



Geoportal Server: An Introduction

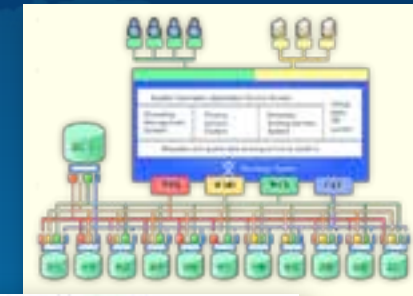
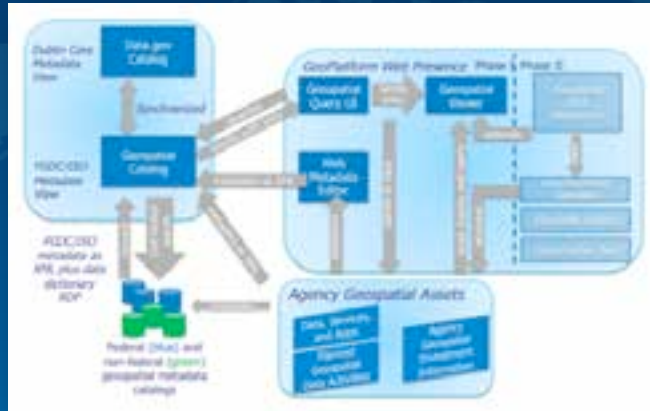
@martenhogeweg

Technical Workshop

The Big Picture

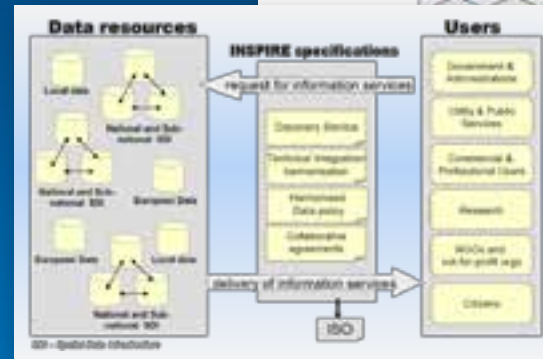
Spatial Data Infrastructures

US



Russia

China



EU



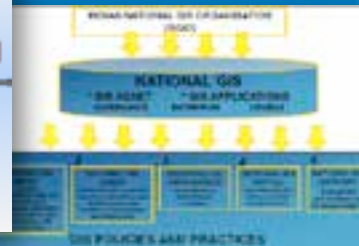
Geneva, Switzerland



Bogotá, Colombia



Abu Dhabi



India

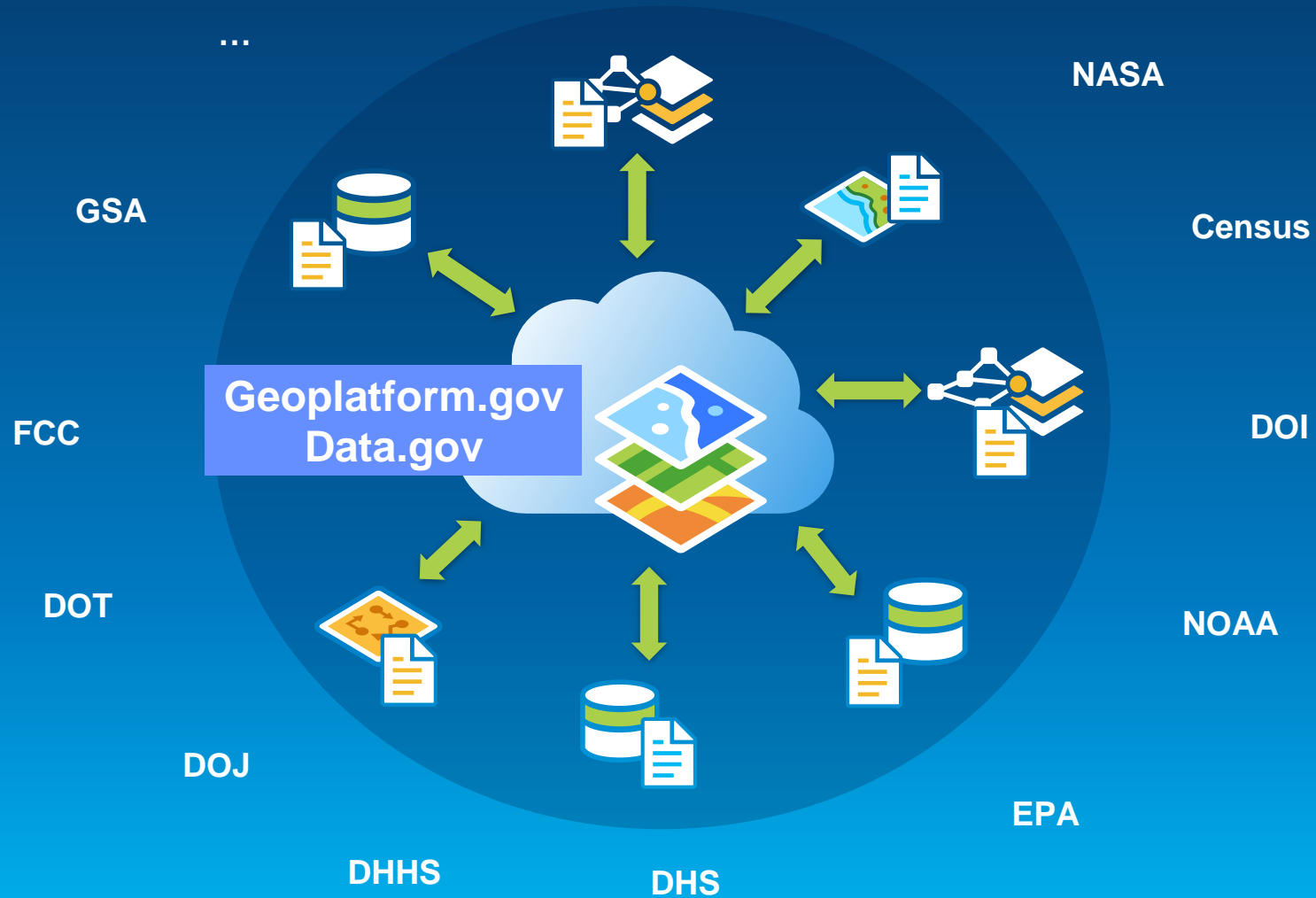


Singapore



Indonesia

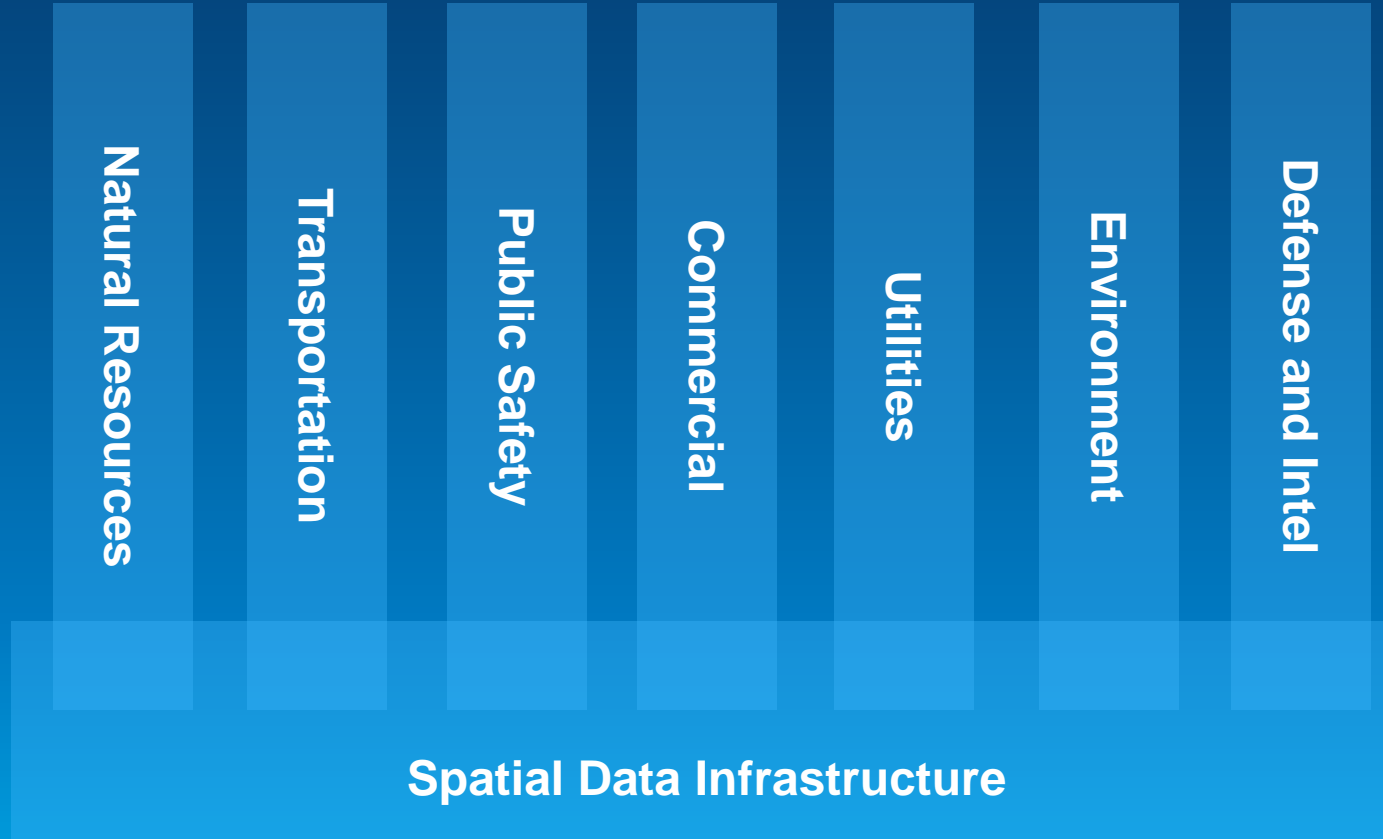
Geoplatform.gov/Data.gov – National SDI



Group on Earth Observation – Global SDI



Many Disciplines Participate in SDI



Characteristics of SDI

- **SDI**

- **Diversity**
- **Federation**
- **Multiple CIO Collaborating**
- **Data Discovery Across Community of Interest**
- **Crosses Jurisdictional Boundaries**
- **Focus on Data Exchange**

Enterprise GIS

- **Uniformity**
- **Centralize**
- **One CIO designs the system**
- **Gravitating to Homogeneous IT Infrastructure**
- **Shared Internet Domain**
- **Focus on Data Production/Utilization**

Esri Geoportal Server

<https://github.com/Esri/geoportal-server>

Download
ZIP File

Download
TAR Ball

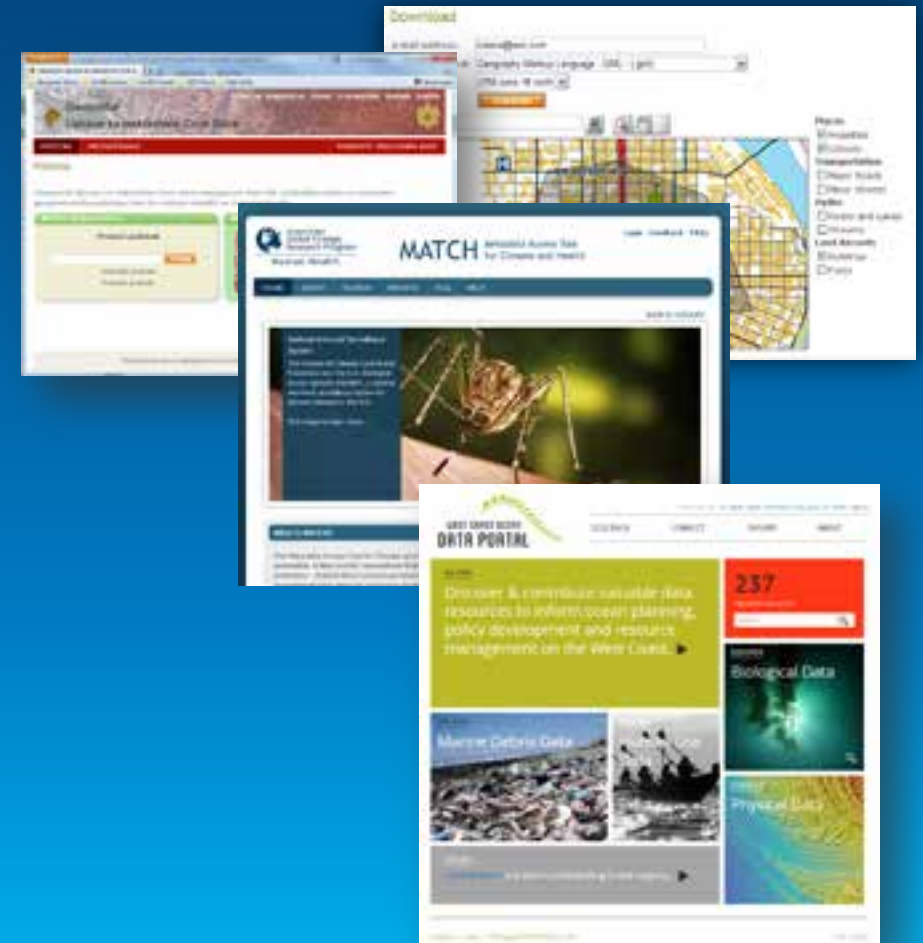
View On
GitHub

Esri Geoportal Server

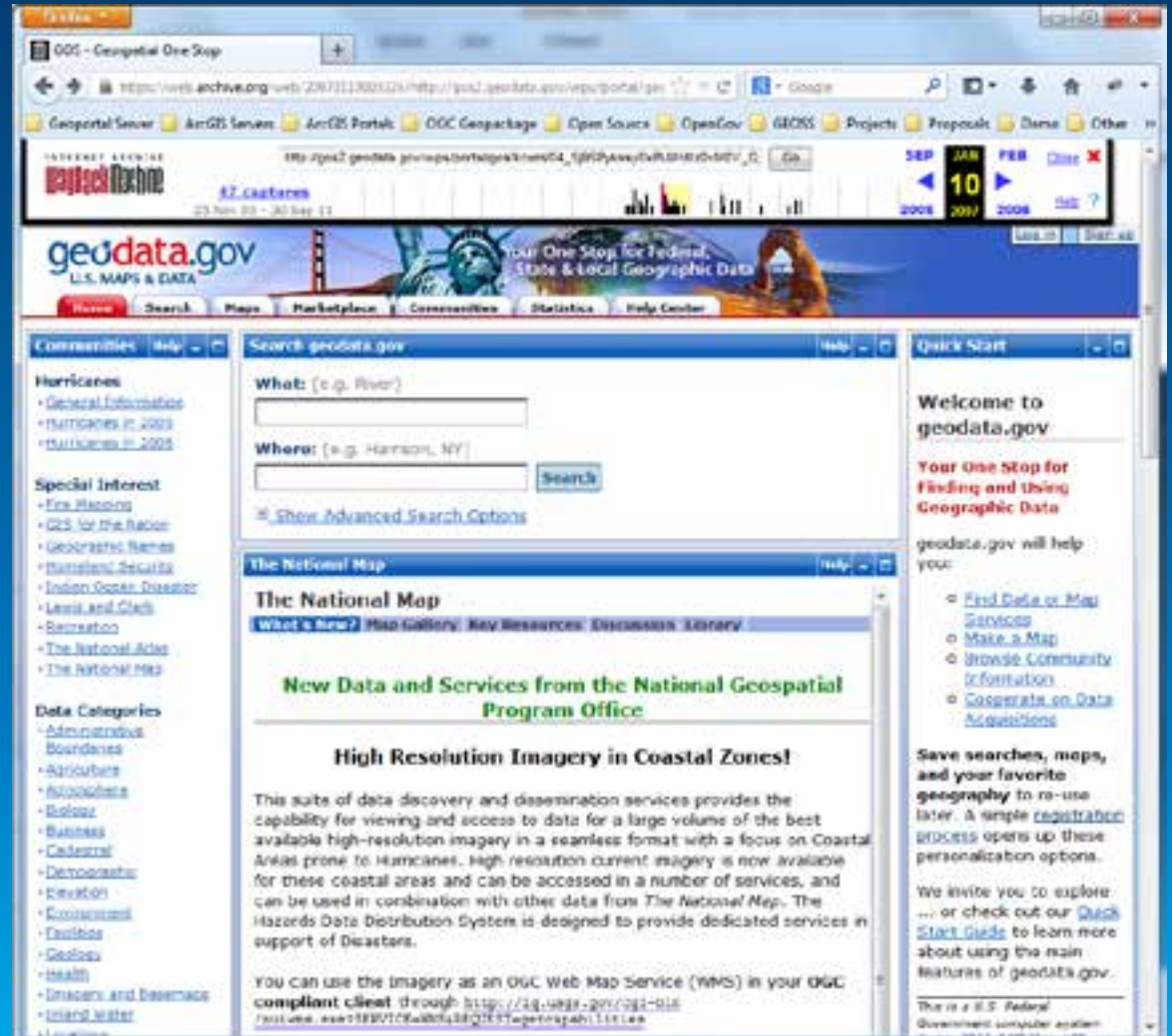
Enabling discovery and use of geospatial resources in heterogeneous environments

- Search and use geospatial resources
- Manage, publish, and store metadata
- View live map services
- Download data
- Standards-compliant

- Open Source
 - Apache 2.0
 - Used globally
 - 75% outside US

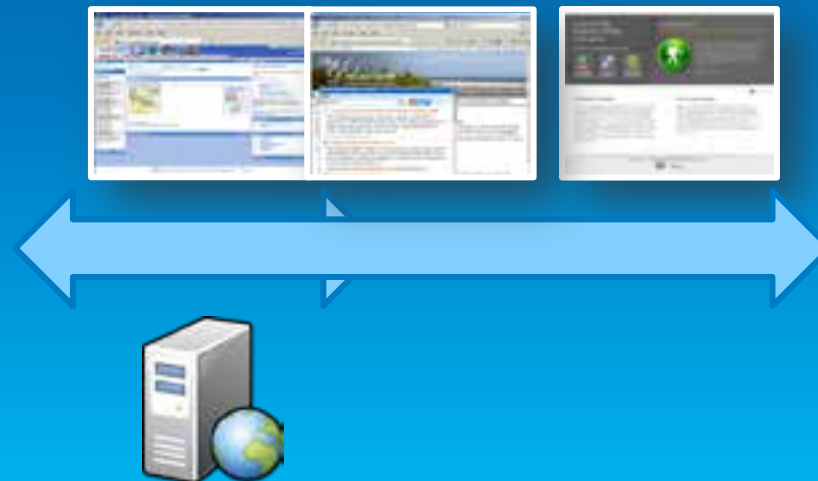


Geospatial One-Stop (2004 – 2010)



Data.gov (2009 – present)

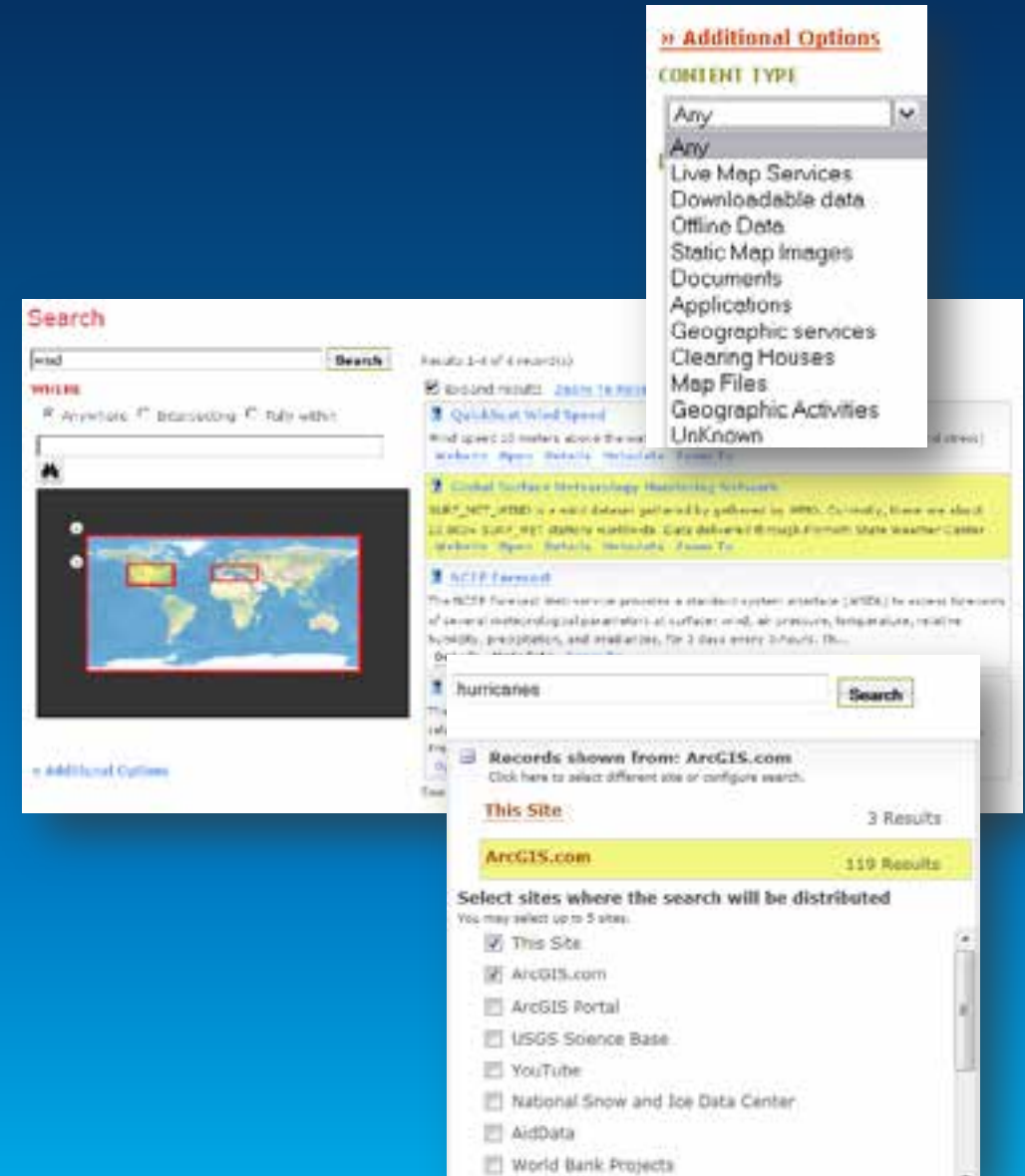
- Data.gov – Obama administration initiative to transparent government
- Should Data.gov build yet another catalog for data?
- Geodata.gov and Data.gov collaborated
- Geodata.gov supplied Data.gov with 450,000+ downloadable datasets through an OGC Web Service



Use Case: “I want to find data ...”

Solution:

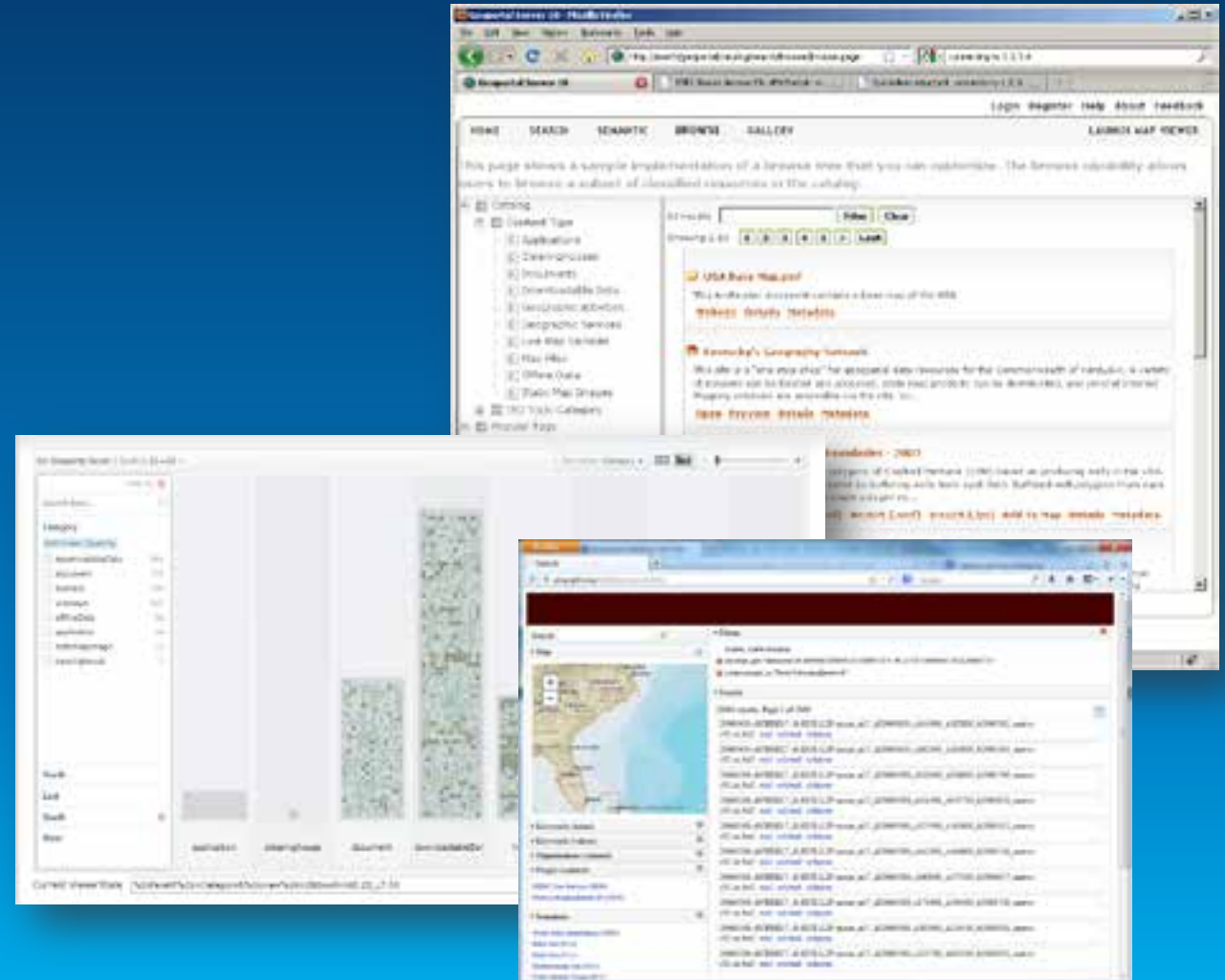
- Simple keyword Search
- Spatial search
- Federated Search
- Advanced options for experts
- Smart matching and ranking
- Thesaurus Service
- Search results are simple to understand...
yet contain detail for power users



Use Case: “I don’t want to search though...”

Solution:

- Analogous to Department Store
- Implementer Organizes Hierarchy
- Based on Metadata Content
- Filter/Paginate Within Category
- Classification and Relationships
- Search with facets



Use Case: “*I want to make a map ...*”

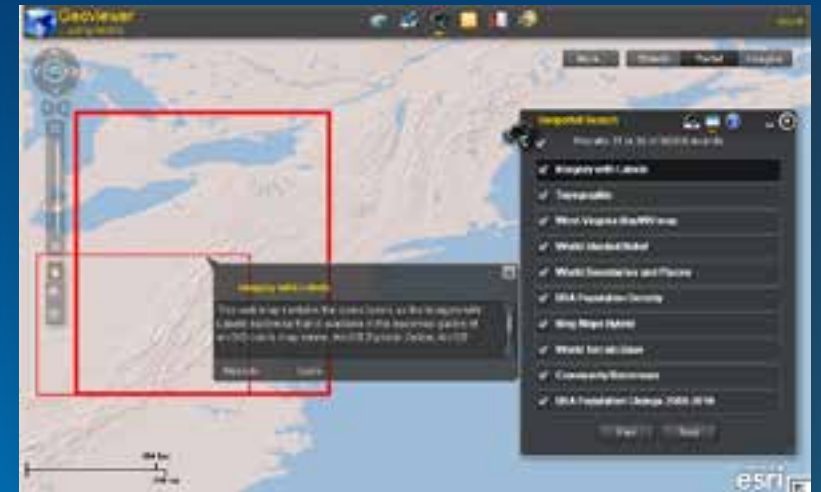
- **Solution:**

- **Preview services:**

- ArcGIS Server Map Services
- ArcIMS Image Services
- OGC WMS, SOS
- GeoRSS
- KML

- **Provide integration points for map viewer platforms**

- Portal for ArcGIS/ArcGIS.com Viewer
- JavaScript, Flex, Silverlight
- ArcGIS Desktop ArcMap



Use Case: “I want to download data ...”

Solution:

- Select area
 - Select data
 - Set options
 - Deliver download link through email
- Based on Clip-Zip-Ship Service
 - Extensible in Python



Use Case: “I want to share my resource...”

Solution:

- Register Servers or Services Directly
- Create metadata online
- Upload metadata
- Register catalog service for harvesting
- Support metadata standards:
 - INSPIRE
 - North American Profile
 - Dublin Core
 - Configurable

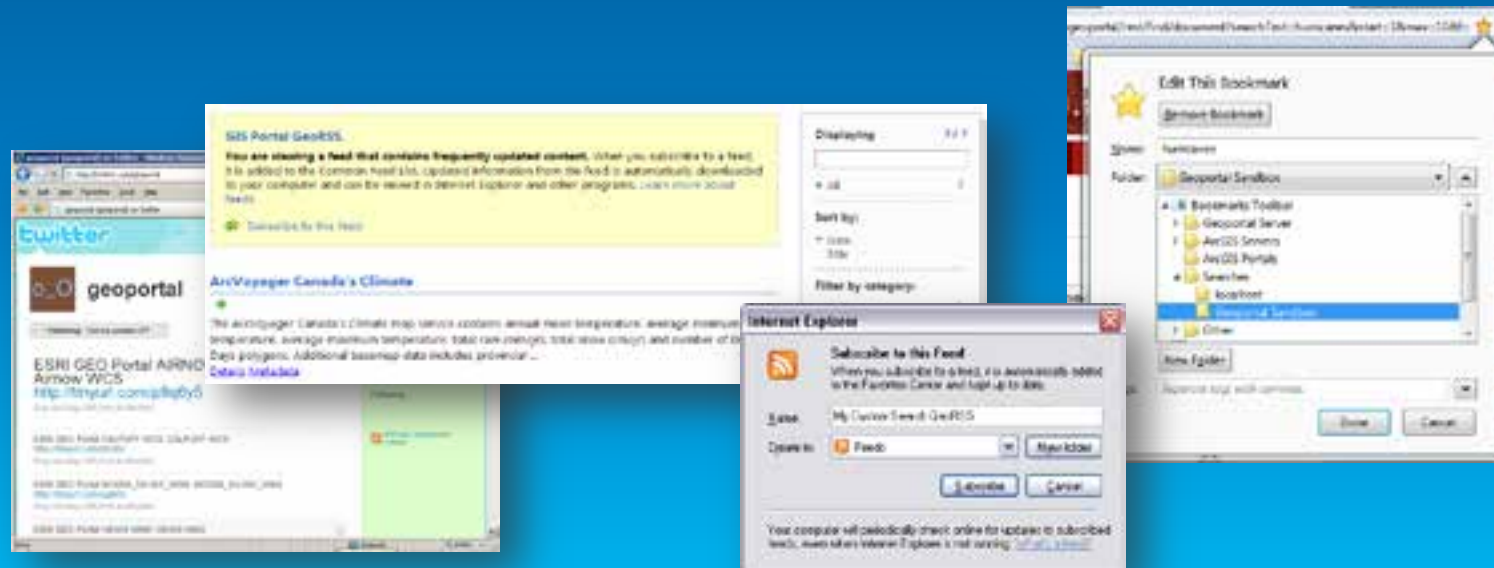


Use Case: “Is new data is available...?”

Solution:

- User specifies search criteria
- Give user link to a GeoRSS feed
- User subscribes to GeoRSS feed
- Bookmark searches in the browser

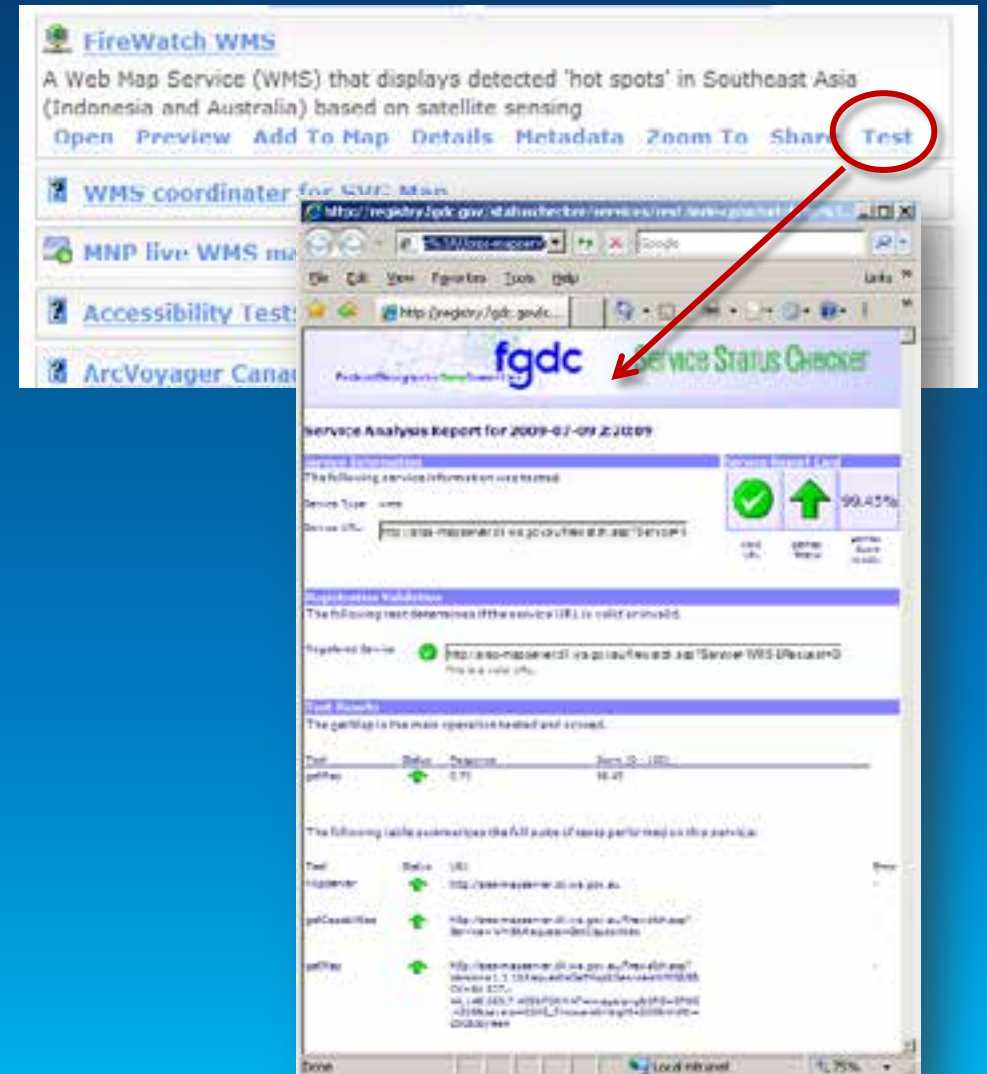
See results through REST API: [GEORSS](#) [ATOM](#) [HTML](#) [FRAGMENT](#) [KML](#)



Use Case: “Is my resource is available...?”

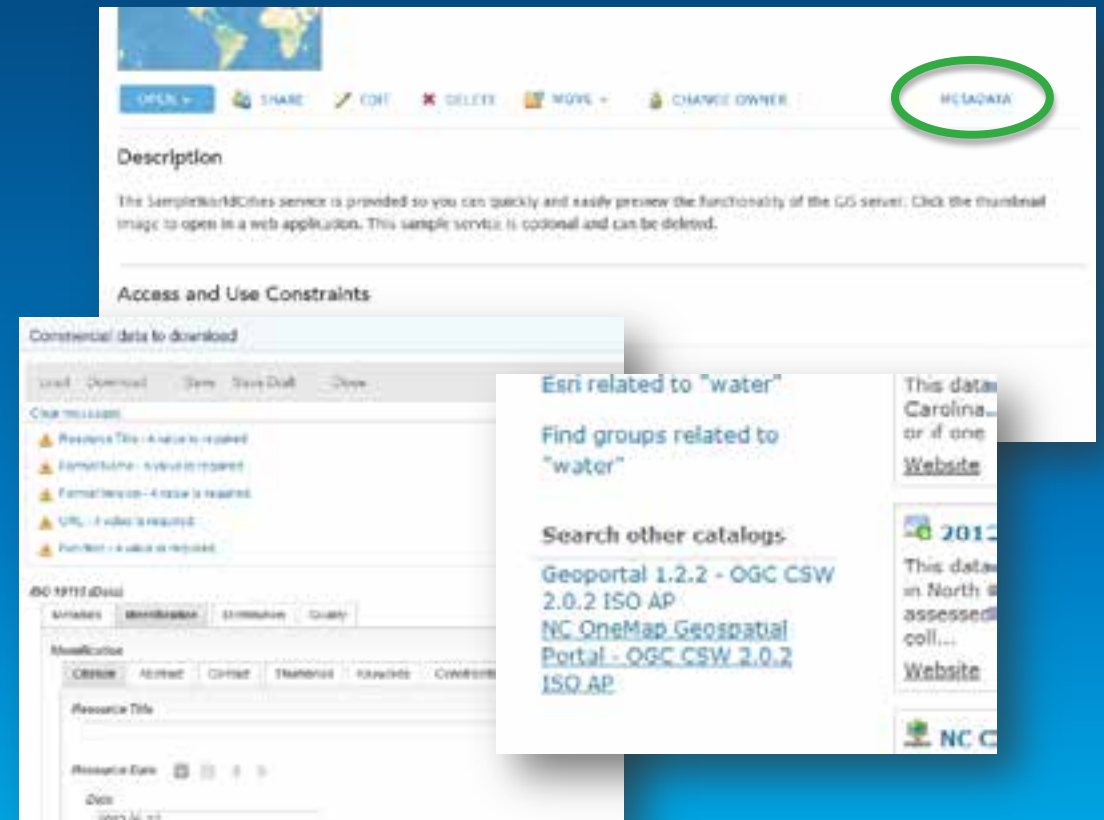
Solution:

- Monitor Services
- Verify Implementation
- Performance and Scalability:
<http://resources.esri.com/enterpriseGIS/index.cfm?fa=performance.main>
- FGDC Service Status Checker:
<http://registry.fgdc.gov/statuschecker/>

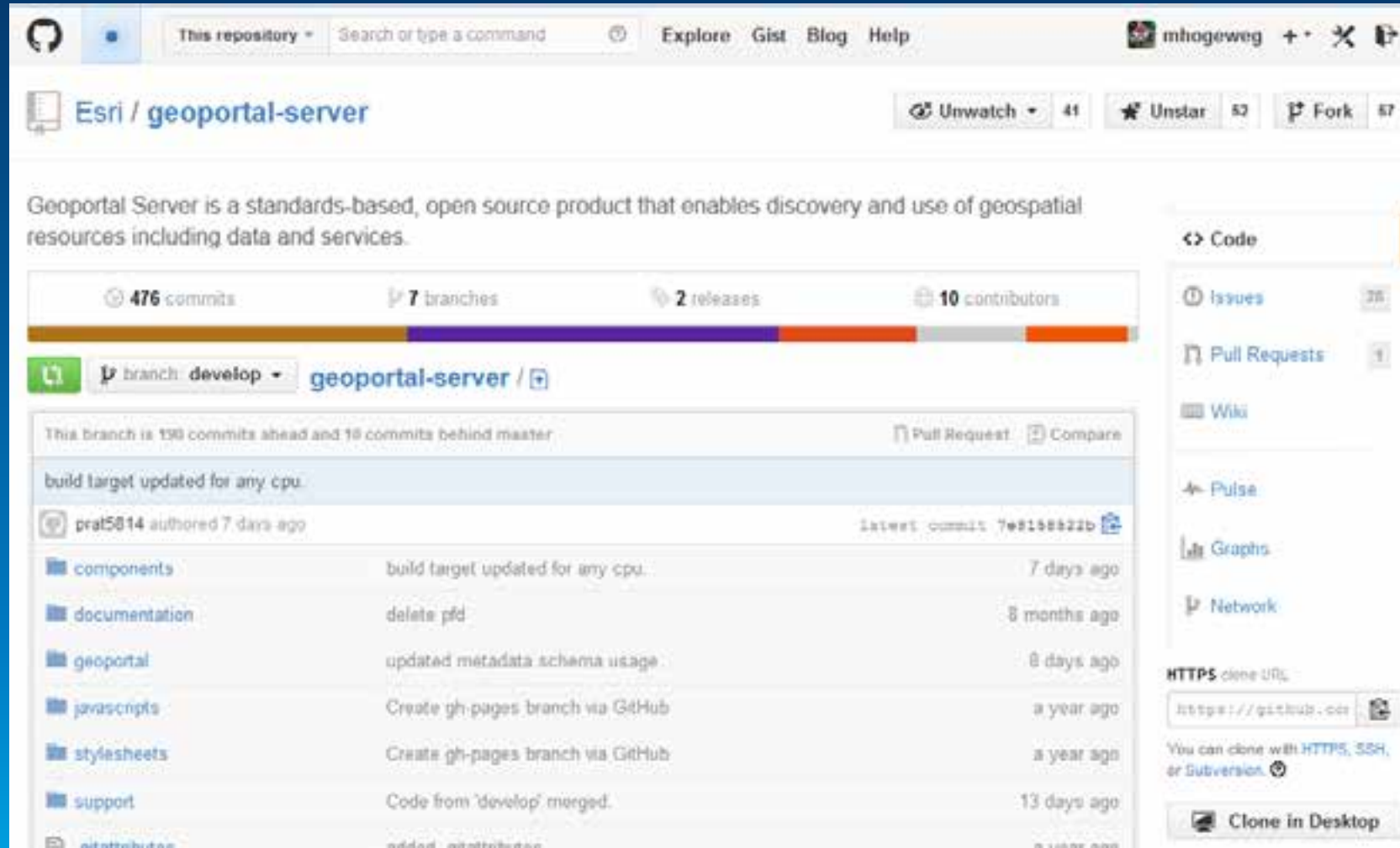


What's new at Version 1.2.5

- **Open Government Data Integration**
 - DCAT serving and harvesting
- **Portal for ArcGIS Integration**
 - Metadata
 - Federated Search
 - Synchronize Portals and ArcGIS Online
- **Updated Metadata Support**
 - ISO 19115-2
 - UK Gemini 2.2
- **Updated Viewer to ArcGIS for Flex 3.5**

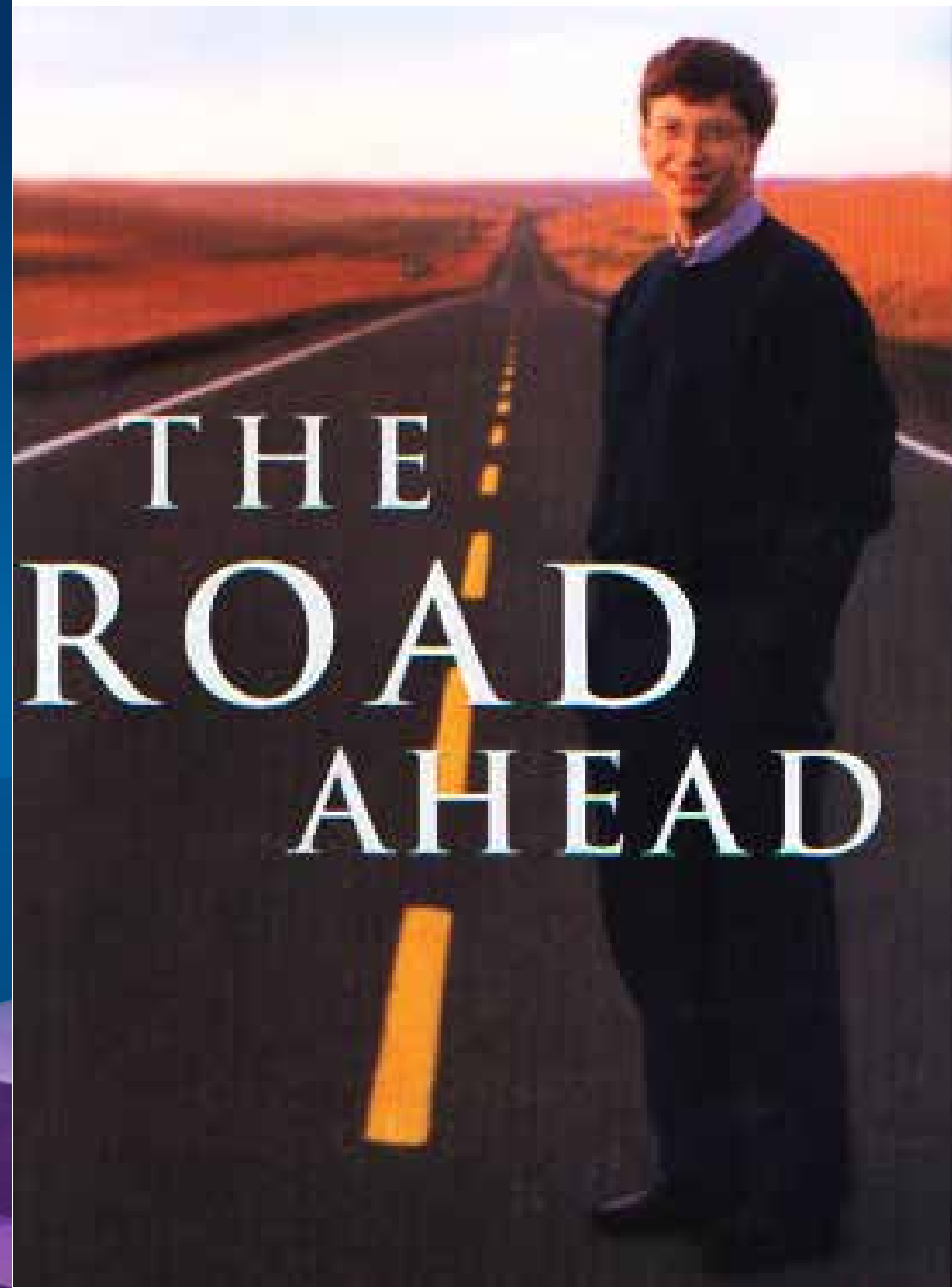


Geoportal Server is OPEN SOURCE



<http://esriurl.com/geoportalserver>

The Road Ahead



Geoportal Server Roadmap

Version 1.2.4 – UC 2013

- Open Government Support
- Portal for ArcGIS integration
- Faceted Search
- Include Flex Viewer 3.0
- FGDC Service Checker integration

Version 1.2.5 – Early April

- Full DCAT Support
- PKI Authentication
- Include Flex Viewer 3.5 + fixes
- Metadata Profile fixes...

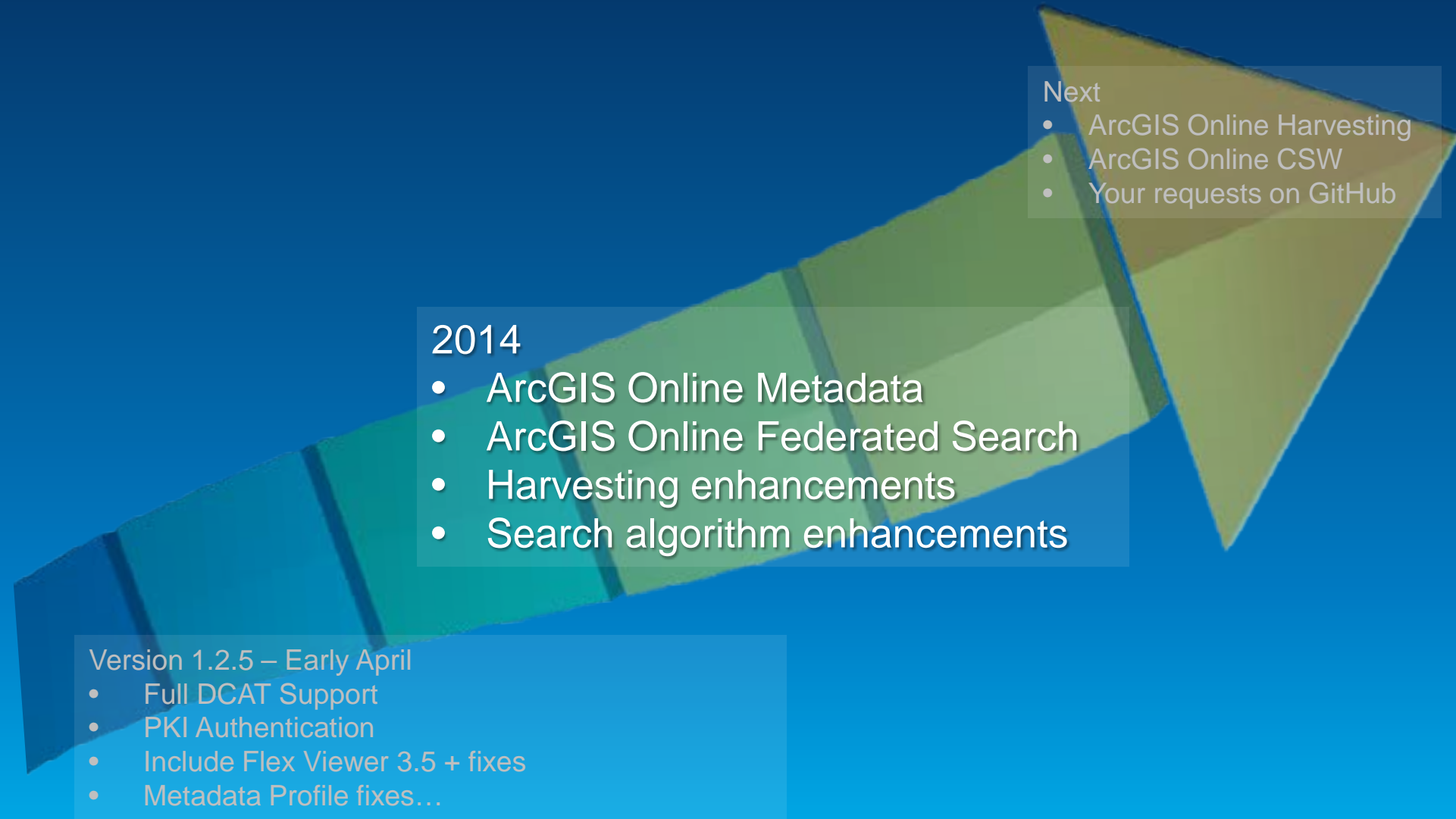
Next

- ArcGIS Online Apps
 - Metadata
 - Federated Search
 - Harvesting
 - CSW

DEMO

Geoportal Server 1.2.5

Geoportal Server Roadmap



Next

- ArcGIS Online Harvesting
- ArcGIS Online CSW
- Your requests on GitHub

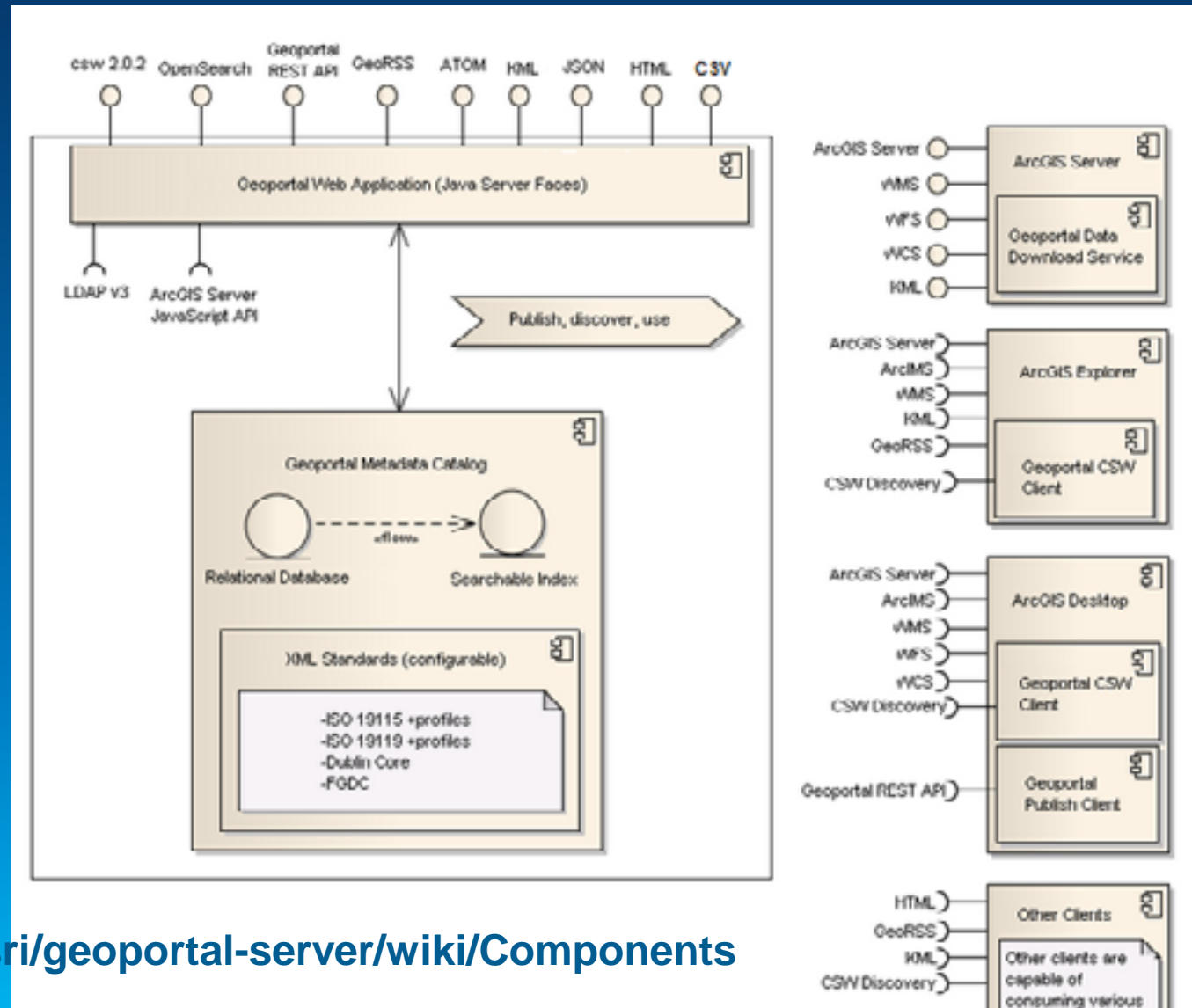
2014

- ArcGIS Online Metadata
- ArcGIS Online Federated Search
- Harvesting enhancements
- Search algorithm enhancements

Version 1.2.5 – Early April

- Full DCAT Support
- PKI Authentication
- Include Flex Viewer 3.5 + fixes
- Metadata Profile fixes...

Got API?



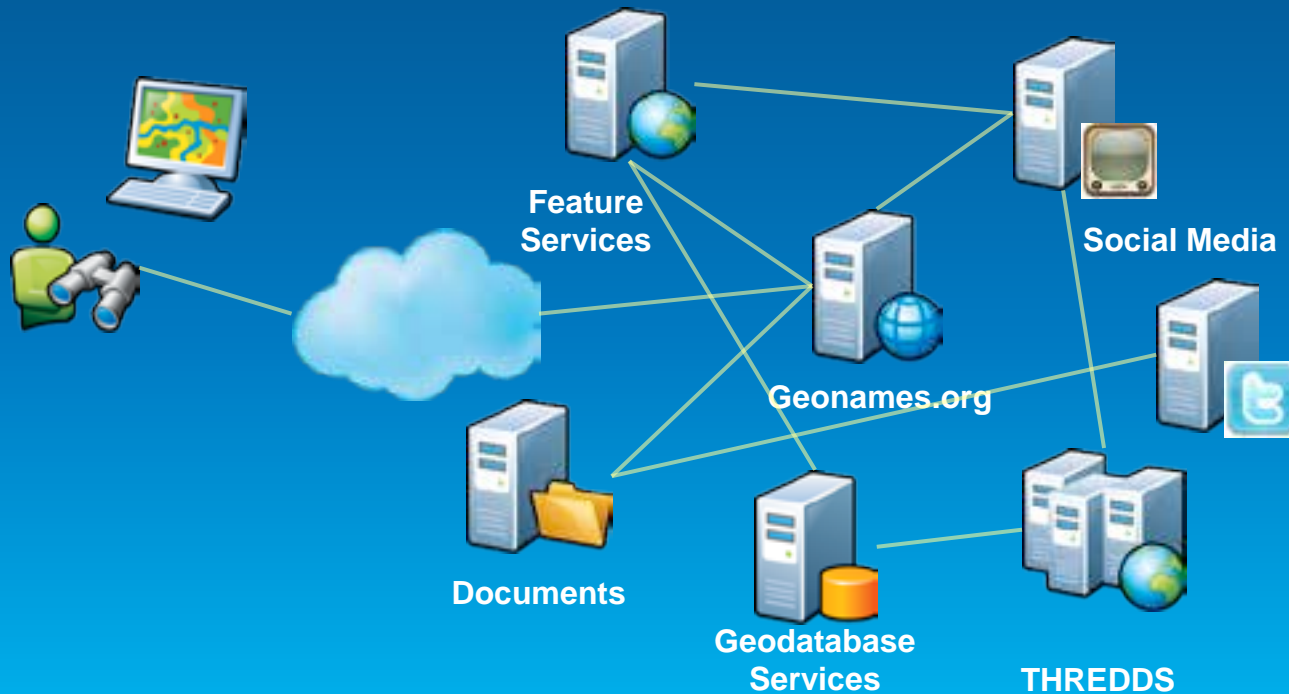
<https://github.com/Esri/geoportal-server/wiki/Components>

Data Discovery Swiss Army Knife (aka Broker)



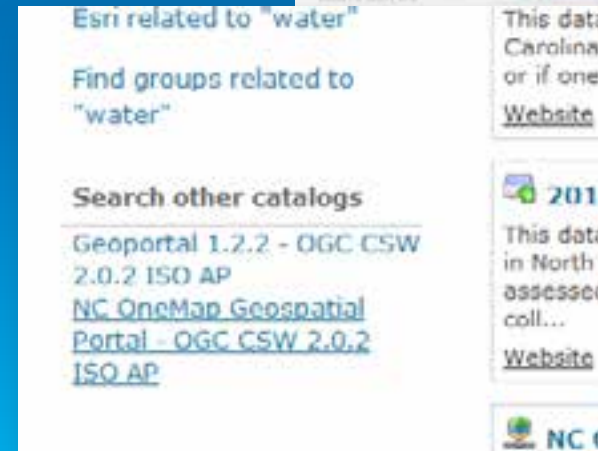
Go Beyond Metadata Searching

- Find Features in Feature Services, Geodata Services
- Find Articles in RSS/Atom Feeds
- Find (Non-)Geospatial (Social) Media (Video, Photo, ...)



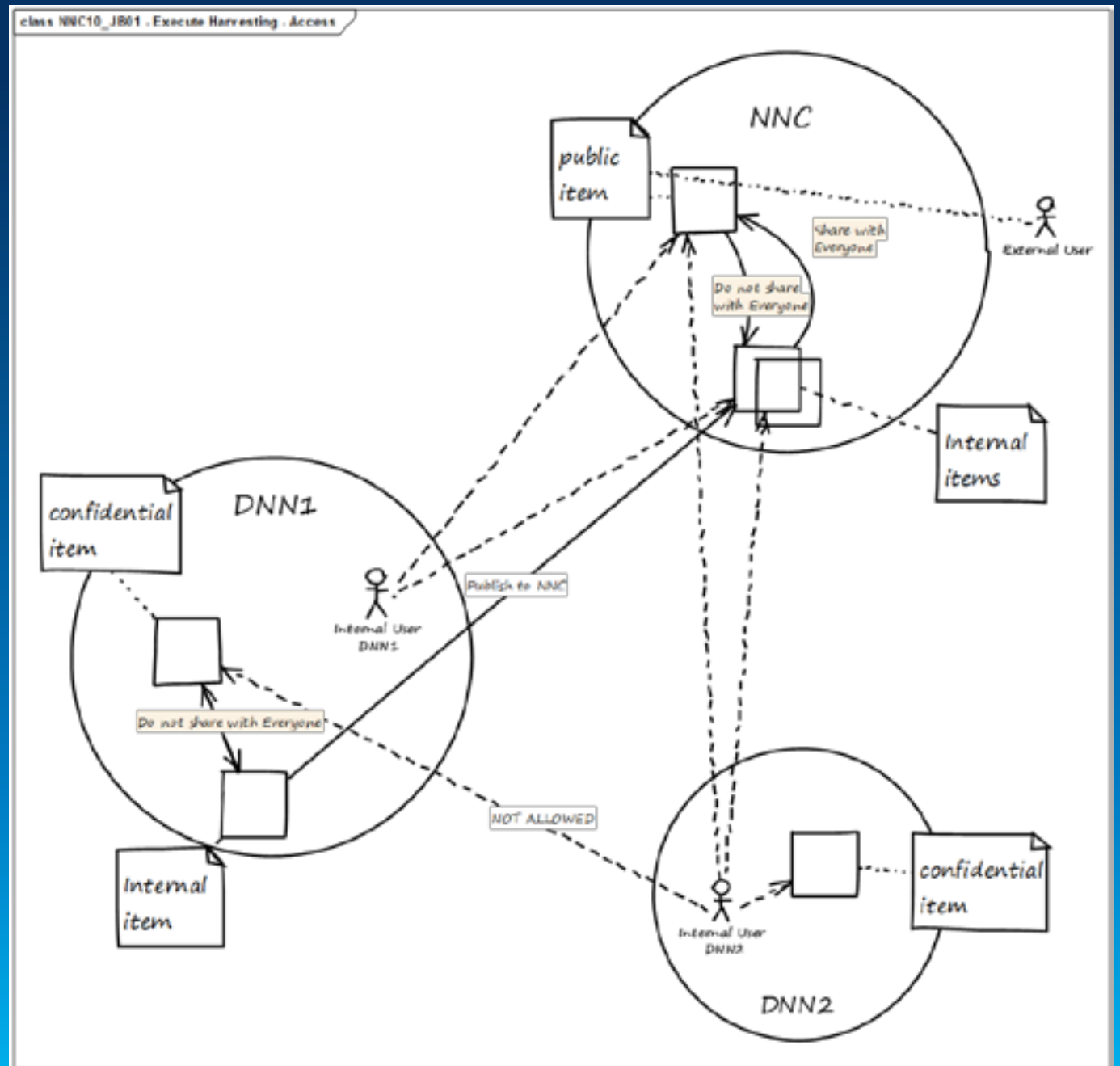
Federate Search from ArcGIS Portal and ArcGIS Online

- Manage federated catalogs in Geoportal Server
- Retrieve list from Geoportal Server
<http://gptogc.esri.com/geoportal/rest/repositories>
- Add widget to ArcGIS Portal/Online search page
- Supports any catalog Geoportal Server can search:
 - OGC CSW
 - OpenSearch
 - Proprietary search interfaces



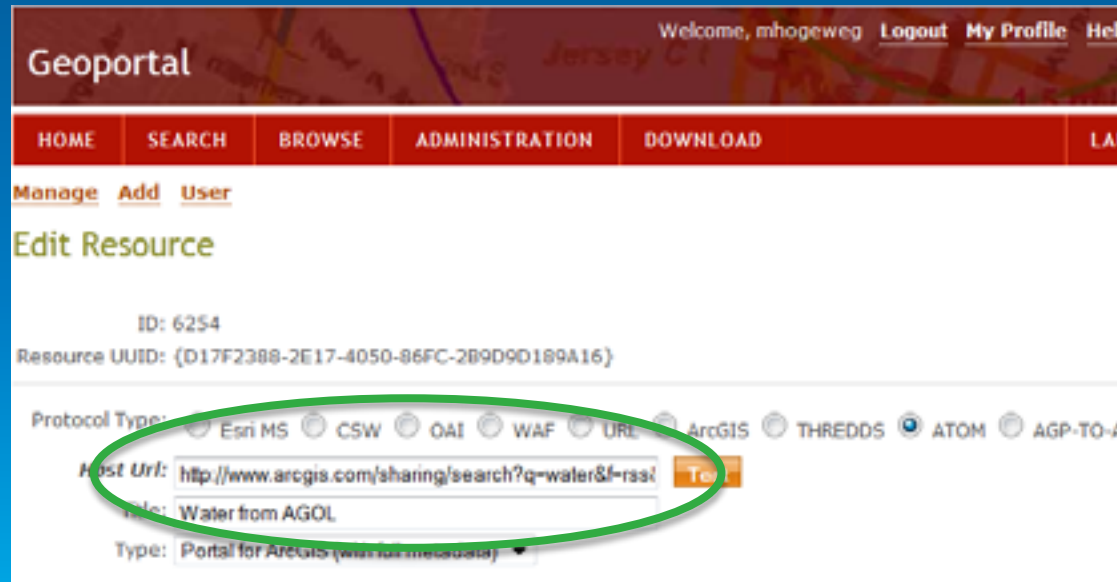
Synchronize Portals

- **Geoportal as Broker Between ArcGIS Portals/Online**



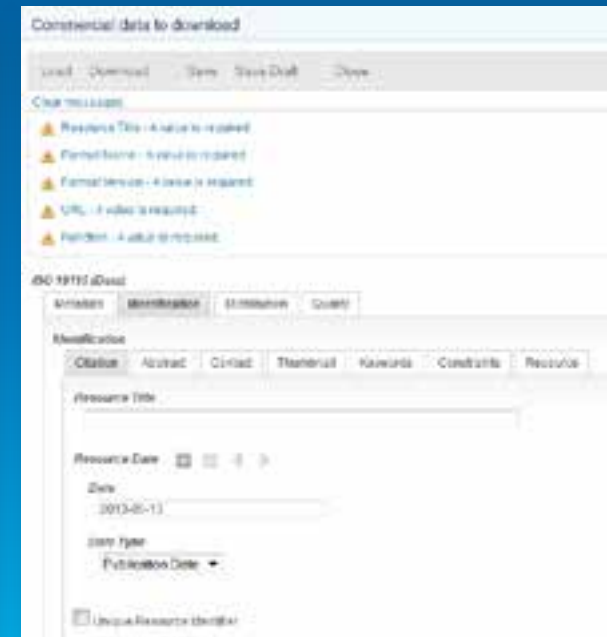
OGC CS-W Interface to Portal for ArcGIS and ArcGIS Online

- Harvest ArcGIS Online Using ATOM Feed
- Expose Content Through Geoportals CS-W
- Example: <http://geoss.esri.com/postXML>



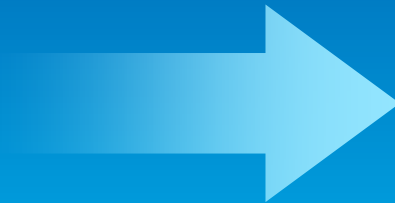
Standards-based Metadata for Portal for ArcGIS and ArcGIS Online

- Add Geoportal Metadata Editor to on-premises Portal for ArcGIS
- Use Geoportal Server configuration and validation
- Store metadata in Portal for ArcGIS using API



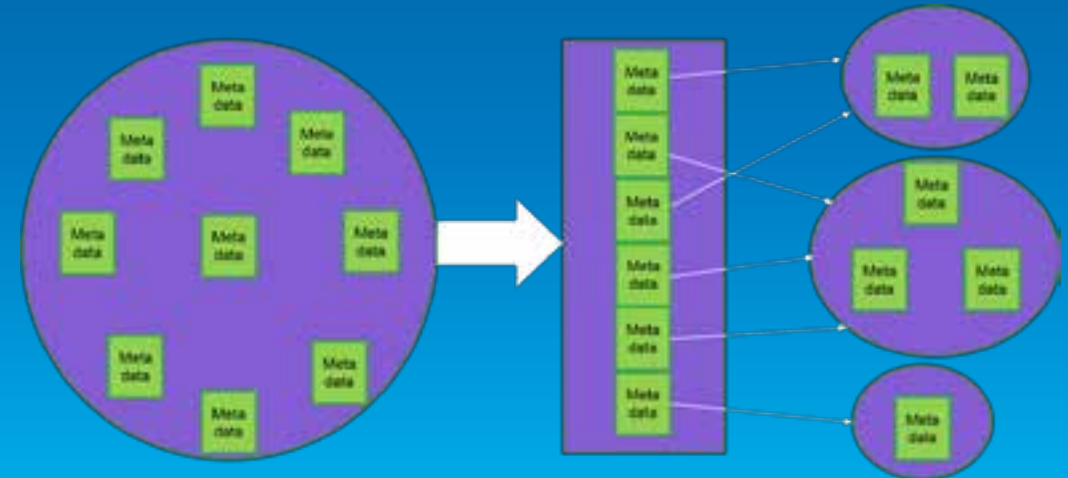
Support Open Government Initiatives

- Support DCAT
 - Expose Catalog As - <http://gptogc.esri.com/geoportal/dcat.json>
 - Harvest DCAT – for example: <http://www.doi.gov/data.json>
- Provided Patch to Users
- Complete and Compliant in 1.2.5



Better Results with Term Frequency – Inverse Document Frequency

- Optimize the relevancy of search results
- Facilitate users to visualize data in the form of clusters
- TF-IDF: Frequency based numerical statistic used to determine the importance of a word in a document.
- Clustering: Grouping of search results
 - Maximize similarity within cluster
 - Minimize similarity between clusters



Q&A

Thank you...

- **Please fill out the session survey:**

Offering ID: 1314

Online – www.esri.com/ucsessionsurveys

Paper – pick up and put in drop box



Understanding our world.