 - Level 1, Level 2 with support for transactions and partial versioning implementation.
 - Opensource with Commercial Support (optional)

Repositories with JSR 170 Connectors

- eXo
 - eXo Platform
 - Level 1, Level 2 and all optionals implemented (TCK)
 - Opensource and Commercial
- Jeceira
 - Partial implementation of Level 1 and Level 2
 - Opensource – released .1, no movement for more than a year.
- ECM Documentum
 - Level 1, Partial Level 2, SQL queries
 - Implemented by Day Software
- BEA WebLogic Platform (9.2)
 - Level 1, Partial Level 2, SQL queries
 - Implemented by Day Software

JSR 170 Applications

- Magnolia
 - Opensource with Commercial Support(optional)
 - Requires Level 1, Level 2 and all optional features
- jLibrary
 - Available on sourceforge
 - Built on eclipse
 - Opensource
- JCRBrowser
 - Available on sourceforge
 - Built on eclipse
 - Recently integrated into jLibrary
 - Opensource

So you want to work with a JSR 170 Content Repository?

Carefully consider your options.

CR quality and features can vary greatly.



What can be expected in 2007?

1. Greater JSR 170 adoption
2. JSR 283
3. iECM

Greater JSR 170 Adoption

- Many major vendors are scheduled to release JSR 170 connectors for their Content Repositories in 2007.
- IBM has announced that all its applications will be JSR170 compliant (Repositories **AND** Clients).

JSR 283: Java Content Repository

- Java Community Process
<http://jcp.org/en/jsr/detail?id=283>
- Led by Day Software
- Scheduled release May 17, 2007
- “Content Repository API for Java Version 2.0”

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JSR 283

- Backwards compatible
- Access control management
- Workspace and node-type management
- Improved repository interoperability
- Extensions to content modeling
- Enhanced query language
- Remoting and client/server protocol mappings

iECM

- AIIM managed
<http://www.aiim.org>
- Formed by largest vendors
- SOA for ECM
- No release date scheduled.
- “interoperable Enterprise Content Management”



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Summary

- What isn't JSR 170?
- What is JSR 170?
- What are the advantages of JSR 170?
- Competing Standards?
- JSR 170 in the CM space
- What can be expected in 2007?

Resources

- <http://www.day.com/>
- <http://www.cmswatch.com/Feature/123>
- <http://docs.exoplatform.org/exo-documents/exo-jcr.site/index.html>
- <http://dev.alfresco.com>
- <http://freshmeat.net/projects/jeceira>
- <http://jlibrary.sourceforge.net/>
- <http://www.magnolia.info/en/magnolia.html>
- <http://jackrabbit.apache.org/>

Questions?



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