Registries

An Introduction

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Registries Needed for More than Just Geodata and Processes:

- Information Communities
- Collections of Feature Types and their Semantics
- Spatial/Temporal Reference Systems
- Catalogs (for geodata and geoprocesses)
- Product Specifications (Feature capture criteria, Accuracy, …)
- Operators/Processes
- Location Organizing Folders
- Ontologies, Taxonomies, and Semantic Translators
- Symbols
- Symbolization Rule Sets (Style Sheets)
- GML
- Code Lists
- Quality, Standard operating procedures,…
- Gazetteers
- Feature Collections
- More?
N-Tier GIS Architecture

**Client**
Requestor, Displayer, Navigator, ...

**Broker**
The media and Region Resolution, ...

**External Input**
Traffic, Events, Urgent Messages, ...

**Catalog**
Metadata For Repositories of Data, Processes, Services, and Operators

**Services/Application**
Route, Location, Mayday, Locked Key, ...

**Repository/Registry**
Data and Processes/Operators/Applications Imagery, Map, Road Network, Weather, ...
A General GIS Architecture

Client

Broker

External Input

Service Request

Request with Resolved Service, Theme, and Region

Notification Of Change

Discovery of Data Repository

Matching Theme & Region

Discovery of Server

Matching request

Catalog

Response Payload

Request Payload

Service, App

Repository

Data

Data Request

Register Metadata

Update
Location Services Exploit Repositories

Provide Route “Enriched” with Gazetteers, Backdrops, Traffic, Retail Outlets, Weather, PoI, …

Enriched Route

Registry Layer

(Route) Server

Weather Repository
Route Repository
PoI “Repository”
Traffic Data “Repository”
Backdrop Repository
Yellow Pages Repository
The PoI Theme and its Regions

North America may have many Regions

Repositories must be **regional** in order To be authoritative and accurate

A Region of Interest may Overlap many Repositories
Regional Authorities/Jurisdictions

Postal zone
Area code
Census tract
Time zone
Countries
Cities
States
Parks
Forests
Waterways
Waste Water
Points of Interest
Historic Sites

Military Bases
Restricted Fishing
Power Grids
Water Distribution
Greenways
BLM Lands
Tribal Reservations
Habitats
Land Titles
Public Land Survey
Cable Networks
Traffic
Flight Control

Parcels
Rights of Way
Yellow Page volume
School District
Fire District
Tour Book
Common Natural Language
Watershed
Temporate zones
Militarized Zones
Cooperatives
Backdrop Images
Gazetteers