Geodata Management and Dissemination

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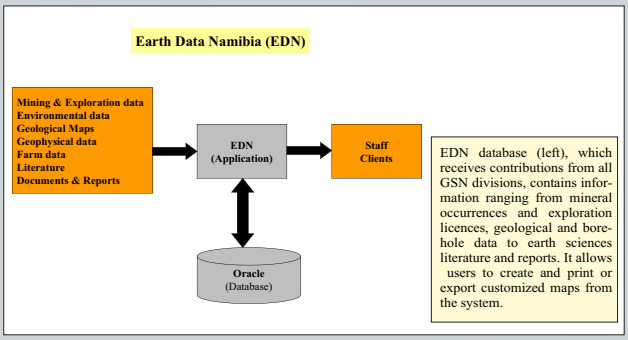
The increasing demand for digital geo-data, as a result of the booming mining and exploration industry, has made the Geological Survey of Namibia (GSN) realize the importance of having competently managed geodatabases and standardized data. GSN is a directorate within the Ministry of Mines and Energy (MME) that facilitates research related to geosciences and promotes sustainable management of natural resources in Namibia. Internal standardization of data has been started in order to improve access and dissemination of geoscientific information, and service delivery.

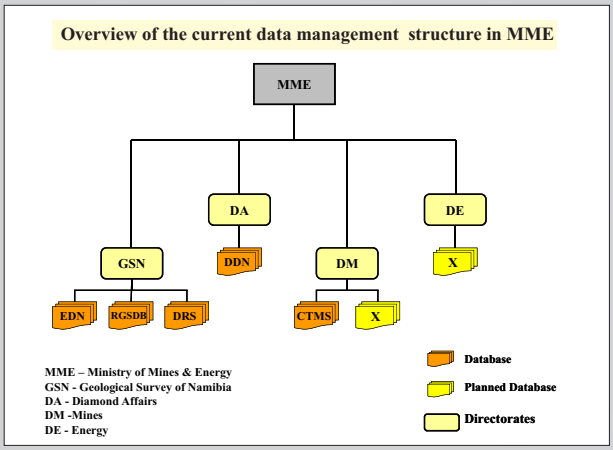


The Regional Geoscience Metadatabase (RGSDB), administered by the Regional Geoscience Division, underwent transition from a MS-Access based database to a GeoNetwork (version: v2.2.0) MySQL-based one. The Regional Geoscience database was launched in 2006 to enable easier access to available Regional Geoscience data. Currently the RGSDB is only available locally on the MME Intranet, but plans are underway to make it available to a wider audience. Metadata is entered using ISO 19115 format. RGSDB contains Aster and Landsat satellite images, aerial and orthophotos, and topographic,as well as geological maps.

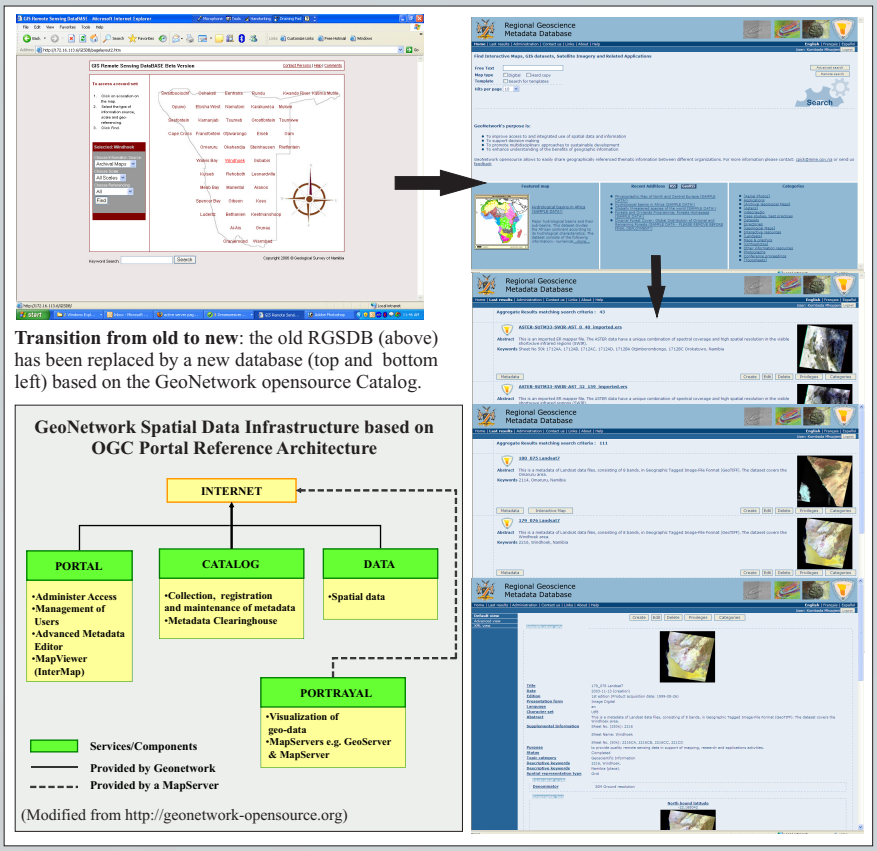
The GeoNetwork opensource catalog application has been developed by FAO, WFP and UNEP based on Free and Open Source Software (FOSS) standards. It runs on Microsoft Windows and uses an Apache Tomcat web application server. The main features of GeoNetwork application include:

- Portal and Catalog Services
- Access to spatial data from other databases
- Search functions and an Interactive web map viewer (InterMap)

Apart from the flexibility of its main features, GeoNetwork opensource was also chosen for its cost-effectiveness, compatibility with major software and user-friendly interface. Efforts are being made to integrate the Portrayal component to enable visualization of Geodata using a mapserver, such as GeoServer or MapServer.



The Geological Survey has several geological databases which are being managed by the different divisions. In the past Earth Data Namibia (EDN) mainly received data from the Economic Geology and Regional Geoscience divisions. At present EDN, which underwent diversification in 2006 through the addition of modules, contains data from the Economic Geology, Regional Geosciences, Geochemistry, Geophysics, Environmental and Engineering, and Geo-information (library) divisions. Plans are underway to upgrade the EDN system software and hardware, and to relocate the data to a more secure location with larger capacity.



Transition from old to new: the old RGSDB (above) has been replaced by a new database (top and bottom left) based on the GeoNetwork opensource Catalog.

Apart from the EDN and RGSDB databases, GSN also has a Data Retrieval System that hosts geophysical data such as magnetic, radiometric and hyperspectral data, and the Seismological Network Database for seismic data. Other technical directorates within the Ministry also have databases such as the Diamond Database Namibia (DDN), which contains information on diamond production (export and import) and licensing, and is also used to issue permits, and the Computerized Mineral Title Management System (CTMS), which provides information on mining licences and mines.

Today, there is a need for more cooperation between governments, organizations and institutions to share standardized GIS data through a common portal- the internet- in order to facilitate the efficient dissemination of data to the users. The Ministry's LAN was upgraded earlier this year from 100kbps to 1Gbps and the Namibian government plans to upgrade the entire government's network in the near future in order to speed up the internet connection. Plans are in existence to merge all databases within the Ministry of Mines and Energy into one large web-based application that would share the same server and run on MS SQL. Further development of spatial data infrastructures along with providing web-based services, are part of the major tasks and challenges faced by the Geological Survey of Namibia.