The HNODC Data and Information Management System

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The HNODC Background

❖ Established in 1986, in the frame of the cooperation of Greece with the Intergovernmental Oceanographic Commission (IOC)

❖ It is a national agency, part of the international network of NODCs operating within the framework of the IOC/IODE.

❖ Participates in different elements of the IODE system, including acquiring, formatting, quality controlling, cataloguing, archiving, disseminating and exchanging of marine data and information.

❖ Operates within the framework of the Hellenic Centre for Marine Research (HCMR), in Athens and it is recognized as a national facility for international oceanographic data and information exchange.

Major Data Holdings

HNODC holds a great diversity of different data types that come from:

❖ several Research Institutes and mainly by HCMR

❖ the participation of HNODC in National, European and International Programmes

Data are subjected to quality control procedures according to the International standards as these agreed during several EU Projects and International Organizations.

A mass volume of over 300.000 station data concerning, physical, chemical and biological Oceanographic information, have been stored.

Web GIS Application

To represent and exploit the holding data sets, a Web GIS Application constructed with capabilities to represent either the Geospatial aspects of this information together with the non spatial information. For the development, state of the art software components were employed:

❑ Geospatial and no Spatial Web Services mechanisms took the place in the Middle- Layer

❑ Geospatial open source tools and custom development was employed in presentation layer

The Architecture

The back end:

❑ At the back End Open source PostgreSQL DBMS (and not only..) stands as the data storage mechanism with more than one Data Base Schemas.

❑ UMN Map Server and Geoserver are the mechanisms for Represent Geospatial Data via Web Map Service (WMS), Querying and Navigating in Geospatial and Meta Data Information via Web Feature Service (WFS), and in the near future Transacting and processing new or existing Geospatial Data via Web Processing Service (WPS).

❑ *WhereGroup MapBender*, a geospatial portal site management software for OGC and OWS architectures, acts as the integration module between the Geospatial Mechanisms.

The Middle Layer

❑ Apache and Tomcat stand as the Web Service middle Layers

❑ Apache Axis2 with it's embedded implementation of the SOAP protocol acts as the No spatial data Mechanism of Web Services. *(These modules of the platform are still under development but their implementation will be fulfilled in the near future.)*

❑ Finally Web user Interface for the end user developed based on enhanced and customized version of a *MapBender* GUI.
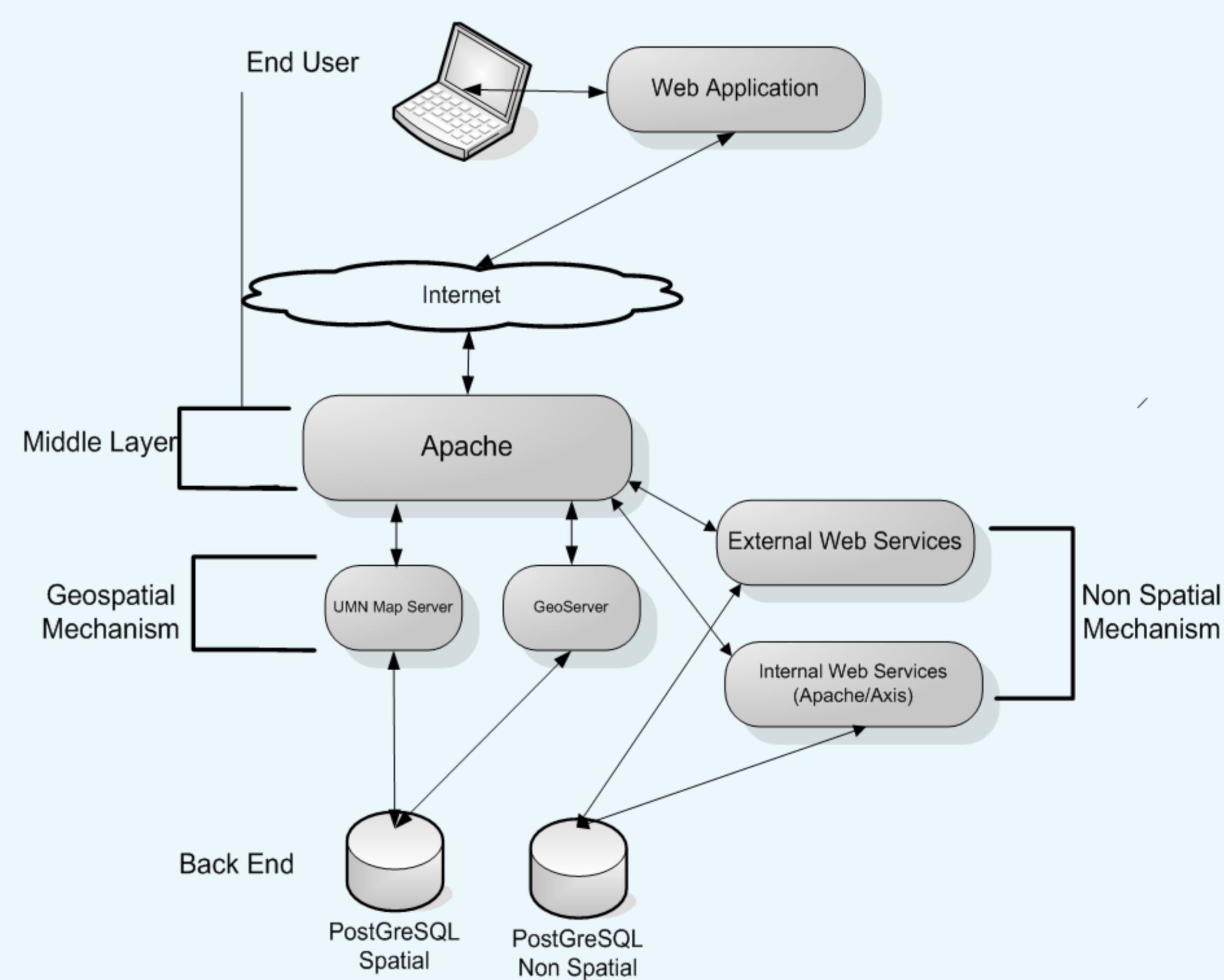
Web GIS Interface
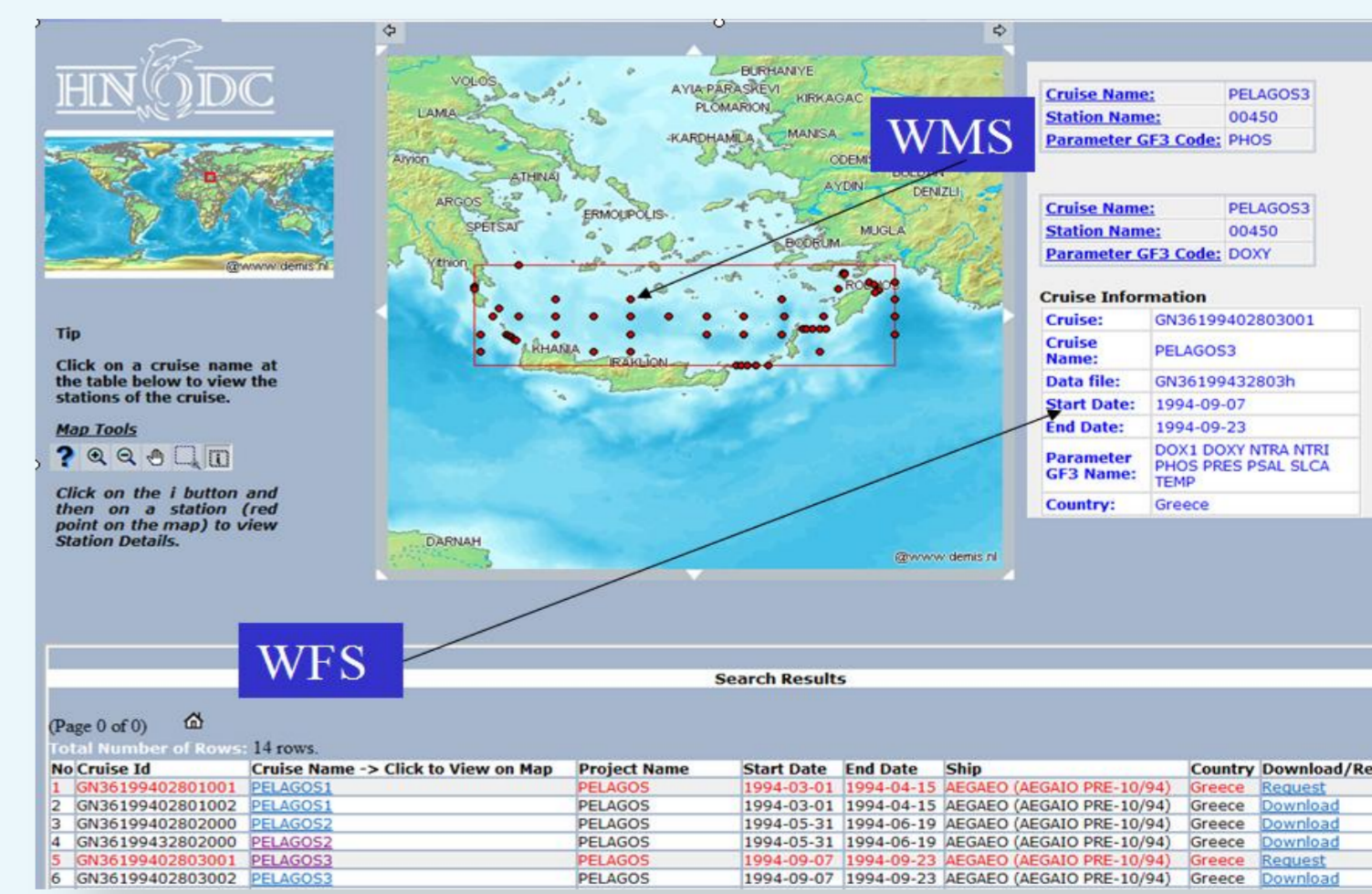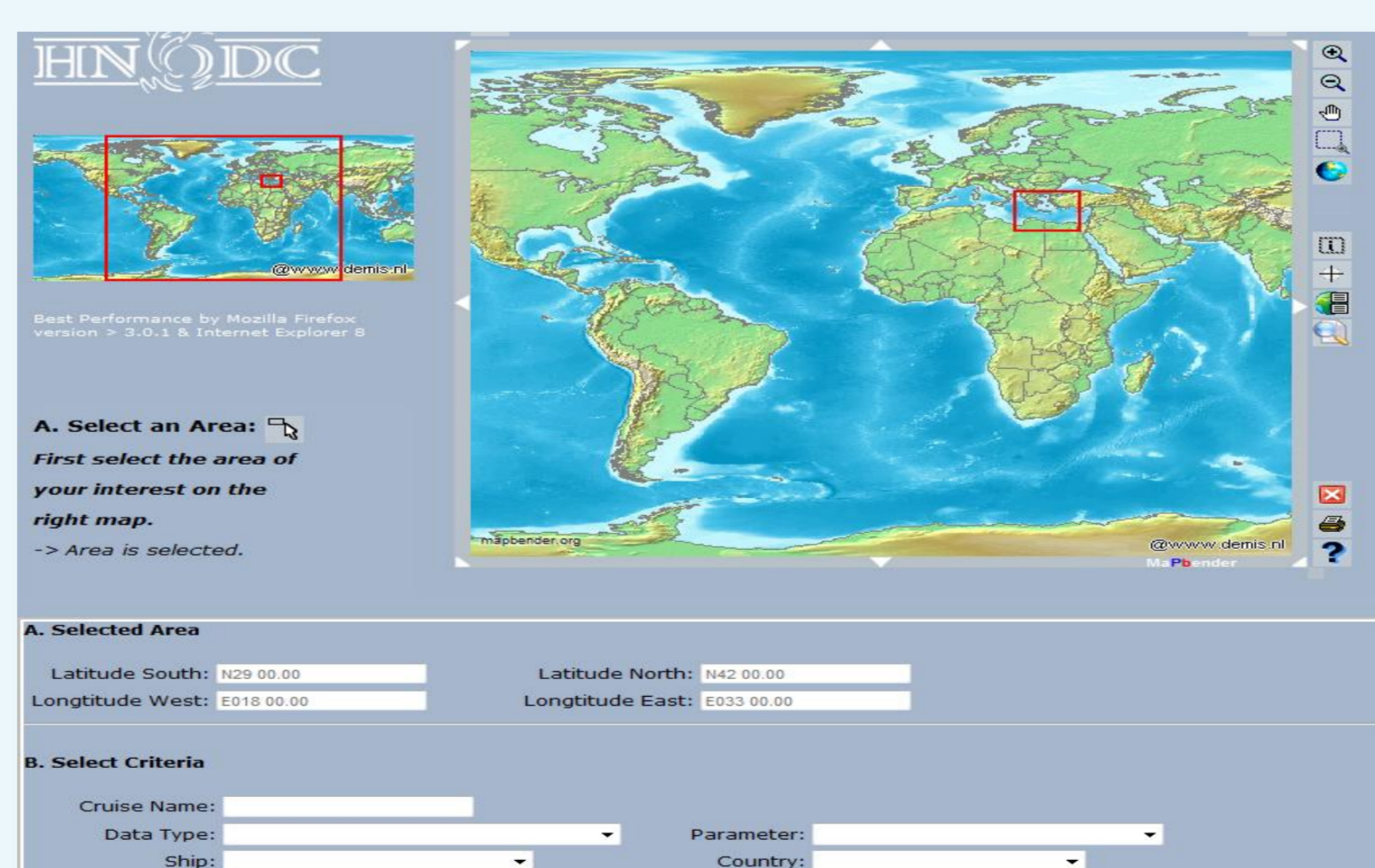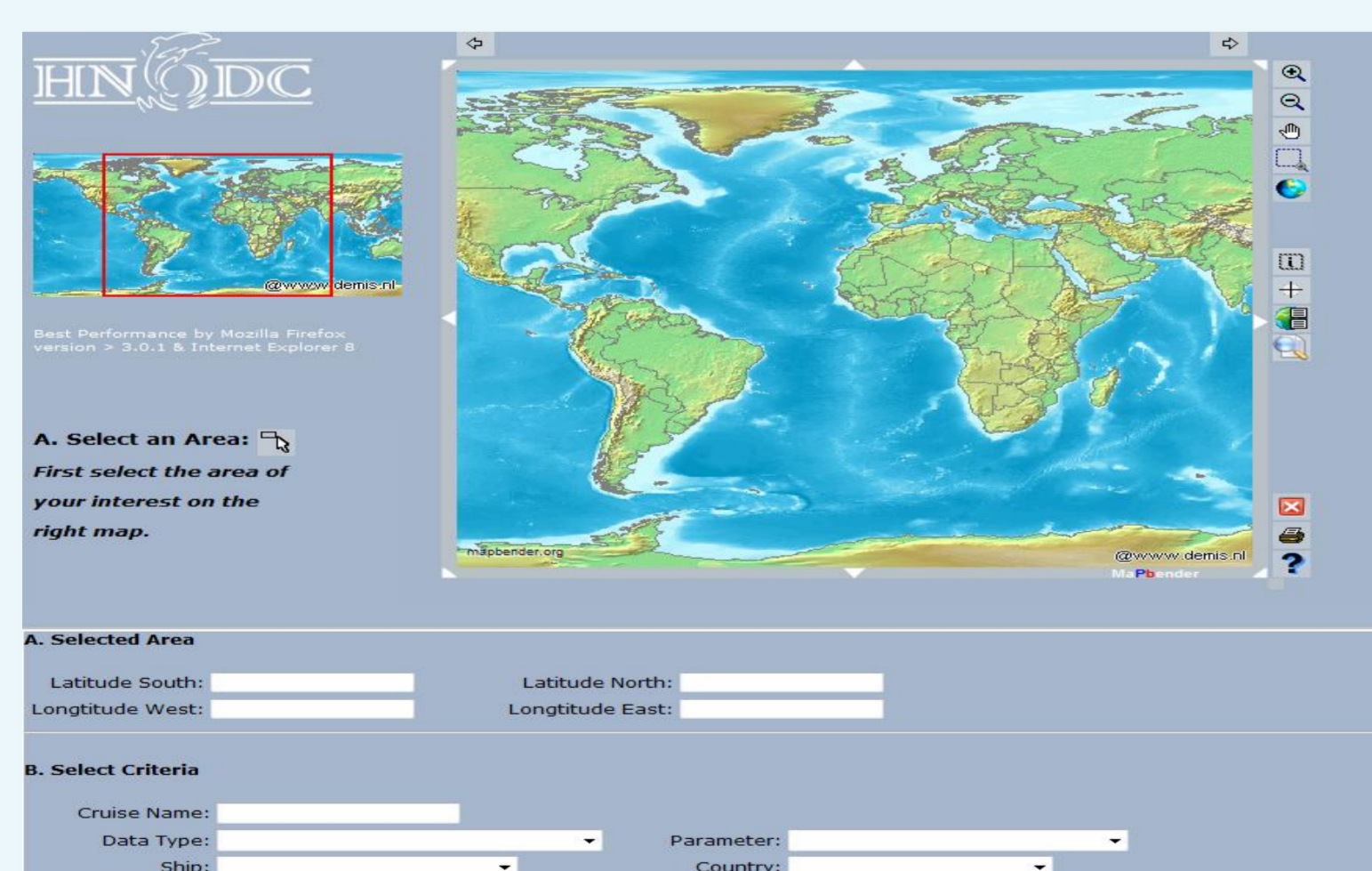
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Conclusions

➢ Inherit interoperability between among Data Centers and Data Providers

➢ Interchange and combine Data Sets with minimum programming efforts

➢ Produce comprehensive and self explained new Data Products combing various and diverse data sources.