

GeoNetwork Architecture and Technologies

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FAO

Summary

- What GeoNetwork is
- Technologies
- Standards
- Architecture

What GeoNetwork is

A web based catalogue application that integrates:

- Metadata search capabilities
- Metadata editing and management
- Data distribution and publication
- Interactive access to maps from distributed servers
- Metadata sharing

Technologies and Standards

Technologies

- Java language (platform independent)
- Servlet environment (Tomcat, Jetty, ...)
- XML data representation (JDOM)
- XSL templates for presentation (XALAN)
- JDBC for database access (runs on any compliant DBMS)
- Lucene search capabilities
- XML Schema for metadata editing

Standards

- Metadata
 - ISO 19115 / 19139
 - FGDC – Federal Geographic Data Committee
 - Dublin Core
- Data
 - OGC compliant web map services (intermap)
- Search
 - Z39.50 with GEO profile
 - OGC Catalogue Services for the Web

Architectural Overview

Architectural Overview

- XML + XSL engine (Jeeves)
- Metadata management layer
- Search engine

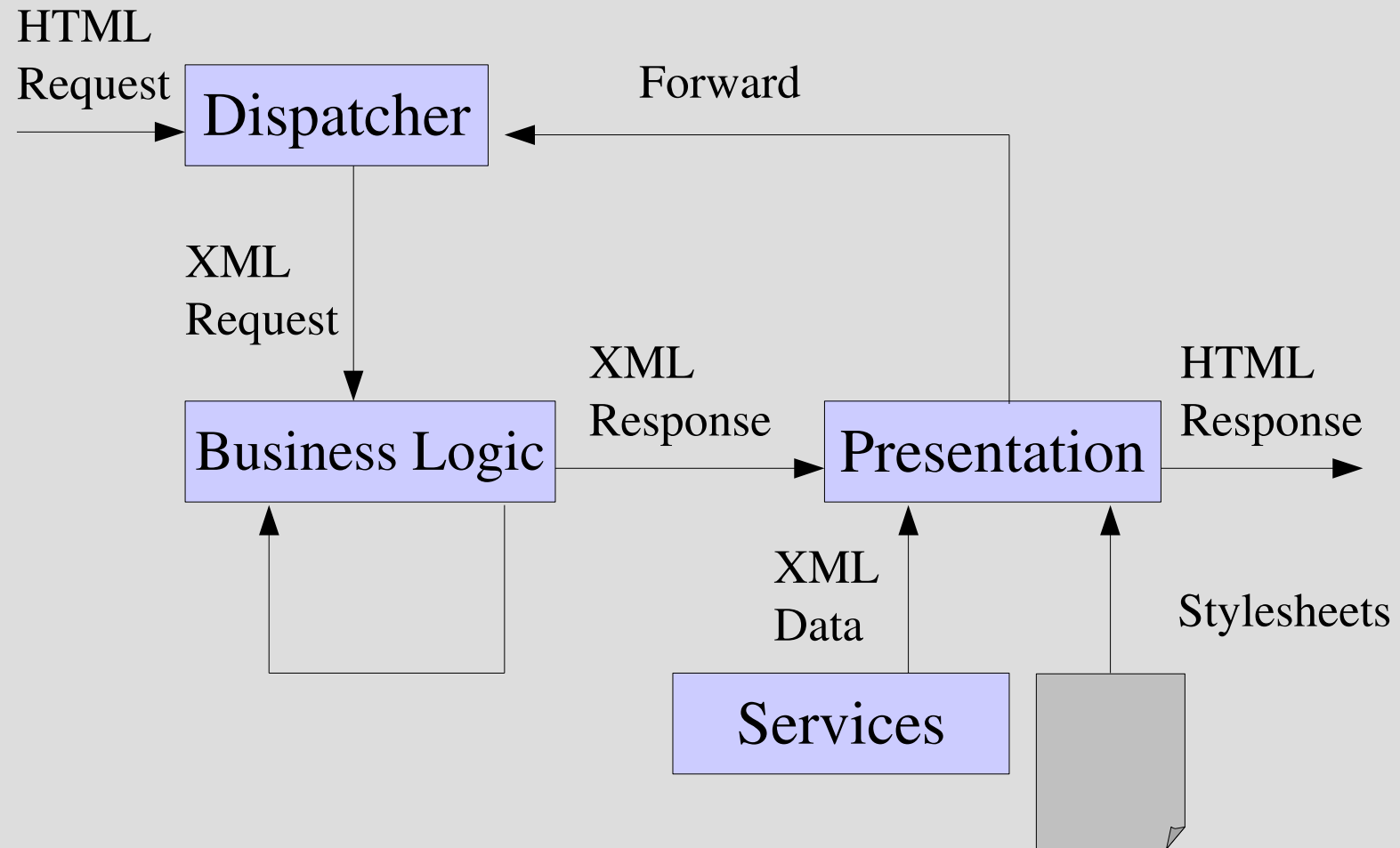
XML + XSL Engine

- Client / server architecture with multiple access modes (HTML, XML, ...)
- Separation of presentation (pages) from business logic (services)
- XML structures for service parameters

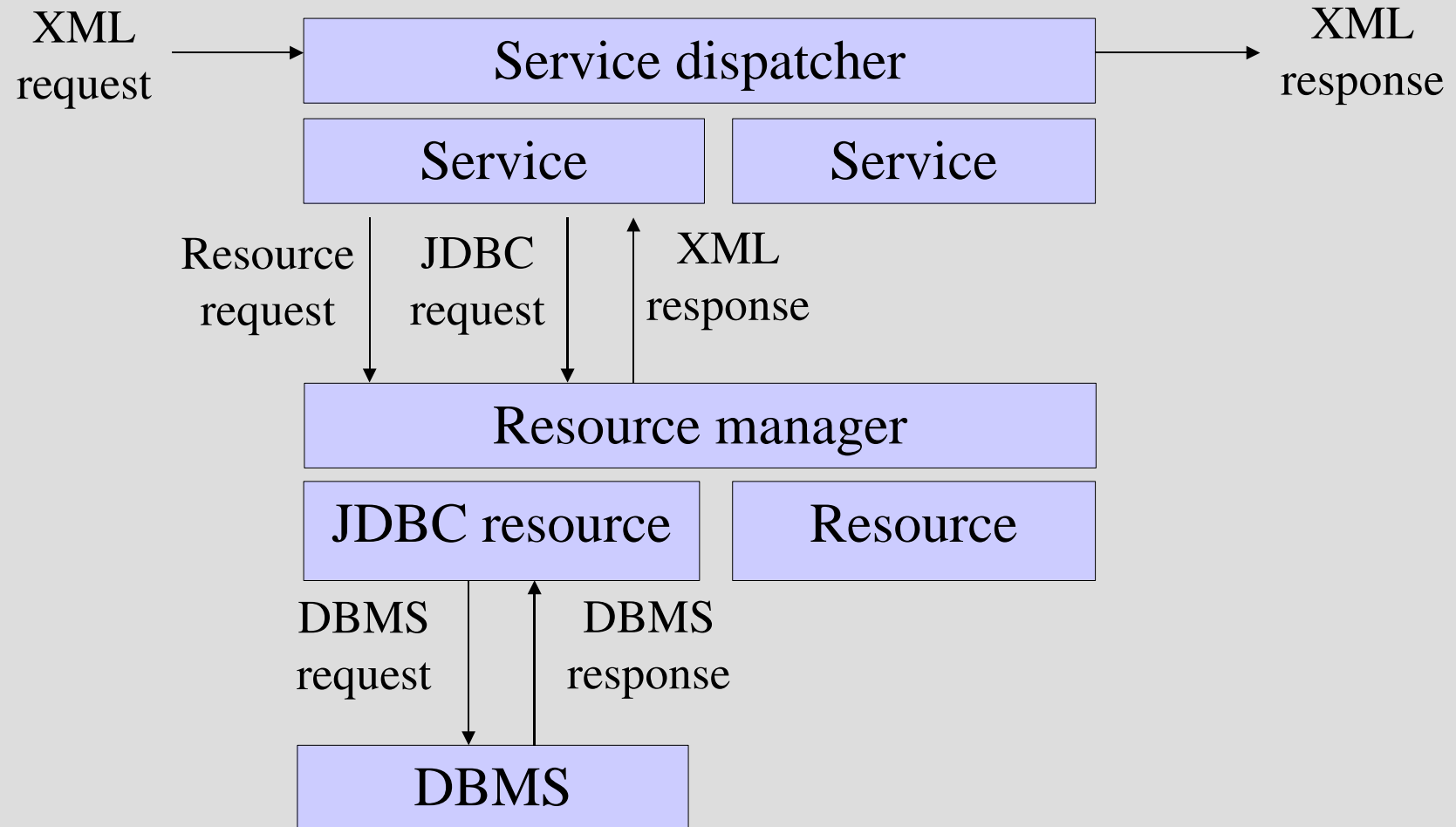
Multiple Access Modes

- HTML from browsers
- XML over HTTP access from generic clients
- Z39.50 access for search
- Other access modes possible (SOAP, ...)

Request Workflow



Business Logic



Metadata Management

- Business logic split into two layers
 - Services
 - Metadata access and manipulation
- Support for multiple metadata standards
 - Stylesheets for visualization, editing and search
- Allows to edit a metadata according to its XML Schema
- Metadata stored in XML form into the database

Search Engine

- Uses Lucene to index metadata
- Unified search through stylesheets
- Scalable over big metadata sets
- Remote search using Z39.50 (GEO profile) and OGC Catalogue Services for the Web

That's all