

Good Chemistry: Alfresco, JBoss and CMIS



JBoss World 2011

Agenda

- Let's Meet our Panel
- Quick CMIS Intro
- Discussion
- Q & A

twitter



Use hashtag #cmispanel
to tweet questions
during the talk



Let's Meet Our Panel



Florian Müller

- Apache Chemistry Chair
- Alfresco Architect
- OASIS CMIS Technical Committee member
- CMIS specification editor
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Mike Vertal

- Rivet Logic CEO
- Alfresco Platinum Partner
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Jeff Potts

- Apache Chemistry cmislib lead
- Alfresco Chief Community Officer
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Quick CMIS Intro

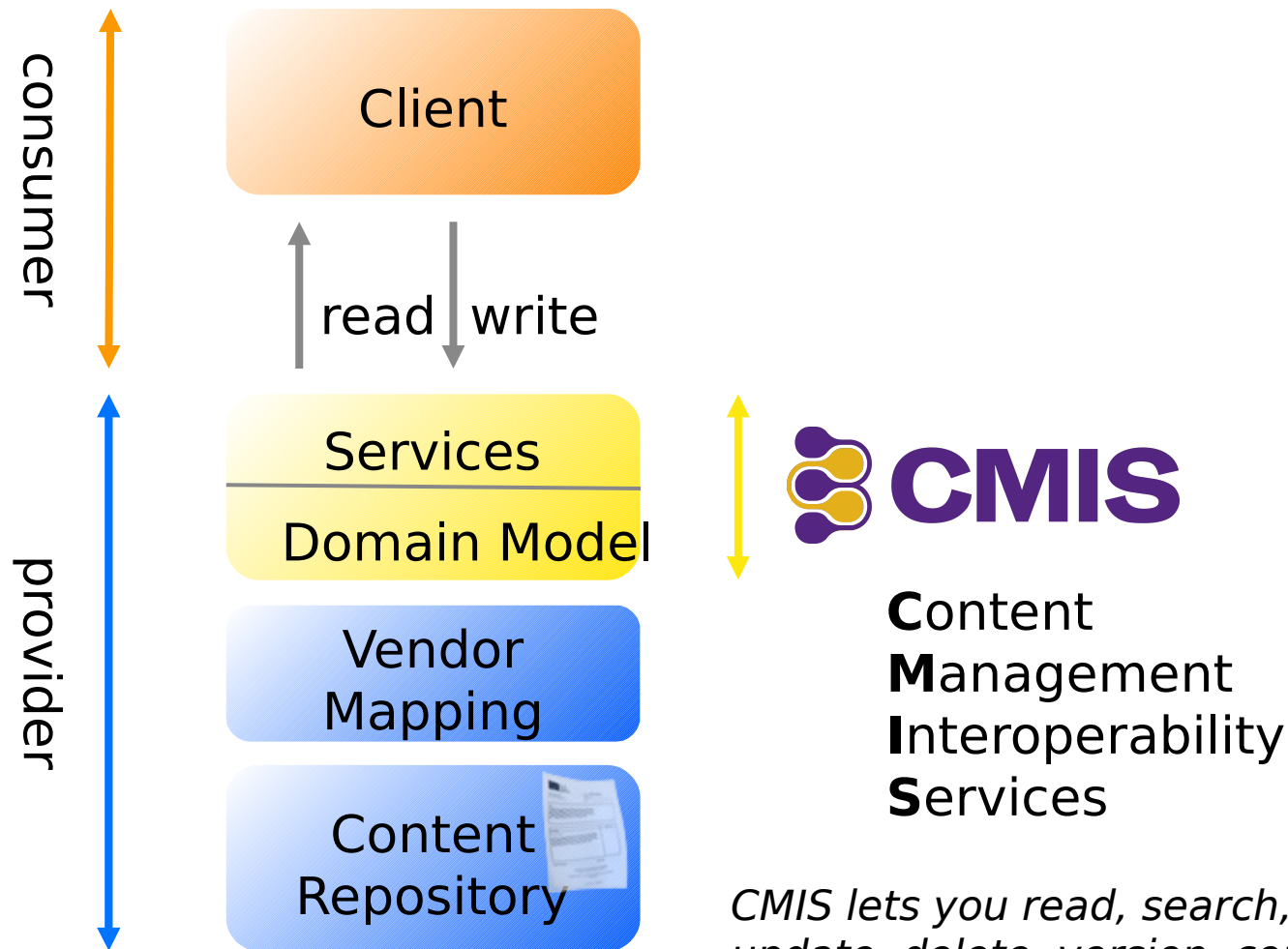


What is CMIS?

- Vendor independent API for working with content repositories
- Specification managed by OASIS
 - Web Services Binding
 - ATOM Pub Binding
 - CMIS Query Language



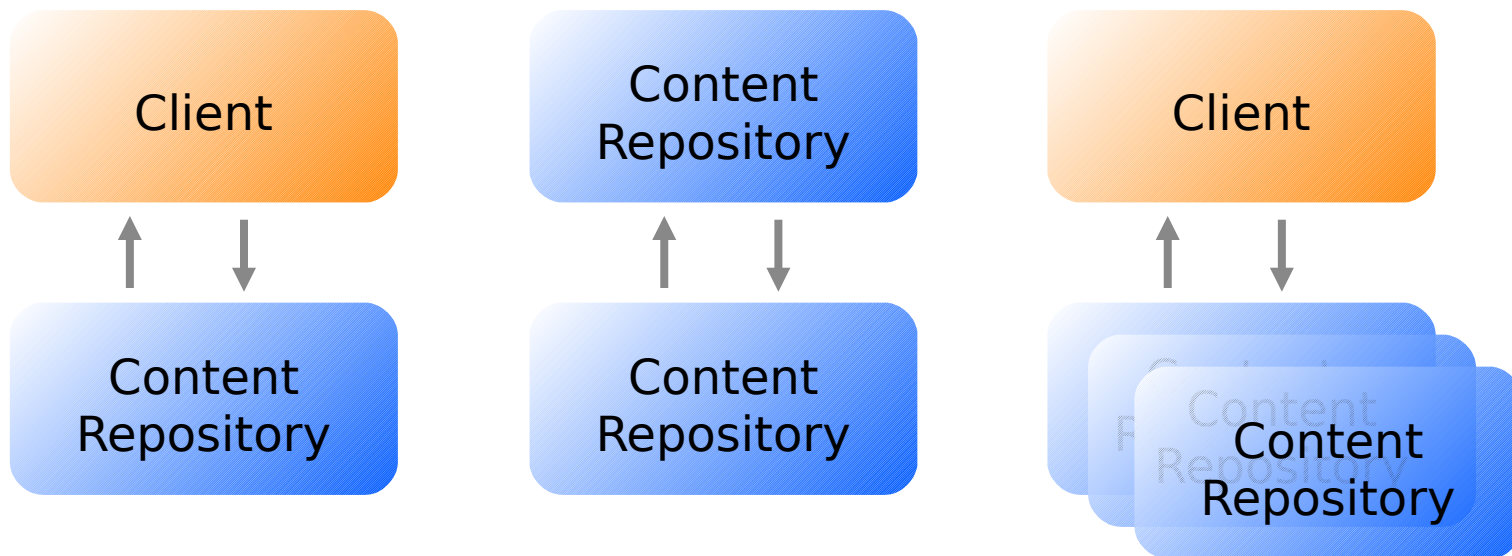
Meet CMIS



CMIS lets you read, search, write, update, delete, version, control, ... content and metadata!



Use Cases



- Collaborative Content Creation
- Portals
- Client Application Integration
- Mashup
- Workflow & BPM
- Archival
- Virtual Documents
- DAM / WCM



Types

Document

- Content
- Renditions
- Version History

Folder

- Container
- Hierarchy
- Filing

Described by
Type Definitions

Relationship

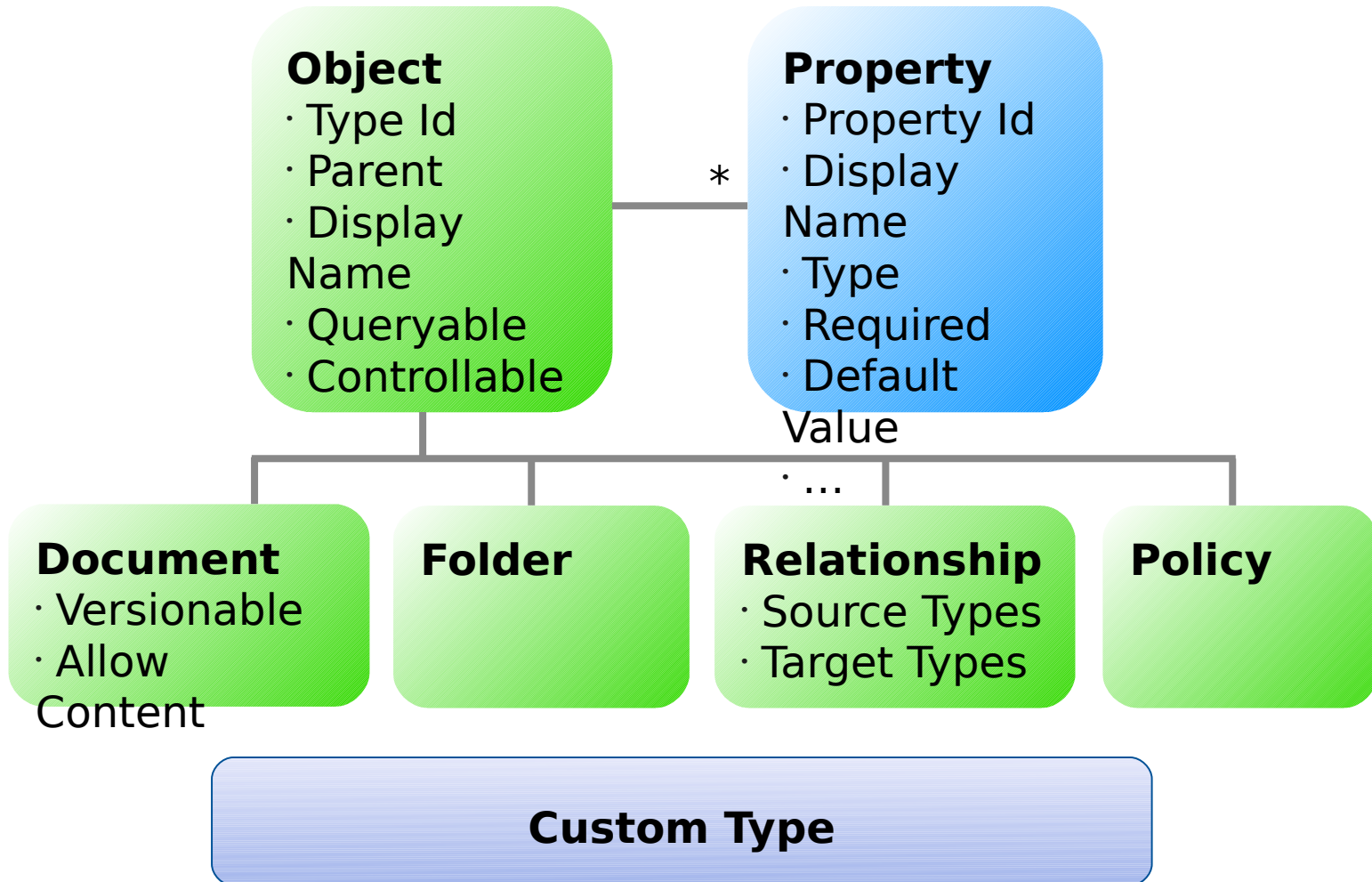
- Source Object
- Target Object

Policy

- Target Object



Type Definitions



Developed by 30+ ECM Vendors



Implementations Already Available...



Providers



Consumers



- Open Source implementations of CMIS
- Apache Chemistry is the umbrella project for all CMIS related projects within the ASF
 - OpenCMIS (Java, client and server)
 - cmislib (Python, client)
 - phpclient (PHP, client)
 - DotCMIS (.NET, client)





Apache Chemistry™

- Apache Chemistry started as an incubator project in May 2009
 - Graduated to a top level project in February 2011.
- Backed by Adobe, Alfresco, Nuxeo, OpenText, and SAP
- OpenCMIS is a de-facto reference for CMIS and is also used by the CMIS TC to test new CMIS 1.1 features





Apache
ChemistryTM

Wrap-up

- Download OpenCMIS
<http://chemistry.apache.org>
- Need a full-featured CMIS repository?
<http://www.alfresco.org>
- Stop by the Alfresco booth to see CMIS in action



CMIS Code Examples



Example: Getting a Session

```
// set up session parameters
Map<String, String> parameter = new HashMap<String, String>();

parameter.put(SessionParameter.BINDING_TYPE, BindingType.ATOMPUB.value());
parameter.put(SessionParameter.ATOMPUB_URL, "http://cmis.alfresco.com/service/cmisis");

parameter.put(SessionParameter.USER, "admin");
parameter.put(SessionParameter.PASSWORD, "admin");

// get a list of repositories and choose the first one
SessionFactory factory = SessionFactoryImpl.newInstance();
List<Repository> repositories = factory.getRepositories(parameter);
Session session = repositories.get(0).createSession();
```



Example: Using the Session

Information about the repository:

```
RepositoryInfo ri = session.getRepositoryInfo();  
String id = ri.getId();  
String name = ri.getName();
```

Access objects by id or path:

```
CmisObject object1 = session.getObject("1234567890");  
CmisObject object2 = session.getObjectByPath("/my/path/doc");
```

Iterate through a folder:

```
Folder rootFolder = session.getRootFolder();  
String rootFolderId = rootFolder.getId();  
  
for(CmisObject object: rootFolder.getChildren()) {  
    String name = object.getName();  
  
    if(object instanceof Document) {  
        Document doc = (Document) object;  
        long size = doc.getContentStreamLength();  
    }  
}
```



Navigation

```
// get root folder
Folder root = session.getRootFolder();
String rootFolderName = root.getName();

println "Root folder: ${rootFolderName}\n"

// print root folder children
for(CmisObject object: root.getChildren()) {

    String name = object.getName();
    String typeId = object.getType().getId();
    String path = object.getPaths().get(0);

    println "${name} \t${typeId} \t(${path})"

    // get parents
    /*
    for(CmisObject parent: object.getParents()) {
        String parentName = parent.getName();
        println " Parent: ${parentName}"
    }
    */
}
```



Paging

```
Folder root = session.getRootFolder();

printList( root.getChildren() )

//printList( root.getChildren().getPage(3) )

//printList( root.getChildren().skipTo(2) )

//printList( root.getChildren().skipTo(2).getPage(3) )

void printList(ItemIterable<CmisObject> list) {
    list.each { println "${it.name} \t${it.type.id}" }

    long numItems = list.getTotalNumItems();
    boolean hasMore = list.getHasMoreItems();

    println "-----"
    println "Total number: ${numItems}"
    println "Has more: ${hasMore}"
    println "
"
```

Properties

```
CmisObject object = session.getObjectByPath("/User Homes/florian/Test Folder/MyText");

for(Property<?> property: object.getProperties()) {

    String propId      = property.getId();
    String displayName  = property.getDefinition().getDisplayName();
    String queryName   = property.getDefinition().getQueryName();
    PropertyType datatype = property.getType();
    Object value       = property.getFirstValue();

    println "${displayName}: ${value}"
    println "  Data type:  ${datatype}"
    println "  Id:           ${propId}"
    println "  Query name:  ${queryName}"
    println ""
}
}
```


Content

```
CmisObject object = session.getObjectByPath("/User Homes/florian/Test Folder/MyText");

if(!(object instanceof Document)) {
    throw new Exception("Not a document!");
}

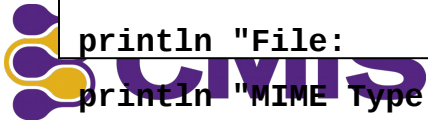
Document doc = (Document) object;

ContentStream content = doc.getContentStream();

if(content == null) {
    throw new Exception("Document has no content!");
}

String filename = content.getFileName();
String mimeType = content.getMimeType();
long length = content.getLength();
InputStream stream = content.getStream();

println "File:          ${filename}"
println "MIME Type:    ${mimeType}"
println "Size:          ${length} bytes"
```



Query

```
String cql = "SELECT cmis:objectId, cmis:name, cmis:contentStreamLength FROM
cmis:document";

ItemIterable<QueryResult> results = session.query(cql, false);

//ItemIterable<QueryResult> results = session.query(cql, false).getPage(10);
//ItemIterable<QueryResult> results = session.query(cql, false).skipTo(10).getPage(10);

for(QueryResult hit: results) {
    for(PropertyData<?> property: hit.getProperties()) {

        String queryName = property.getQueryName();
        Object value = property.getFirstValue();

        println "${queryName}: ${value}"
    }

    println "-----"
}
}
```

Folders

```
Folder root = session.getRootFolder();

// create a new folder
Map<String, Object> properties = new HashMap<String, Object>();
properties.put("cmis:objectId", "cmis:folder");
properties.put("cmis:name", "a new folder");

Folder newFolder = root.createFolder(properties);

printProperties(newFolder);

// update properties
Map<String, Object> updateproperties = new HashMap<String, Object>();
updateproperties.put("cmis:name", "renamed folder");

newFolder.updateProperties(updateproperties);

newFolder.refresh();
printProperties(newFolder);
```



Documents

```
Folder root = session.getRootFolder();

// create a new document
String name = "myNewDocument.txt";

Map<String, Object> properties = new HashMap<String, Object>();
properties.put("cmis:objectId", "cmis:document");
properties.put("cmis:name", name);

byte[] content = "Hello World!".getBytes();
InputStream stream = new ByteArrayInputStream(content);
ContentStream contentStream = new ContentStreamImpl(name, content.length, "text/plain",
stream);

Document newDoc = root.createDocument(properties, contentStream,
VersioningState.MAJOR);

printProperties(newDoc);
```

