e-SOTER

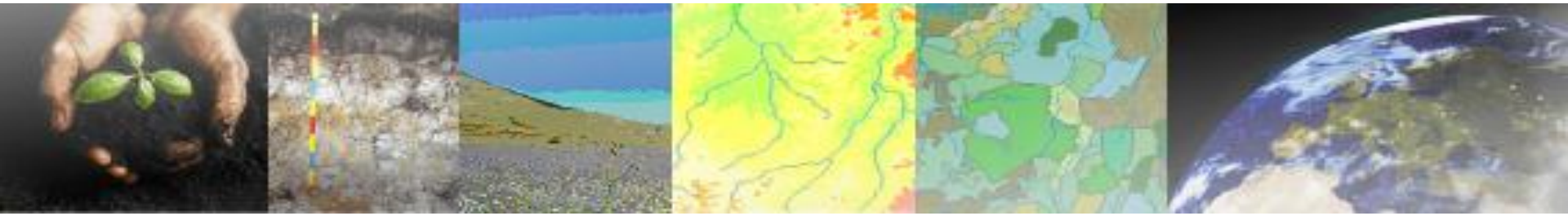
Regional pilot platform as EU contribution to a Global Soil Observing System

WP6.

e-SOTER Web Services: Status and Way Ahead to a Global Soil Information Service

Yusuf YIGINI

EU Joint Research Centre



Joint Research Centre

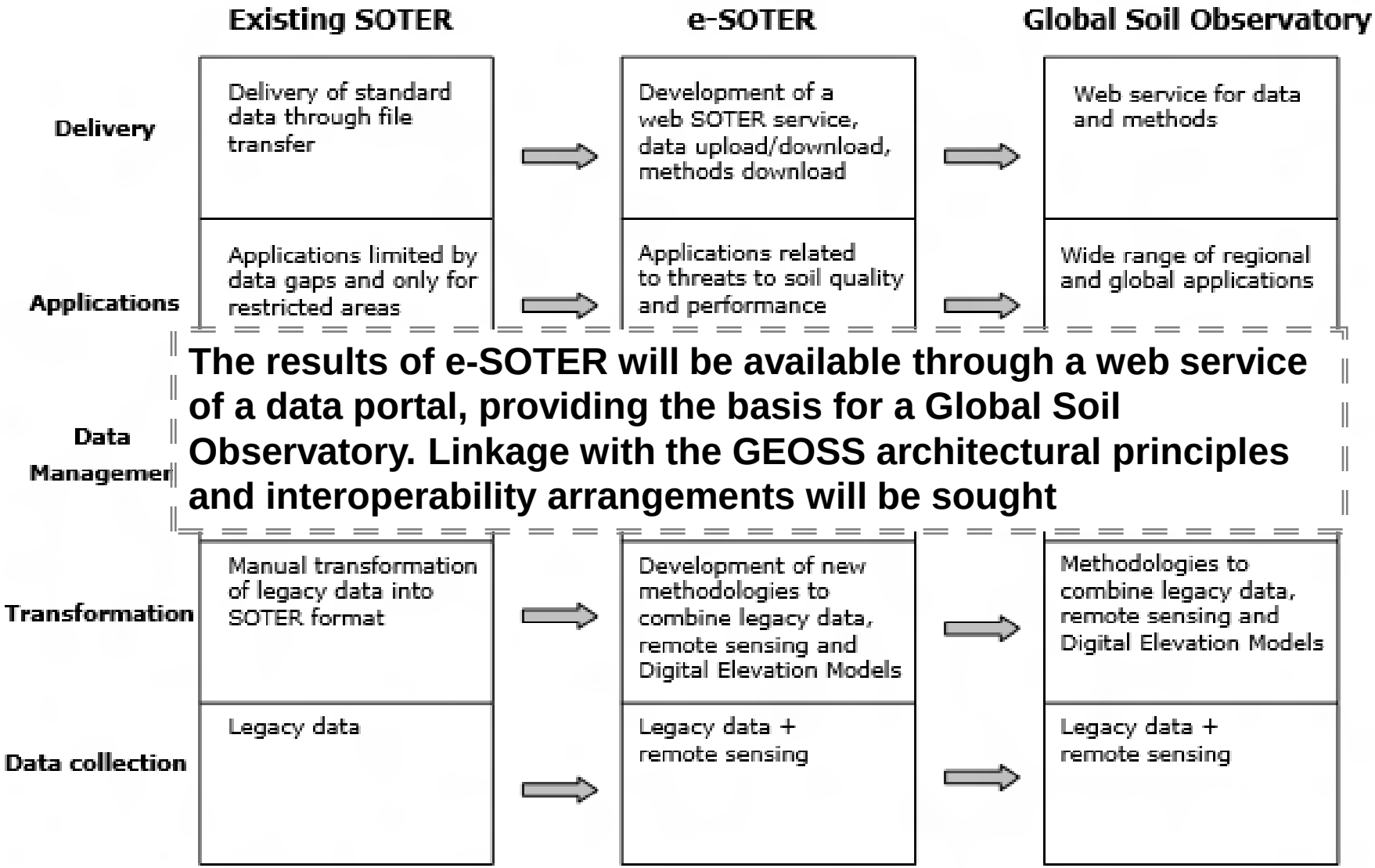
COOPERATION

Reporting on behalf of e-SOTER Work Package 6 ‘Development of an e-SOTER dissemination platform’

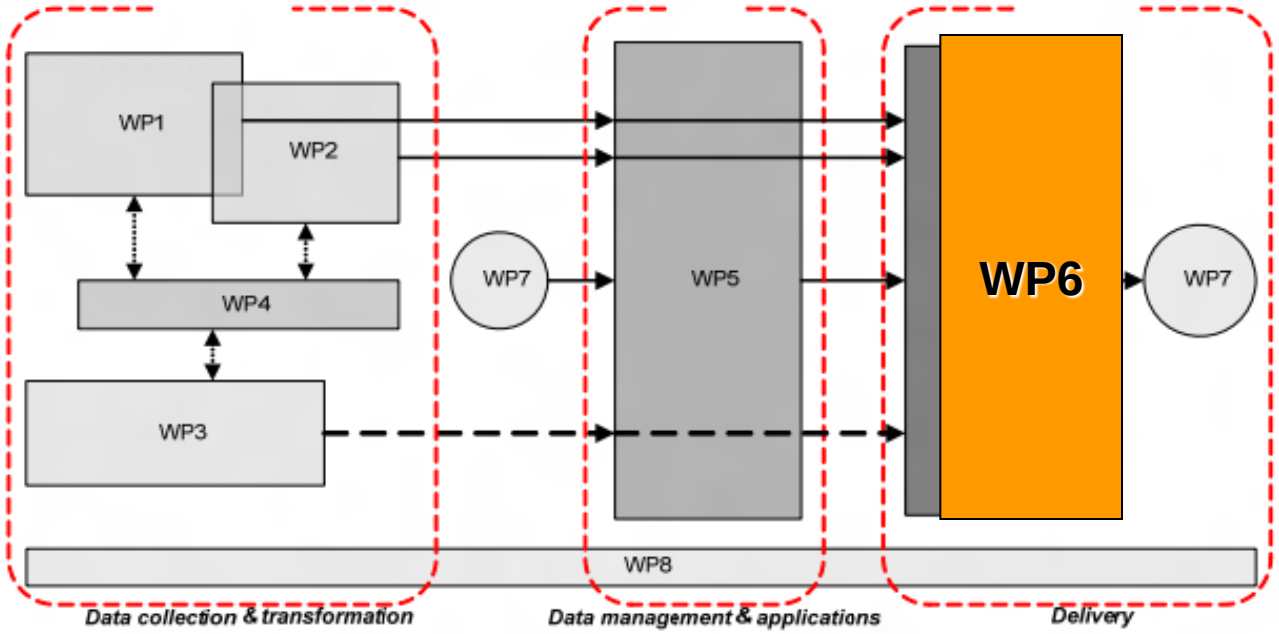
Team:

Amir Pourabdollah, The University of Nottingham
Andrew Rayner, Cranfield University
Daniel Simms, Cranfield University
Didier Leibovici, The University of Nottingham
Einar Eberhardt, BGR
Hannes I. Reuter, ISRIC
Piet Tempel, ISRIC
Rainer Baritz, BGR
Stephen Hallett, Cranfield University
Vit Penizek, Czech University of Life Sciences / IES JRC
Yusuf Yigini, JRC

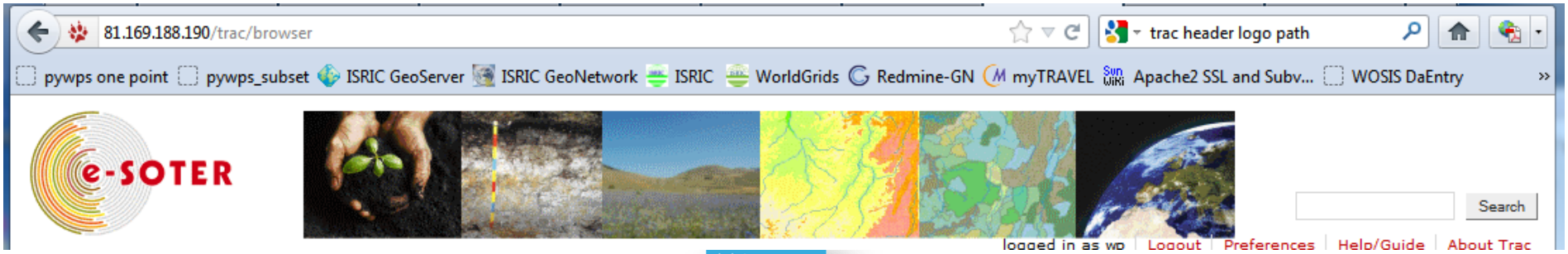
The Objective



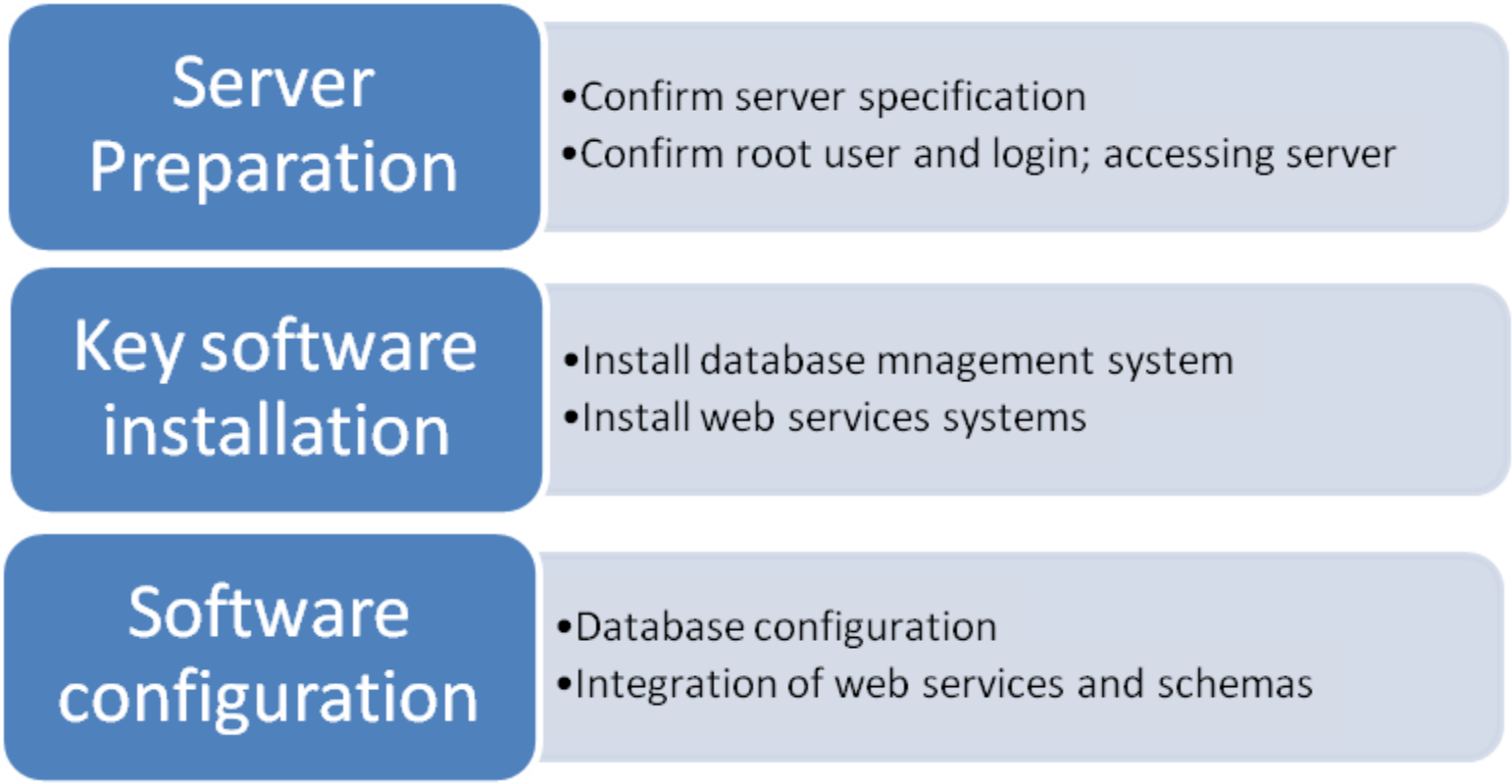
Deliverables



Freely accessible e-SOTER operational Web services and RDBMS including an algorithm database containing methods developed in WP1-6



Overview of the installation and configuration process for the e-SOTER web portal



Server Preparation

- **VPS or Dedicated Server**
- **Linux – Debian**

The Debian distribution of Linux is selected here by preference as it is generally considered a stable platform for building web services and is in common, widespread use for hosting such applications.

-It's Open Source
-It's Free
-It's more Stable
-It's more Secure
-Easy to get Help

- Disk capacity should be 100 Gb +
- Memory 1 Gb +

Key software installation

Java

Java is a core requirement of the web portal. The server requires the Java Development Kit (JDK)

- **Apache:** Apache is a freely available Web server that is distributed under an open source license. It is the most widely-installed Web server.
- **Tomcat:** Provides a "pure Java" HTTP web server environment for Java code to run
- **Postgres / PostGIS:** It's a suitable database manager because the final SoTer product is in vector format and PostgreSQL can provide full functionality with vector data (e.g. geographical querying, …)
- **Python, Perl:** to be able to run the py, pl on server side

Key software installation

GeoServer
http://geoserver.org

GeoServer is an open source software server written in Java that allows users to share and edit geospatial data. Designed for interoperability, it publishes data from any major spatial data source using open standards.

GeoServer is the reference implementation of the Open Geospatial Consortium (OGC)

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WCS 1.0
WMS 1.1.1
WFS 1.0

Web Feature Service (WFS): provides an interface allowing requests for geographical features across the web.

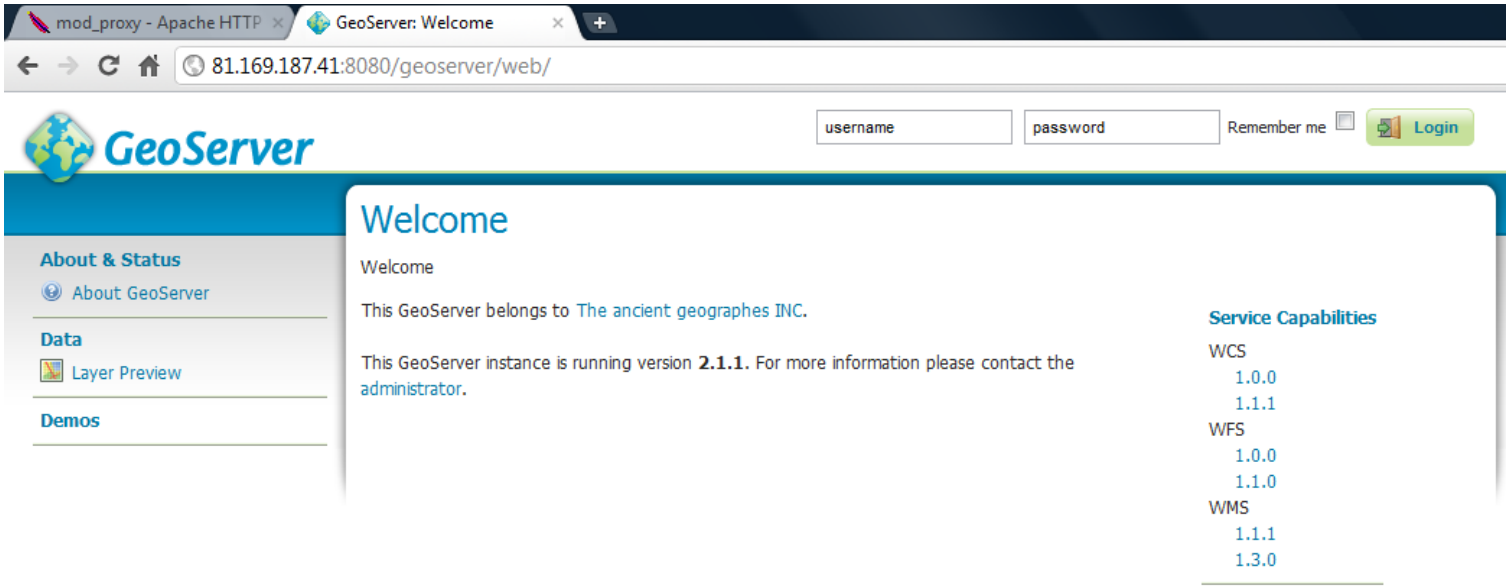
Web Coverage Service (WCS) : provides an interface allowing requests for geographical coverages across the web.

Web Map Service (WMS): is a standard protocol for serving georeferenced map images over the Internet that are generated by a map server using data from a GIS database.

Software configuration

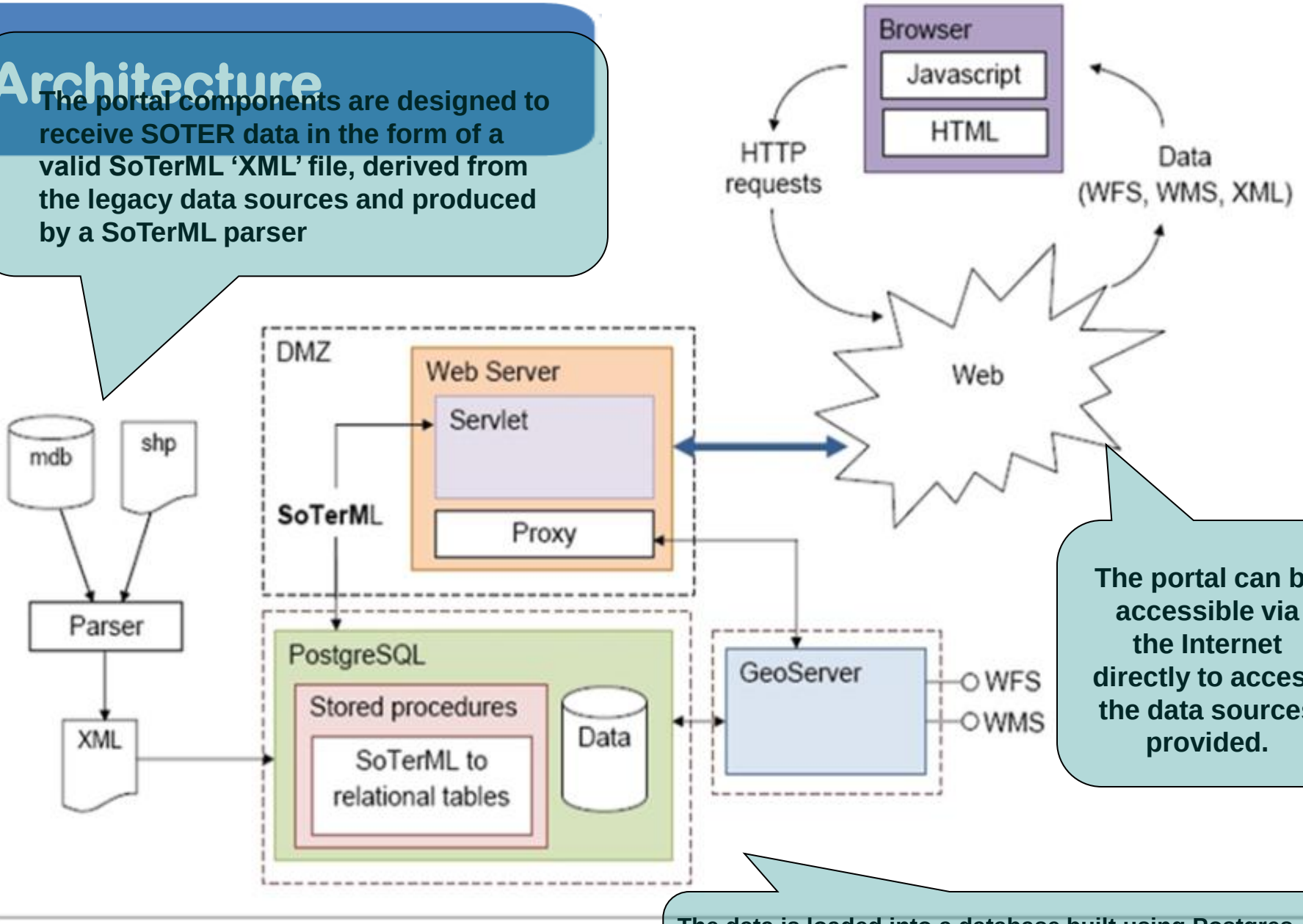
involves progressing through the steps required to configure the essential software components

Database creation, database preperation, configuring apache httpserver…



Architecture

The portal components are designed to receive SOTER data in the form of a valid SoTerML 'XML' file, derived from the legacy data sources and produced by a SoTerML parser



The portal can be accessible via the Internet directly to access the data sources provided.

The data is loaded into a database built using Postgres, which is accessed by the Geoserver tool to provide spatial web-based services to external client applications, such as environmental models and web-mapping applications.

MetaData Instance

E-Soter Metadata is stored by GeoNetwork

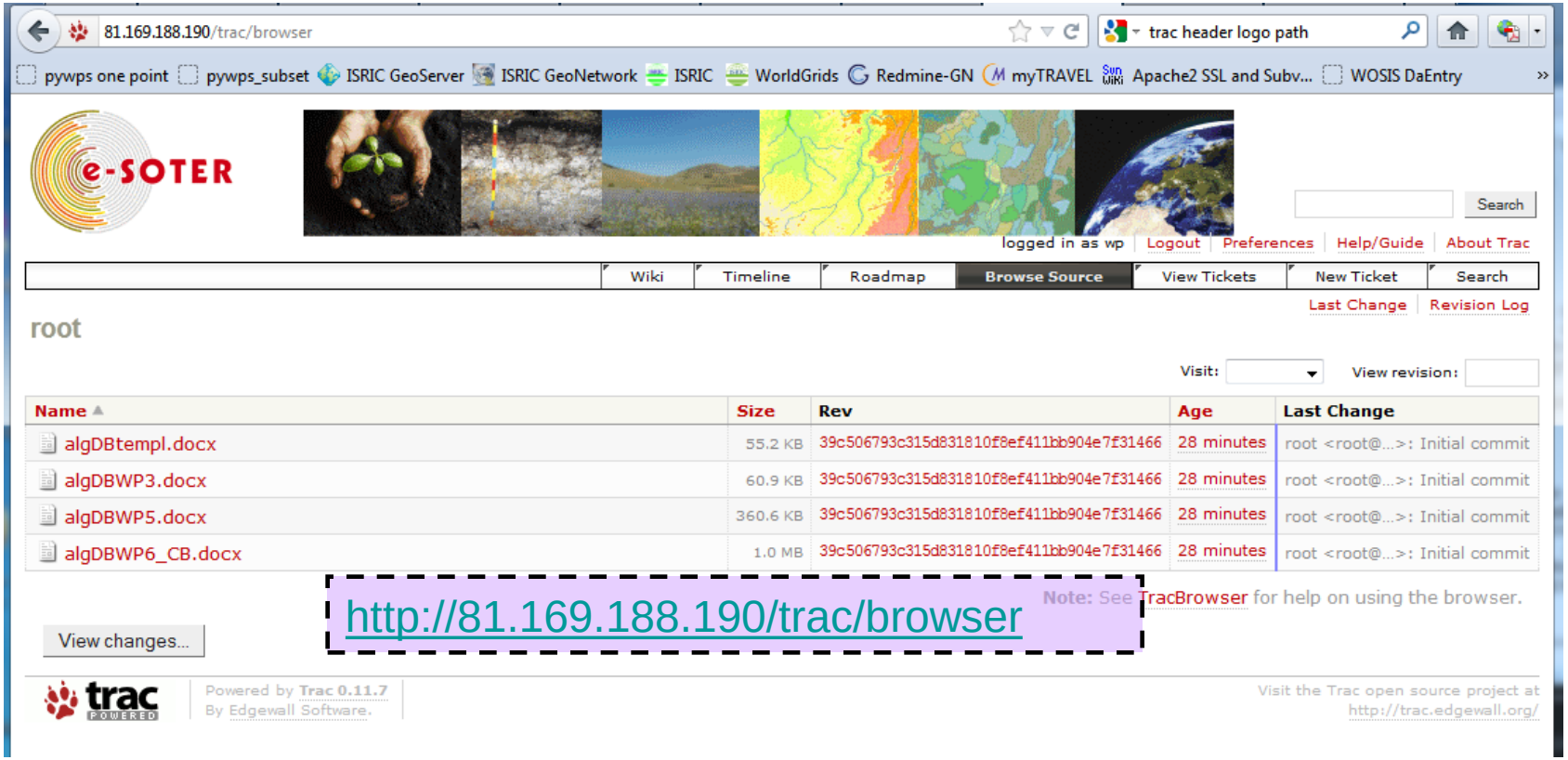
GeoNetwork is a catalog application to manage spatially referenced resources. It provides powerful metadata editing and search functions as well as an embedded interactive web map viewer. It is currently used in numerous Spatial Data Infrastructure initiatives across the world

E-Soter MetaData Website is Live With Sample Data at: http://81.169.188.190/geonetwork

MetaData Instance

Example for a record for the 1:1million record created in the four windows in the e-soter project according to the ISO19139 standard

Algorithm Database



Alghorithm Database

Trac and Git environment
Projects created algorithms, but loose these due to bad maintenance.. E,g, colleagues leaving, hard disk crashed, by keeping in a repository we keep track of it and institutional memory is collected.

TRAC – is an open source, web-based project management and bug-tracking tool.
GIT - is a distributed revision control and source code management (SCM) system. Every Git working directory is a full-fledged repository with complete history and full revision tracking capabilities, not dependent on network access or a central server.

e-SOTER Web Portal

Current Status

- Currently, all the server environment and the services are ready and live for the team members

- The e-Soter web portal will become public and will be working fully functional on the ISRIC and ESDAC servers in april 2012.

THANK YOU

D.Simms, H.Reuter, S. Hallett, P.Tempel, Y.Yigini, D. Leibovici, A. Pourabdollah

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