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Migrating the Italian Forestry data base from an local proprietary software based architecture to a client-server FOSS based system

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A huge database carrying forestry data is being create by the Italian national ISAFA (Istituto Sperimentale per l'Assestamento Forestale e per l'Alpicoltura) research institute. This database will become the official database for forest management of the majority of the Italian regions. It combines a huge quantity of alphanumeric and cartographic data and provides custom interfaces as well as database consistency check. Originally the system was built using Microsoft Access Data Base in connection to ESRI Arcview.
This approach carries some shortcomings, due in particular to the local database management that implies the installation of the DB management and GIS software on the PC of each user and, more important, poses a huge problem for consistency and updates. In fact, data must downloaded on local computer, modified and then uploaded to server.
A new solution, built on top of FOSS systems, has been proposed, solving the issues above and allowing more flexibility and performance at the same time.
This new solution uses a client-server approach with a central DBMS providing access to different classes of clients. This approach provides several advantages: centralised, scalable and optimised DB management with access control, background consistency checking and no need for specific software on the client.
The DB management is done by a PostgreSQL server with PostGIS extension, allowing the complete management of both semantic and geographic data in one database. This database is accessible from a Mapserver interface as well as from phpPgAdmin, replicating the MS Access interface using php.
The existing Access has been semi automatically transferred into a PostgreSQL database, while the the cartographic data has added to the database from the ESRI shapefiles.

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