US GIN Project status

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Geoscience Information Network

- Develop services and vocabularies to enable exchange of geoscience information
- Work with data providers to implement those services
- Objective is to get more geoscience information accessible online
- Build on existing resources -- NGMDB, GEON, GeoSciML, NGGDPP...
Current Priorities

- Catalog services – find and use resources
  - NGMDB map catalog, GEON, NDC
- Web map service (WMS) – georeferenced geologic map images
- Web feature service (WFS) – GeoSciML vector data with attributes
- EarthChem – geochemical data
- National Geothermal Data system
## US GIN Lab

**The Geoscience Information Network Commons**

### SPECIFICATIONS AND MODELS
- Learn about setting up a Geoscience Information Network
- **Build** Geoscience Information Network components
- Test drive components of a Geoscience Information Network

### GIN NEWS

- **GIN Lab Beta** | 2009-05-16 11:17
  A welcome to the GIN Lab site.

### TODAY'S POPULAR CONTENT

- **US GIN CSW Simple Client** (1)
- CatalogConnector CSW Client (1)
- Catalog service development (1)

### RECENT ACTIVITIES

<table>
<thead>
<tr>
<th>Title</th>
<th>Type</th>
<th>Last Update</th>
</tr>
</thead>
<tbody>
<tr>
<td>US GIN CSW Simple Client</td>
<td>Page</td>
<td>2 days 12 hours</td>
</tr>
<tr>
<td>CatalogConnector CSW Client</td>
<td>Page</td>
<td>2 days 12 hours</td>
</tr>
<tr>
<td>Introduction to specifications and models</td>
<td>Resource</td>
<td>3 days 49 min</td>
</tr>
<tr>
<td>What is this Group thing ?</td>
<td>Group</td>
<td>3 days 53 min</td>
</tr>
<tr>
<td>Catalog service introduction</td>
<td>Resource</td>
<td>3 days 2 hours</td>
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</tbody>
</table>
Conclusion

• Standardized service to integrate catalogs => more effective resource discovery
• WMS technology is mature enough to roll out production delivery systems

Thank You
How

• Catalog service—discovery
  – Access from stand alone application or web page
  – Access from within application (e.g. ArcGIS client)

• WMS
  – Get map image with symbolization already done
  – Provides legend and simple get feature info
Metadata registry

• Database
  – Contains necessary content in separate fields that can be mapped to metadata interchange format

• Content model
  – Author, title, abstract, extent, date modified, identifier, publisher, language, type, format...
  – Dublin core, FGDC, ISO 19115
Catalog service

• Defines
  – How to compose queries
    • query or filter syntax—SQL, CQL
  – What the user can ask (operations)
    • Get records; Describe schema; Insert, delete, or update records; Harvest records
  – How the metadata is encoded
    • e.g. ISO 19139 xml schema
Search application (the client)

- Interface (e.g. web page) to assist users to compose and submit queries
  - Might provide pick lists from standard vocabularies
  - Mapping to query schema
- Formats results for easy interpretation
- Provides links to related resources, other features to add value for users
- If communication with catalog is via service, don’t have to build separate client for each catalog server
Geologic map content

- Georeferenced digital data
- Symbolized
  - Have to use symbolization tools available in map server
- Polygons and undecorated lines for faults and contacts are simplest
Web map service

- Produces raster images for maps
- Different environments have different symbolization schemes
  - Free open source servers have limited symbolization capability
- Simple get feature info (single point), commonly servers allow use of templates to provide html formatting for results
WMS client

- Requests a particular map portrayal for the current view frame
- Does mapping from view coordinates to geographic coordinates for requests
- Provides uses with tools to turn ‘layers’ on and off, request legend, and get feature info (info click).