

GeoNetwork opensource

3 Jornadas gvSIG 2007

Jeroen Ticheler



Food and Agriculture Organization
of the United Nations



Board of directors OSGeo

Overview

Overview

- What is it?

Overview

- What is it?
- Positioning GeoNetwork in the infrastructure

Overview

- What is it?
- Positioning GeoNetwork in the infrastructure
- Users, Publishers and Administrators

Overview

- What is it?
- Positioning GeoNetwork in the infrastructure
- Users, Publishers and Administrators
- Adding the glue to a

Overview

- What is it?
- Positioning GeoNetwork in the infrastructure
- Users, Publishers and Administrators
- Adding the glue to a
- Spatial Data Infrastructure

Overview

- What is it?
- Positioning GeoNetwork in the infrastructure
- Users, Publishers and Administrators
- Adding the glue to a
- Spatial Data Infrastructure
- The GeoNetwork Community, OSGeo (and parallels with gvSIG)

History at a Glimpse

- Prototyping by FAO (2000-2001)
- Version 1 by FAO & WFP (released 2003)
- Version 2 by FAO, WFP & UNEP (released 2005)
- Version 2.1 (released September 2007)
- Version 2.2 (soon)
- Version 3.0 in planning phase (2008)



What is GeoNetwork opensource?

- A web based catalogue application
- A component in the Global Spatial Data Infrastructure
- The foundation of a custom site

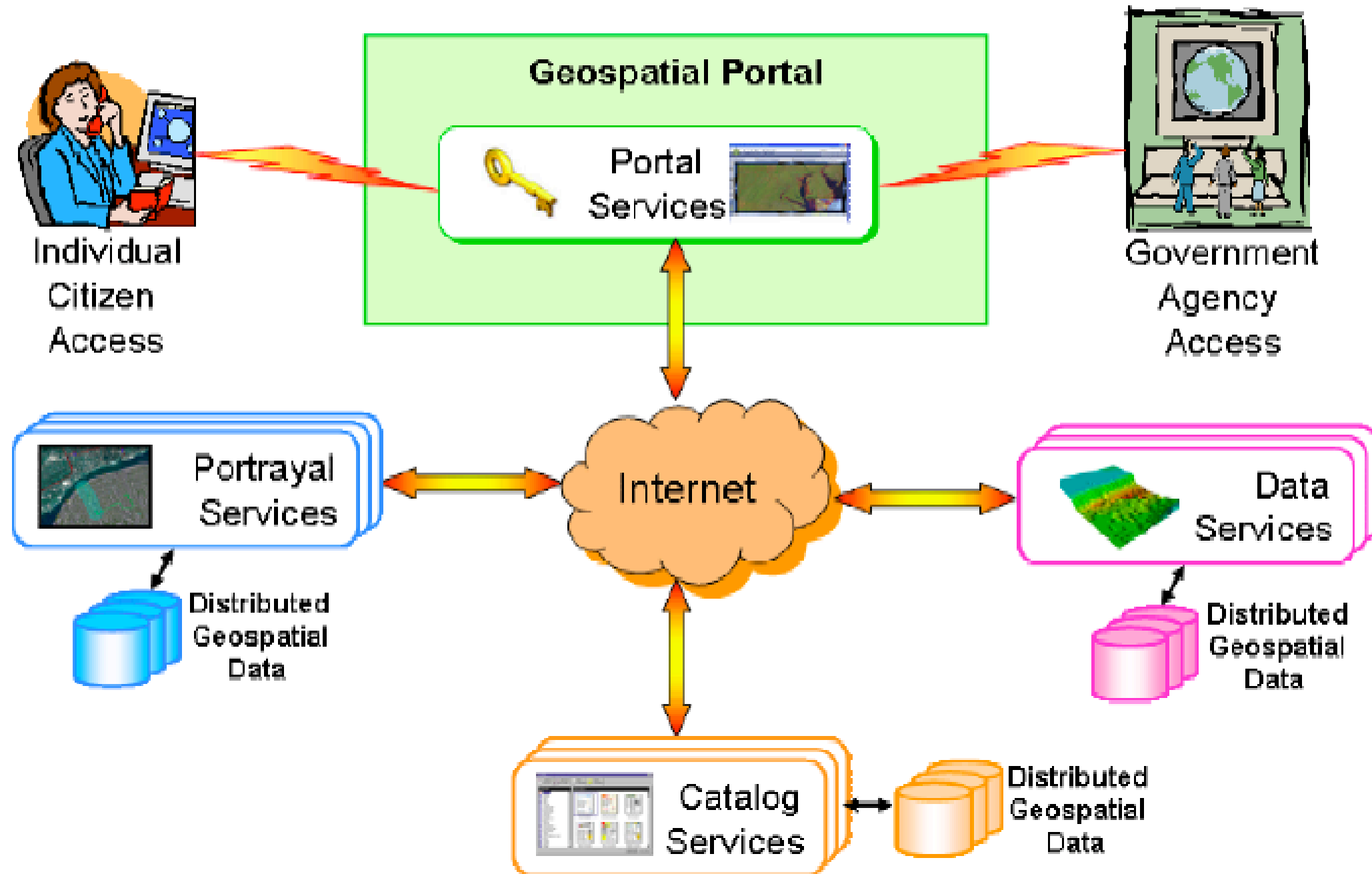
What is GeoNetwork opensource?

- It integrates
 - Search
 - Administrative functions
 - Data distribution and publication
 - User authentication

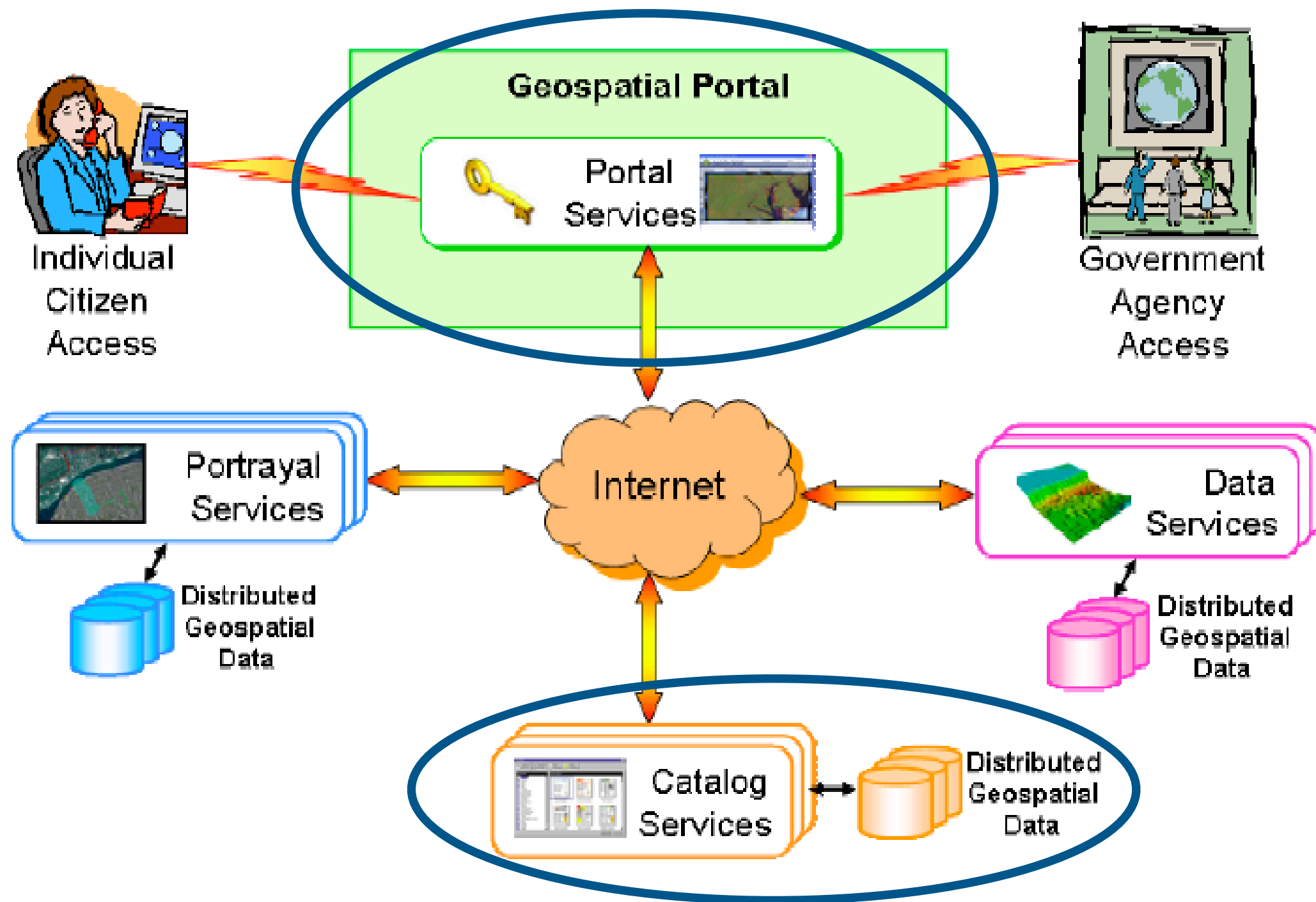
The Basic Building Blocks

- ISO TC211 Standards
- OGC Standards
(Open Geospatial Consortium)

OGC Portal Reference Architecture

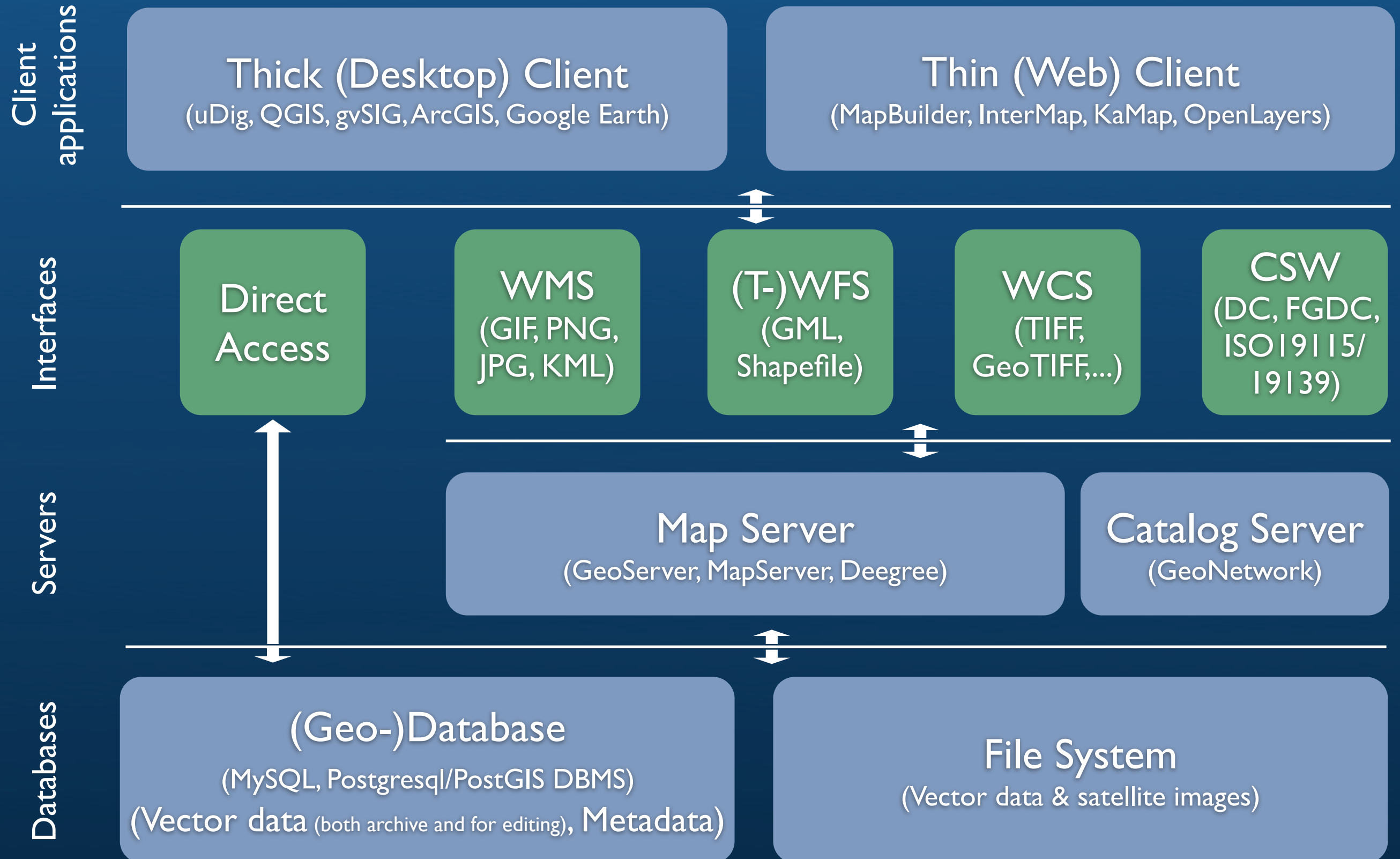


OGC Portal Reference Architecture



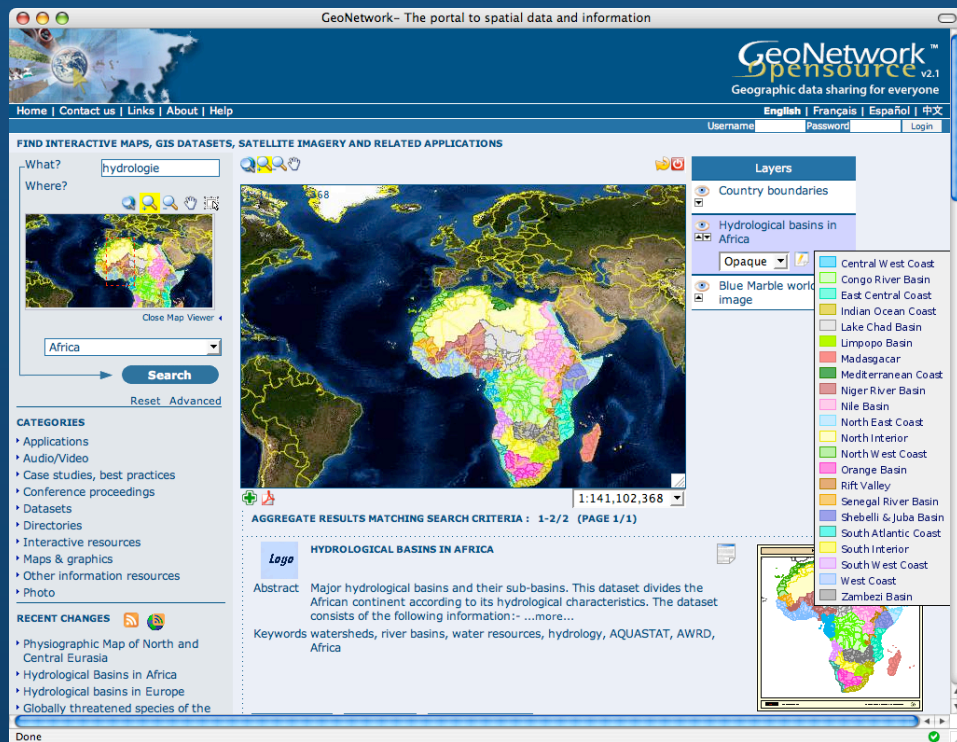
GeoNetwork
opensource

GEOFOSS based SDI Software Architecture



Users, Publishers and Administrators

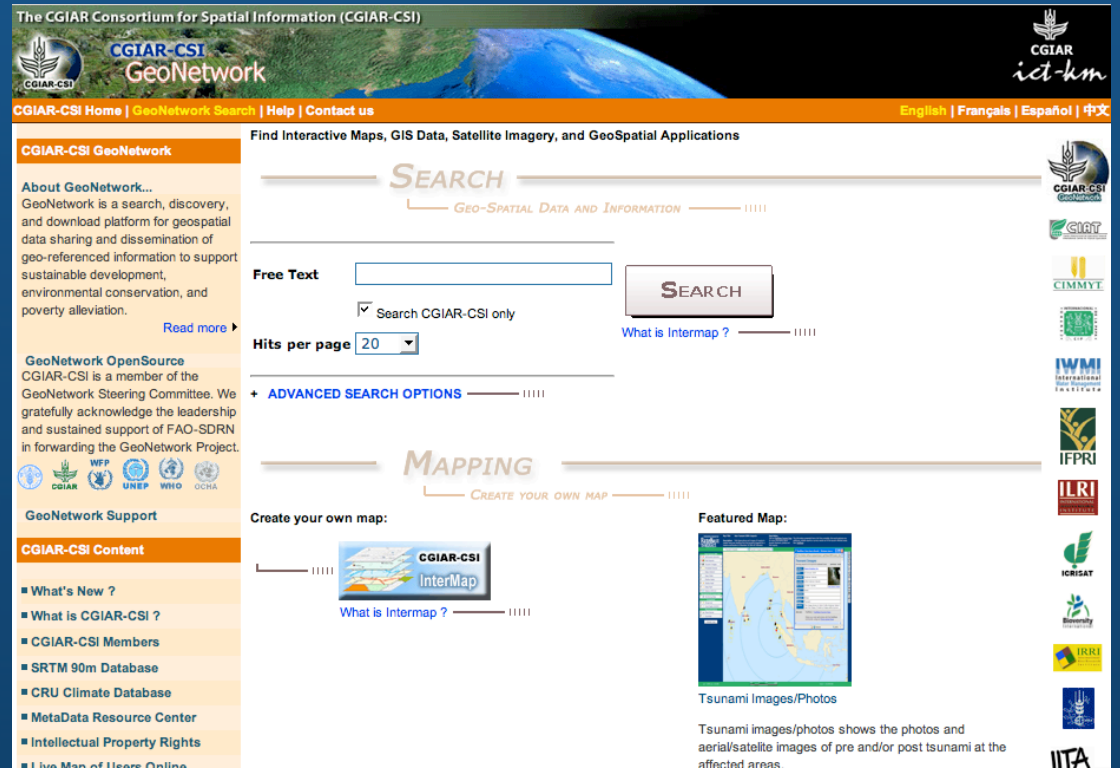
GeoNetwork opensource



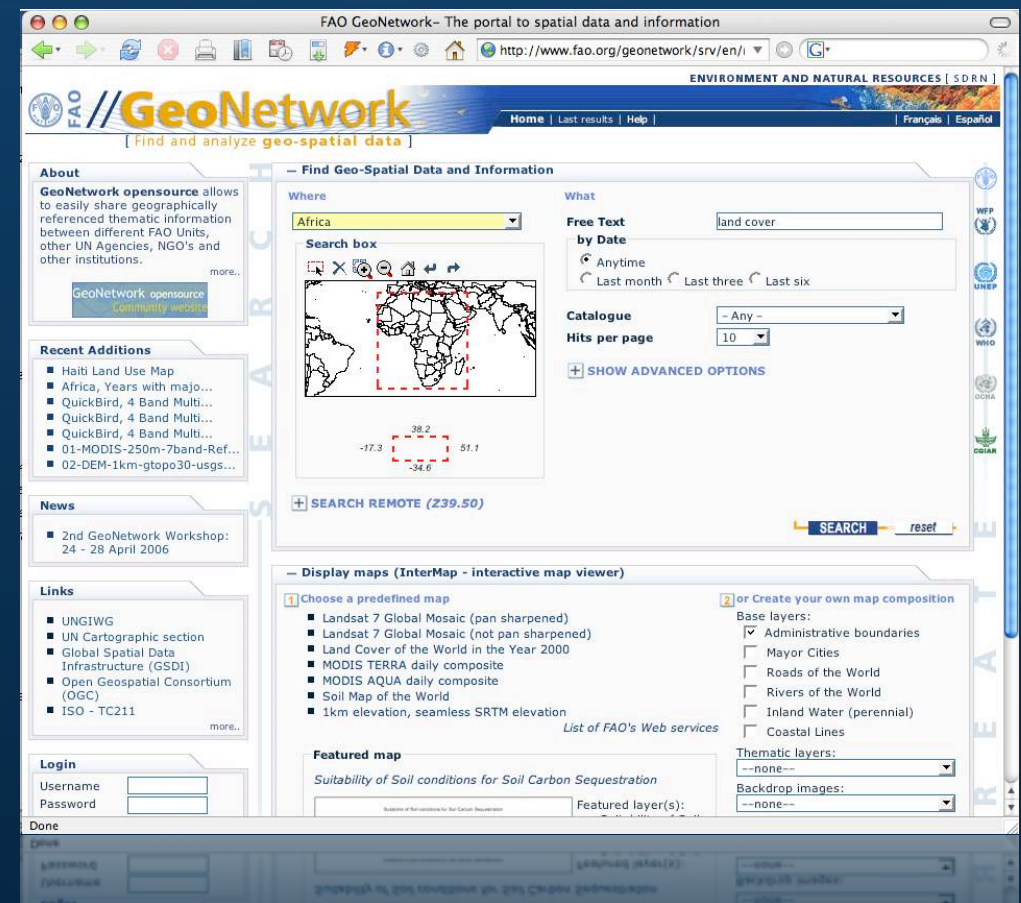
WFP VAMSIE



CGIAR-CSI

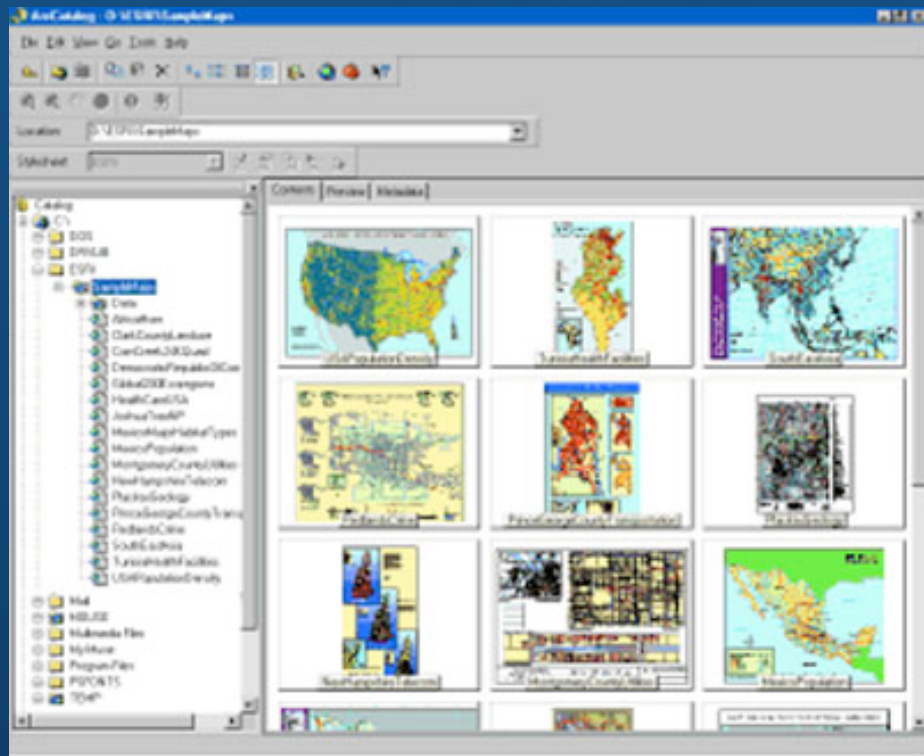


FAO GeoNetwork

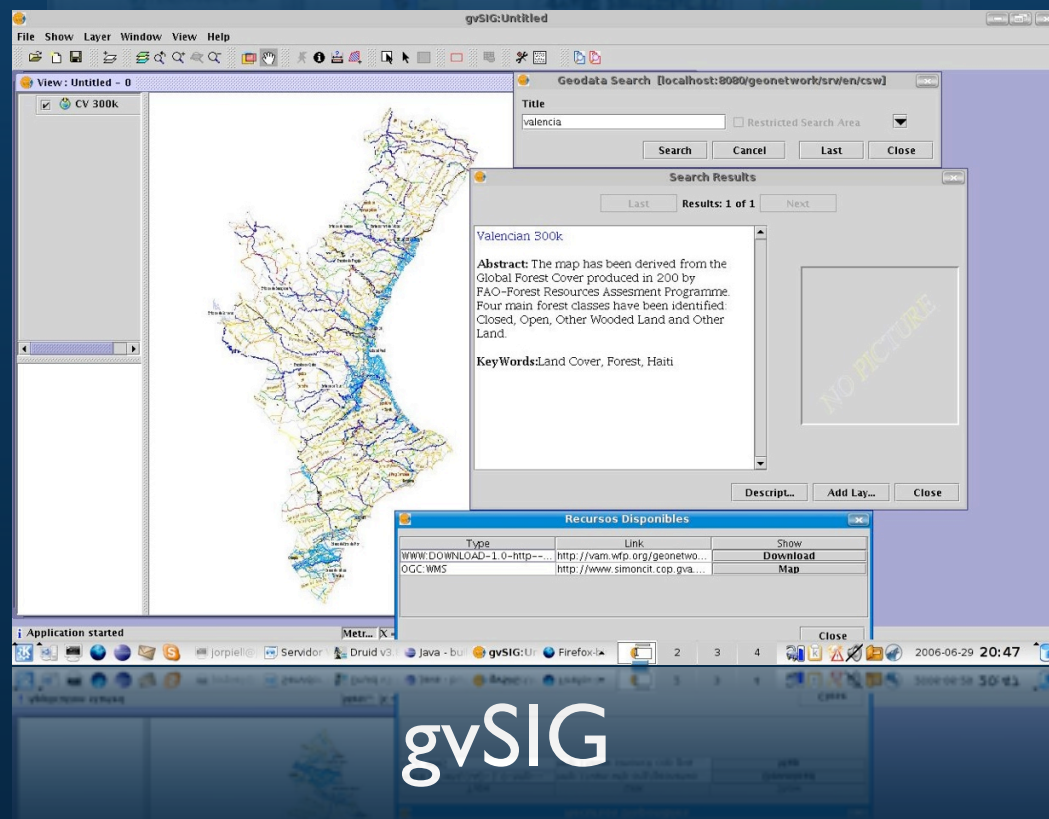


Tool integration

GeoNetwork opensource



ESRI ArcCatalog



gvSIG



Export/import
metadata & data

Users

- Search in multiple catalogues through one website
- File download
- Data visualization through web map viewer

AJAX based GUI

GeoNetwork- The portal to spatial data and information



GeoNetworkTM
Opensource v2.1
Geographic data sharing for everyone

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Username Password Login

What?

Where?



Open Map Viewer ▶

[Reset](#) [Advanced](#)

CATEGORIES

- ▶ Applications
- ▶ Audio/Video
- ▶ Case studies, best practices
- ▶ Conference proceedings
- ▶ Datasets
- ▶ Directories
- ▶ Interactive resources
- ▶ Maps & graphics
- ▶ Other information resources
- ▶ Photo

RECENT CHANGES

RECENT CHANGES

▶ Photo

GEONETWORK'S PURPOSE IS:

- ▶ To improve access to and integrated use of spatial data and information
- ▶ To support decision making
- ▶ To promote multidisciplinary approaches to sustainable development
- ▶ To enhance understanding of the benefits of geographic information

GeoNetwork opensource allows to easily share geographically referenced thematic information between different organizations. For more information please contact

Featured map

PHYSIOGRAPHIC MAP OF NORTH AND CENTRAL EURASIA

Physiographic maps for the CIS and Baltic States (CIS_BS), Mongolia, China and Taiwan Province of China. Between the three regions (China, Mongolia, and CIS_BS countries) DCW boundaries were...more...



AJAX based GUI

GeoNetwork- The portal to spatial data and information



Geographic data sharing for everyone

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RECENT CHANGES




AGGREGATE RESULTS MATCHING SEARCH CRITERIA : 1-2/2 (PAGE 1/1)



HYDROLOGICAL BASINS IN AFRICA

Abstract

Major hydrological basins and their sub-basins. This dataset divides the African continent according to its hydrological characteristics. The dataset consists of the following information:- ...more...

Keywords

watersheds, river basins, water resources, hydrology, AQUASTAT, AWRD, Africa





HYDROLOGICAL BASINS IN EUROPE

Abstract

Major hydrological basins and their sub-basins. This dataset divides the Europe in zones.

Keywords

watersheds, Europe



1

One entry point

FAO GeoNetwork - The portal to spatial data and information

Metadata Interactive Map View in Google Earth

ILRI **access_formalmarkets**

Abstract This coverage is one of a series of market access surfaces created using the Arc Info network module. Using assumed travel times to define the shortest routes, Arc Info calculated the shortest dista ...more...

Keywords access markets

Metadata

FAO **Rio Minho-Milk river basin**

Abstract Include: Rio Minho reservoir sites (Plate 1) - Proposed pindars dam site with generalized geology (Plate 2) - Clarendon plains land use and land property inventory (Plate 3) - Reconnaissance geology ...more...

Keywords Geology, Geomorphology, Geomorphology, Dams, Geology, Geomorphology, Land Use, Land Suitability, Wells, Jamaica

Metadata

CIMMYT **Livestock census data for Guanajuato in 1991**

Abstract Livestock census data by municipalities of Guanajuato, emitted in the agricultural census of 1991 by INEGI

Keywords livestock census, bovine, ovine, pig, beehive, rabbit, donkey, goat, horse, pine, fir, oak, units of production, Mexico, Guanajuato

Metadata

CIAT **Sri Lanka - Poverty at District Level**

Abstract This data set includes information collected for the Sri Lanka poverty mapping project conducted by the International Water Management Institute. The project combined synthetic area small area estima ...more...

Keywords Population, Household, Agriculture, Poverty, Sri Lanka

Metadata

IWMI **Sri Lanka Poverty Mapping data**

Abstract This data set includes information collected for the Sri Lanka poverty mapping project conducted by the International Water Management Institute. The project combined synthetic area small area estima ...more...

Keywords Population, Household, Agriculture, Poverty, Sri Lanka

Metadata

INTERNATIONAL **Gazetteer Of Senegal**

Done

AJAX based GUI

GeoNetwork- The portal to spatial data and information



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OpenSource v2.1
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FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS

WHAT?

What?

Title

Abstract

Keywords

Search accuracy
Precise ☐ ☒ Imprecise

WHERE?

lat (min)

long (min)

lat (max)

long (max)

Type

Region

WHEN?

☐ Anytime

☒ From To

Restrict to

Catalog

Category

Map type ☒ Digital ☐ Hard copy

Hits per page

Search

Reset Hide advanced options

CATEGORIES

- Applications
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- Photo

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☐ Metadata

☐ Download

☐ Interactive Map



Web Map Viewer integration

GeoNetwork- The portal to spatial data and information

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Username: Password: Login

FIND INTERACTIVE MAPS, GIS DATASETS, SATELLITE IMAGERY AND RELATED APPLICATIONS

What? hydrologie

Where?

Africa

Search

Reset Advanced

CATEGORIES

- Applications
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- Photo

RECENT CHANGES

- Physiographic Map of North and Central Eurasia
- Hydrological Basins in Africa
- Hydrological basins in Europe
- Globally threatened species of the

Layers

- Country boundaries
- Hydrological basins in Africa
- Blue Marble world image

Central West Coast
Congo River Basin
East Central Coast
Indian Ocean Coast
Lake Chad Basin
Limpopo Basin
Madagascar
Mediterranean Coast
Niger River Basin
Nile Basin
North East Coast
North Interior
North West Coast
Orange Basin
Rift Valley
Senegal River Basin
Shebelle & Juba Basin
South Atlantic Coast
South Interior
South West Coast
West Coast
Zambezi Basin

1:141,102,368

AGGREGATE RESULTS MATCHING SEARCH CRITERIA : 1-2/2 (PAGE 1/1)

HYDROLOGICAL BASINS IN AFRICA

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Done

Done

Data Providers

- Standardized process to document and publish
- Online metadata editor
- Different metadata standards
- Different sharing / security levels
- File upload

Full ISO metadata support

19115:2003 / ISO19139:2007

Default view

Advanced view

XML view

Create

Edit

Delete

Privileges

Categorie

Logo

HYDROLOGICAL BASINS IN AFRICA


```
<?xml version="1.0" encoding="UTF-8"?>
<gmd:MD_Metadata xmlns:gmd="http://www.isotc211.org/2005/gmd" xmlns:xsi="http://www
xmlns:gts="http://www.isotc211.org/2005/gts" xmlns:gco="http://www.isotc211.org/2005/gco"

  <gmd:fileIdentifier>
    <gco:CharacterString>85813034-3879-4cb3-8756-8c465ee1c0bf</gco:Chara
  </gmd:fileIdentifier>
  <gmd:language>
    <gco:CharacterString>eng</gco:CharacterString>
  </gmd:language>
  <gmd:characterSet>
    <gmd:MD_CharacterSetCode codeListValue="utf8" codeList="/resources/cod
  </gmd:characterSet>
  <gmd:contact>
    <gmd:CI_ResponsibleParty>
      <gmd:individualName>
        <gco:CharacterString>Jippe Hoogeveen</gco:CharacterStrin
      </gmd:individualName>
      <gmd:organisationName>
        <gco:CharacterString>FAO - NRCW</gco:CharacterString>
      </gmd:organisationName>
      <gmd:positionName>
        <gco:CharacterString>Technical Officer</gco:CharacterStrin
      </gmd:positionName>
      <gmd:contactInfo>
        <gmd:CI_Contact>
          <gmd:phone>
```

Web metadata editor

Advanced view

XML view




::Identification info *

Title *

Hydrological Basins in Africa

Date *

2000-07-19T14:45:00

 clear

Date type *

creation

Edition ☒

First

Presentation form ☐ ☒

mapDigital

Abstract *

Major hydrological basins and their sub-basins. This dataset

Abstract
brief narrative summary of the content of the resource(s)
mandatory

(MAJ_AREA); - area of the major basin in square km
(SUB_BAS and SUB_NAME); - area of the sub-basin in
square km (SUB_AREA); - numerical code of the sub-basin
towards which the sub-basin flows (TO_SUBBAS) (the
codes -888 and -999 have been assigned respectively to

Purpose ☒

This dataset is developed as part of a GIS-based
information system on water resources for the African
continent. It has been published in the framework of the
AQUASTAT - programme of the Land and Water Division of
the Food and Agriculture Organization of the United
Nations, as part of FAO Land and Water Digital Media

Status ☐ ☒

completed

Point of contact ☐ ☒

PointOfContact

Point of contact ☐ ☒

PointOfContact

Point of contact ☐ ☒

PointOfContact

Administrators

- Easy to install
- Easy to maintain
- Groups and users management
- Harvesting management
- Migration support
- Active user and developer communities

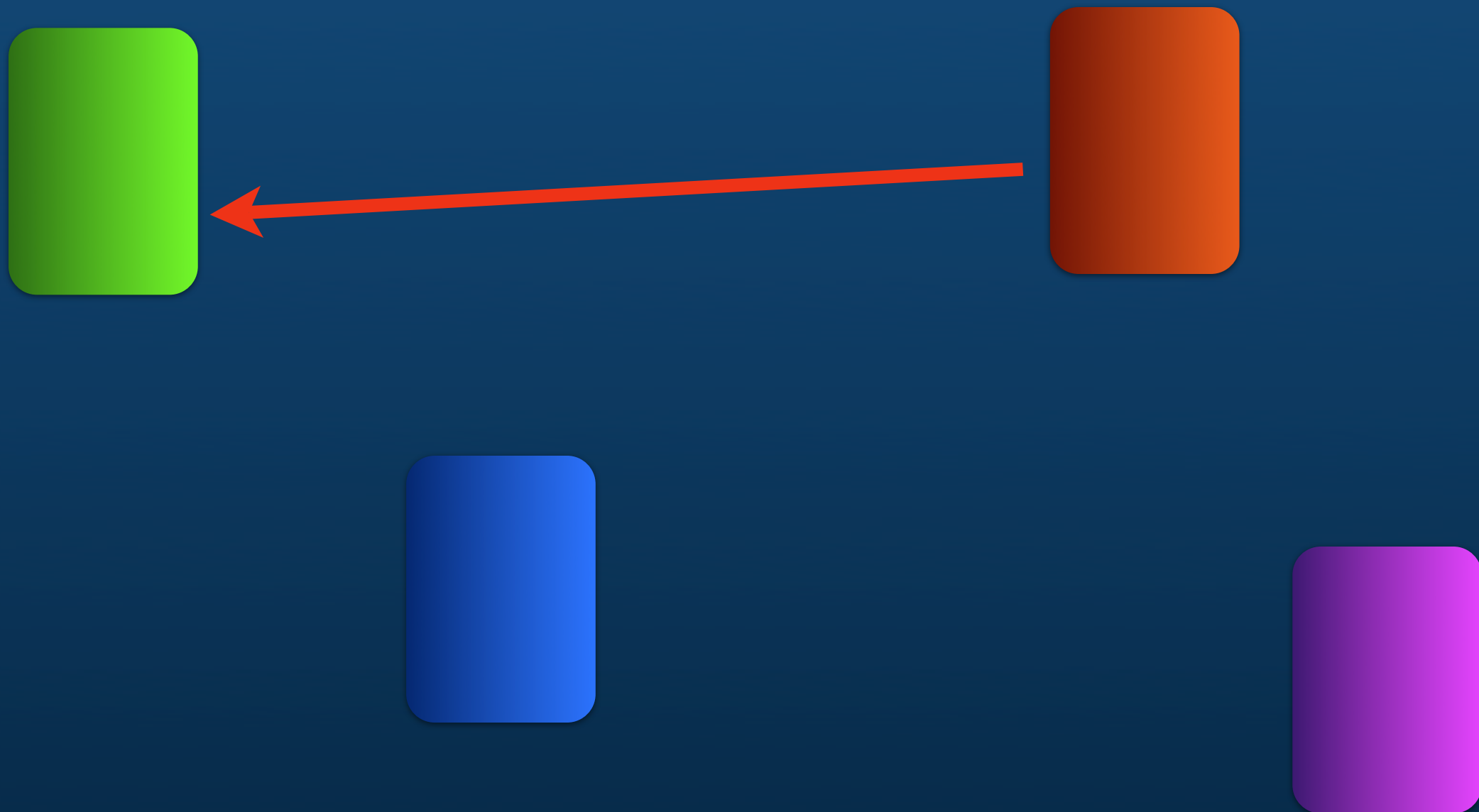
Adding the glue to a Spatial Data Infrastructure



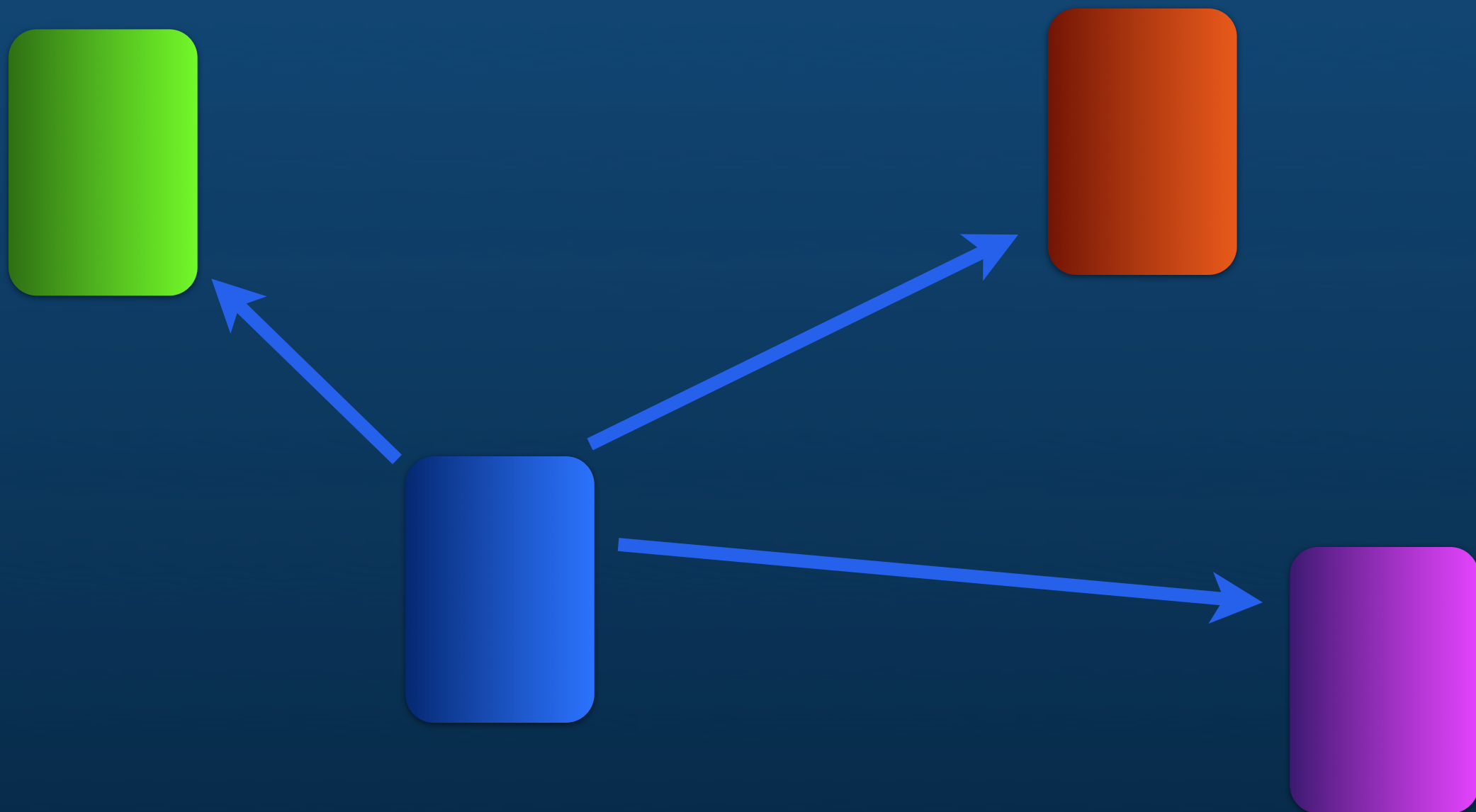
SDI Networks (Harvesting)



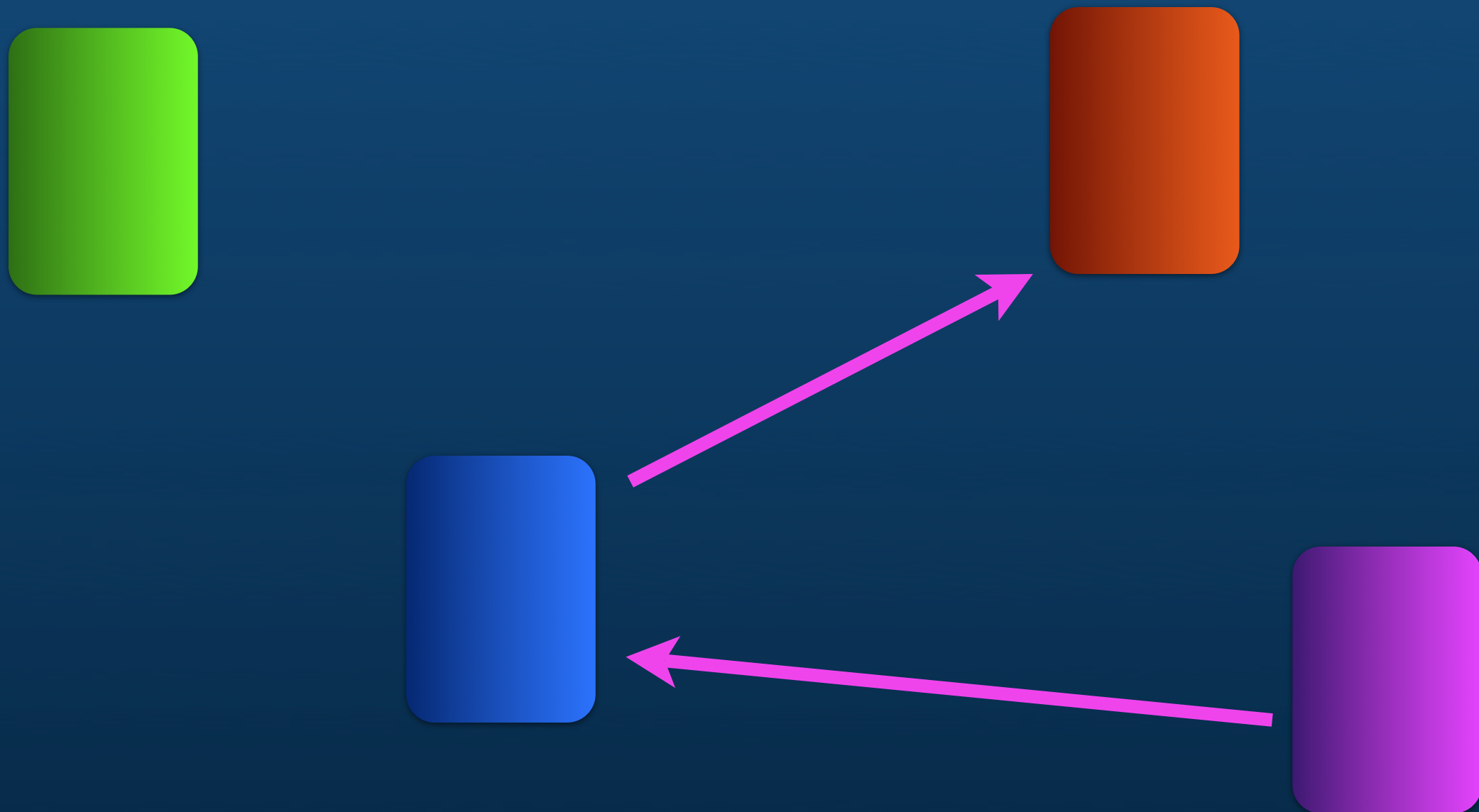
SDI Networks (Harvesting)



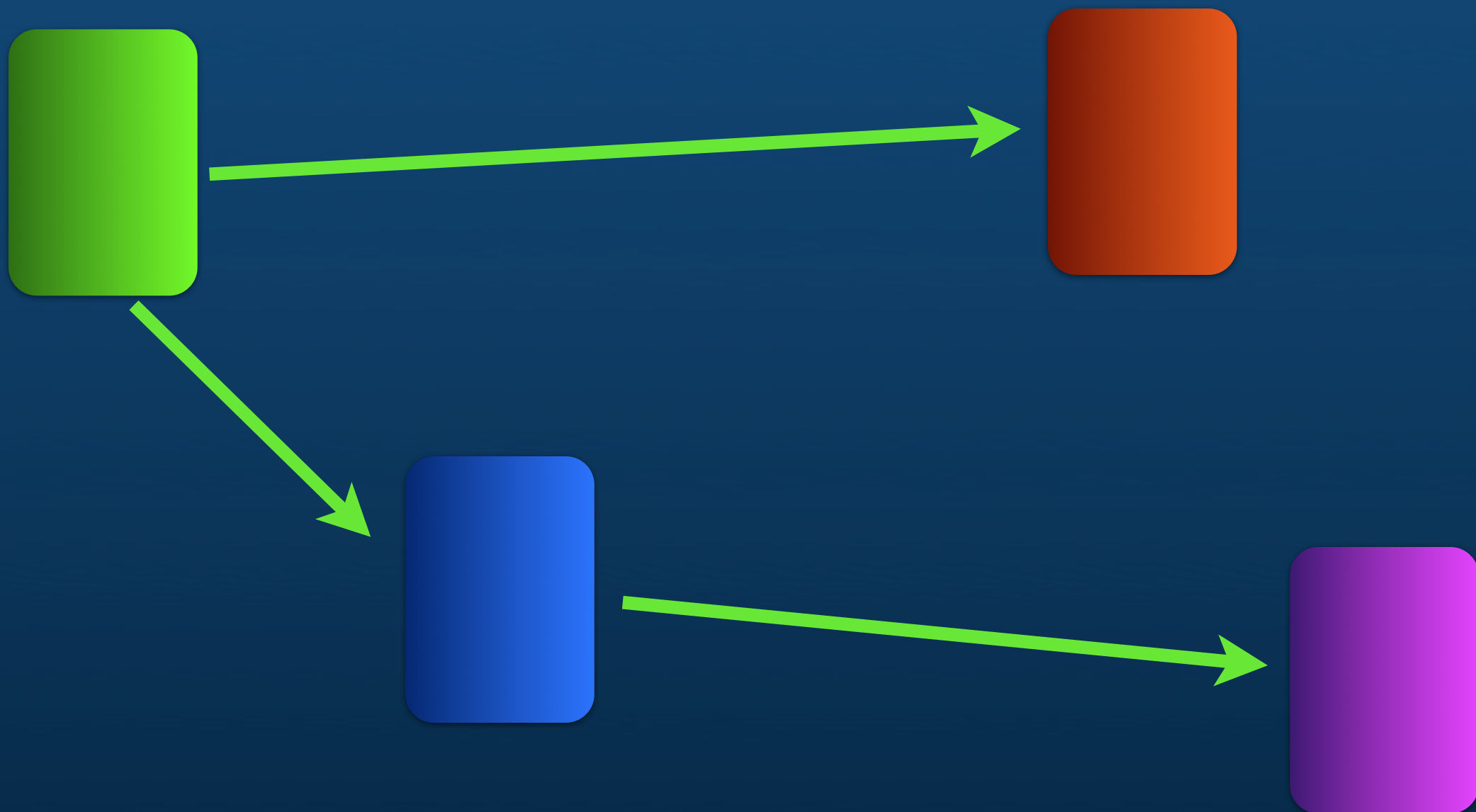
SDI Networks (Harvesting)



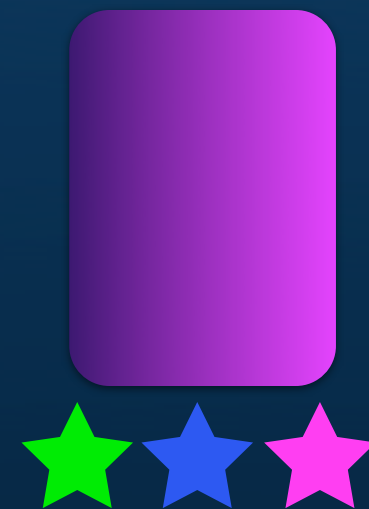
SDI Networks (Harvesting)



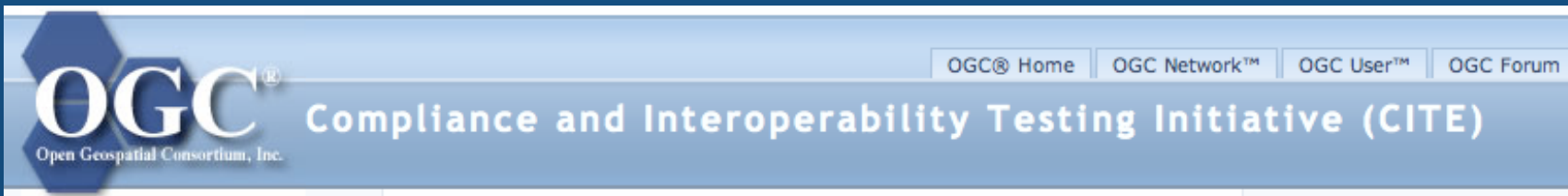
SDI Networks (Harvesting)



SDI Networks (Harvesting)



OGC CSW 2.0 Reference Implementation



Catalogue Services/Web 2.0.1

- Developed by: [United Nations Food and Agriculture Organization \(UN FAO\)](#)
- Product Name: GeoNetwork
- License: GNU GPL

GeoNetwork opensource is a s
catalog application to manage
the web. It provides powerful
as well as an embedded intera

The screenshot shows a web browser window titled 'GeoNetwork CSW 2.0.1 test application'. The interface is divided into several sections. The 'Server' section contains fields for 'Host' (localhost), 'Port' (8080), 'CSW service' (/geonetwork/srv/en/csw), and 'Login service' (/geonetwork/srv/en/xml.user.login). The 'Login' section has fields for 'Username' (a) and 'Password' (aaaaaa). The 'Request' section has a dropdown for 'Operation' (GetRecords) and a dropdown for 'Method' (POST). Below these is a 'Send' button. The 'GetRecords parameters' section has tabs for 'General', 'Query', and 'Results'. The 'General' tab is active, showing fields for 'Result type' (hits), 'Output schema' (ogccore), 'Element set name' (summary), 'Output format', 'Start position', 'Max records', and 'Sort by'. The 'Communication log' section on the right shows the raw XML of the request and response. The request is a POST to /geonetwork/srv/en/csw with HTTP/1.1 headers. The response is an XML document with the following structure: <?xml version="1.0" encoding="UTF-8"?><csw:GetRecordsResponse xmlns:csw="http://www.opengis.net/cat/csw"><csw:SearchStatus status="complete" /><csw:SearchResults numberOfRecordsMatched="1" numberOfRecordsReturned="1" /></csw:GetRecordsResponse>

Catalogue interoperability

Catalogue interoperability

- Full **OGC CSW** Catalog v2.0 support
(ISO profile)

Catalogue interoperability

- Full **OGC CSW** Catalog v2.0 support
(ISO profile)
- Open Archive Initiative support (**OAI-MPH**)

Catalogue interoperability

- Full **OGC CSW** Catalog v2.0 support (ISO profile)
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- **RSS** and **GeoRSS** newsfeeds

Catalogue interoperability

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- **OpenSearch** with **GEO** extension

Catalogue interoperability

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- **WebDAV**

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- **OpenSearch** with **GEO** extension
- **WebDAV**
- Metadata harvesting & synchronization

Catalogue interoperability

GeoNetwork- The portal to spatial data and information - Mozilla Firefox

http://localhost:8080/geonetwork/srv/en/harvest

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opensource v2.1
Geographic data sharing for everyone

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User: admin admin Logout

HARVESTING MANAGEMENT

Select	Name	Type	Status	Errors	Every	Last run	Operation
<input type="checkbox"/>	sandre	GeoNetwork 2.0		✓	0:0:5	2007-09-04 13:58:34	Edit
<input type="checkbox"/>	exist	Web DAV		✓	0:0:10	2007-09-04 14:01:38	Edit
<input type="checkbox"/>	Fao	GeoNetwork 2.0		✓	0:0:5	2007-09-04 14:04:12	Edit

Activate Deactivate Run Remove

Back Add Refresh

GeoNetwork Community

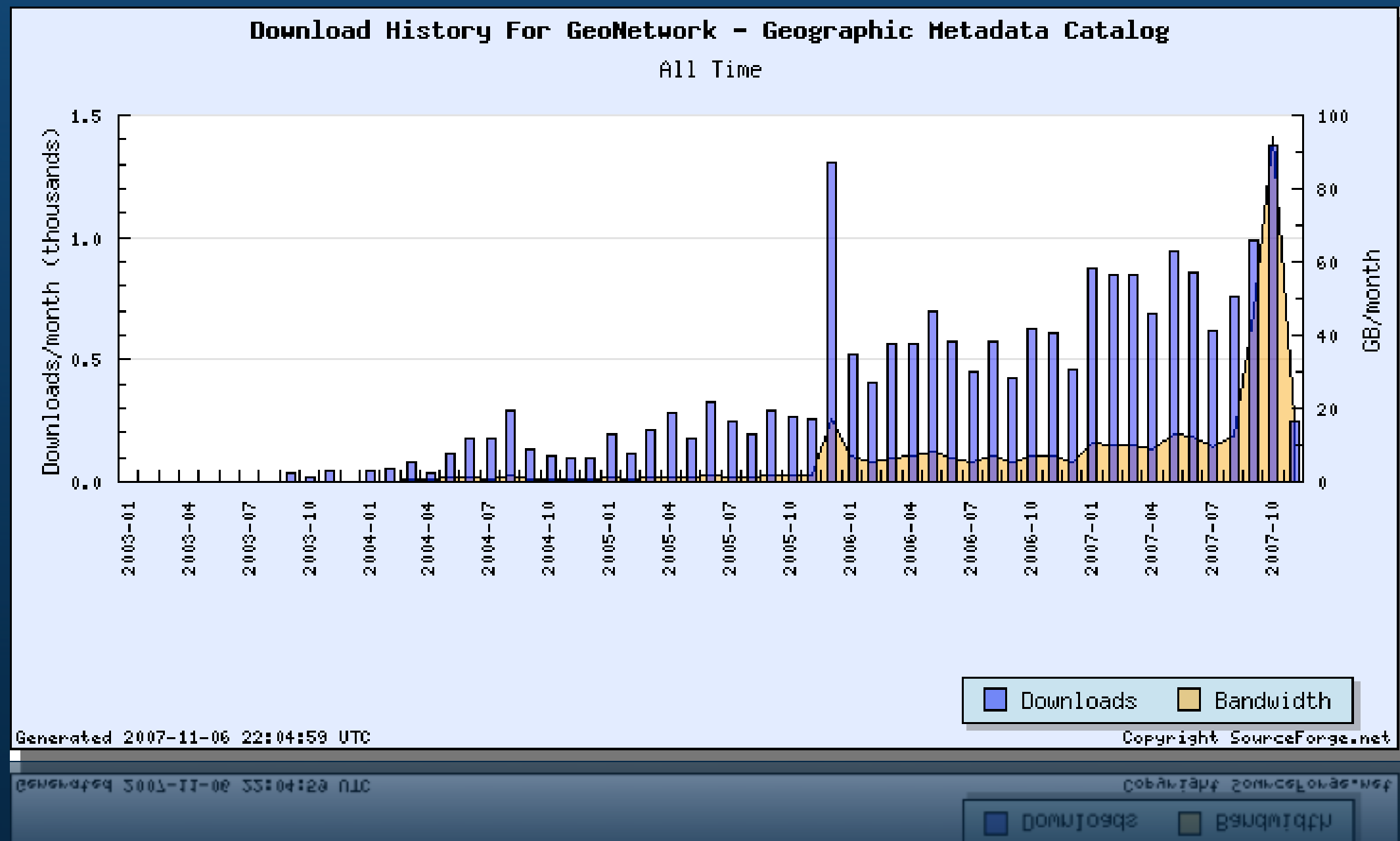
Users

- UN: FAO, WFP, UNEP, WHO, OCHA, UNHCR
- Other: CGIAR, ESA, GMFS, FGDC, JRC
- Individual projects in Spain, France, Czech, UK, Australia, South Africa, ...
- GEOSS related GEOportal project and Clearinghouse project

Some statistics

Some statistics

- Last month we had 1379 downloads!!



Some statistics

Some statistics

Mailing list subscribers

250+ on user list

150+ on developer list

20+ on committer list

~5 active developers

Mailing list activity

[Nabble](#) | [Software](#) » [GIS](#) » [OSGeo.org](#) » [OSGeo Projects](#)

[Login](#) : [Register](#)

Parent Categories: [OSGeo.org](#)

OSGeo Projects

[Edit this Category](#)

Search:

This category contains the mailing lists for projects are part of the Open Source Geospatial Foundation (OSGeo)

Child Categories/Forums (14): ☒ Sort by activity ☐ Sort alphabetically

[MapGuide Open Source](#)

[GRASS](#)

[OpenLayers](#)

[MapServer](#)

[GeoNetwork
opensource](#)

[GeoTools, the java
GIS toolkit](#)

[Feature Data Objects
\(FDO\)](#)

[GDAL - Dev](#)

[MapBuilder](#)

[Mapbender](#)

[Quantum
GIS](#)

[Ossim-developer](#)

[OSGeo Education
Committee / Project](#)

[OSGeo GeoData Project](#)

GeoNetwork & OSGeo

- Going through incubation
- Move to OSGeo infrastructure
- Formalizing the project governance
- Many parallels to gvSIG



Benevolent Dictator



Consensus based democracy



Formalizing the project governance

- Advisory Board
- Project Steering Committee (day-to-day)
- Proposals for new developments
- Release strategy



GeoNetwork-opensource.org

The image displays a collection of promotional materials for GeoNetwork OpenSource. At the top center is a CD-ROM with the text "GeoNetwork OpenSource" and a list of features. To the left is a brochure titled "GeoNetwork OpenSource" with the tagline "Geographic data sharing for everyone" and logos of partner organizations. To the right is a larger poster or brochure with the title "GeoNetwork OpenSource" and the tagline "A standards based Geographic Data and Information Management System for the web". The poster includes several sections: "GeoNetwork OpenSource provides:", "WebMap OpenSource", "A Desktop and Server installer for use on any platform", "Community website", "Free and Open Source Software", "The glue in a Spatial Data Infrastructure", and "GeoNetwork OpenSource". The poster also features a screenshot of the GeoNetwork web interface and a diagram of the "GIS Software Architecture".

GeoNetwork OpenSource | A standards based Geographic Data and Information Management System for the web

Thematic geographic information is the basis for efficient and successful sustainable development planning and implementation. **GeoNetwork OpenSource** is the result of a concerted strategy to effectively share and exchange spatial information including GIS maps, satellite images and related datasets in digital format.

GeoNetwork OpenSource provides:

- Immediate search access to local and distributed geographic catalogues
- Up and downloading of data, graphics, documents, pdf files and any other content type
- An interactive Web Map browser to combine Web Map Services from distributed sources around the world
- A powerful and flexible metadata system in XML format

WebMap OpenSource

This can combine interactive maps and satellite images from different sources on the fly using the embedded WebMap OpenSource Web Map browser. The browser supports Open Geospatial Consortium Web Map Service (OGC) widely compliant map services as well as ESRI ArcIMS map services. It also supports OGC Web Map Context project files.

A Desktop and Server installer for use on any platform

A universal installer allows you to quickly install and configure your own spatial data management system. **GeoNetwork OpenSource** is available for installation on your personal computer as well as for more complex server installations. **GeoNetwork OpenSource** is designed to run on any operating system and has been developed and tested on Windows, Linux and Mac OS X.

Community website

A **GeoNetwork OpenSource** Community Website provides up to date information on the project. With a Discussion Center and a Software Center as core components, this site offers you the essential tools to find answers to your questions, provide feedback and even contribute content.

Find the **GeoNetwork** community website at <http://geonetwork.sourceforge.net>

Free and Open Source Software

Following the three core Open Source Software (FOSS) development projects, **GeoNetwork OpenSource** significantly reduces costs to all its stakeholders. Particularly developing countries benefit from getting freely available software capabilities to support sustainable development programmes. Resources otherwise spent on license fees can go exclusively towards developing human skills and local capacity.

The glue in a Spatial Data Infrastructure

GeoNetwork OpenSource has been developed to connect spatial information communities and their data using a modern architecture, which is at the same time powerful and low cost. The system seamlessly integrates with a range of widely used geospatial systems, both commercial and open source. **GeoNetwork OpenSource** fulfills the role of the glue that connects the parts. Together, these systems form the basis of a modern Spatial Data Infrastructure (SDI) focused on people.

You can use **GeoNetwork OpenSource** in combination with Web Map Services as provided by e.g. ESRI ArcIMS, MapServer or Geoserver to allow geospatial data services to be accessed and combined interactively through **GeoNetwork OpenSource**'s embedded Web Map browser **WebMap OpenSource**.

GeoNetwork OpenSource | A major step towards faster and better responses to the complex information needs of decision makers.

Geographic data sharing for everyone |

Γεωγραφικά δεδομένα για όλους |

Γεωγραφικά δεδομένα για όλους |