

PROMISING STEPS TOWARDS AN INTERNATIONAL ON-LINE DATA SERVICE

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INTRODUCTION

The transition towards the Information Society – it is the challenge of the new Millennium. Geographic Information Systems play a special role in forming the new infrastructure, as 80% of any kind of information can be linked to its location.

For a big deal of users the co-ordinate systems are too specific, linking information to administrative territorial units suits much more their requirements.

Administrative territorial units can be represented by their boundaries, the addition of attributes may widen the circle of interest to them. The data capture and compilation of the administrative boundary database in Central-East Europe is mainly the task of the National Mapping Agencies; and forms part of the National Geographical Data Infrastructure (NSDI). However the globalisation and the increasing number of cross-border co-operations require unified interoperable data for entire regions. This awareness led to the creation of SABE (Seamless Administrative Boundaries of Europe) and then - as a kind of geographic extension and in the same time a technological innovation - the ABDS for the CEEC (Administrative Boundary Data Services for Central and Eastern European Countries) project.

ABDS AS PART OF THE E-GOVERNMENT

The service of reliable up-to date essential data is the task of the government. Administrative boundary data – being the base for different kind of analysis when spatial reference is required – are core part of the NSDI. Therefore the key requirements for the ABDS are the following:

- Service of ABD exactly reflecting their actual legal status
- Relatively cheap, accessible for a wide range of users (with certain products to be served free of charge)
- Interoperable in respect of the data sources and user friendly in such way, that the user could specify the product to be purchased

Obviously, such criteria can be met only by an on-line real-time service, accessible via the Internet.

ABDS FOR THE CEEC PROJECT

The ABDS for the CEEC project, supported by the INCO Programme of the European Commission was launched on 1st December 1998 and the preparatory phase was finished on 31 December 2000. The purpose of the preparatory phase was to

- clarify the legal structure and hierarchy of administrative territorial units of the region,
- identify the data owners and providers,
- trace the process of changes of the boundaries and their registry,
- identify the existing AB data
- elaborate the technical specifications for the international service
- identify and test the possible methods for on-line model generalisation
- define the standard products for the future service
- launch a pilot service using Hungarian data
- define the framework for the implementation of the future service

These tasks were implemented by a project consortium representing National Mapping Agencies (Lithuania, Czech Republic, Hungary, Greece), National Statistical Offices (Latvia, Estonia, Hungary), national GIS umbrella organisations (Poland, Hungary,) Universities (Czech Republic, Bulgaria), state owned research institutes and other organisations (Romania, Hungary), a private firm (Finland) and international organisations (MEGRIN, GISIG). The project was co-ordinated by the Institute of Geodesy, Cartography and Remote Sensing (FÖMI), Hungary.

As a result of the inventory of the existing situation the project consortium defined the commonly acceptable resolution (scale) of AB data, which is available for the countries of the region. This database called as consolidation level database will serve as the base for the standard and user-tailored products of the future service.

ON-LINE SERVICE OF ADMINISTRATIVE BOUNDARIES

The data content, data model, service mode and metadata descriptions has been elaborated on basis of existing GI standards. The elementary datasets of the participating countries must be transformed to the consolidation level (master database) according to the following specifications:

- Projection system: national, UTM and 2D geographical co-ordinates without projection system
- Reference system: ETRS89 (GRS 80 ellipsoid)
- Generalisation method: Douglas – Peucker algorithm with Duda - Hart extension

The master databases are stored on the server of the national portal in each country. Depending on the technological possibilities the database system can be fully, or partially distributed. The national portals will communicate with the international portal, which is intended to consist of two units, the data server and the client server. The client server will provide the facilities for browsing, querying and ordering the standard products, and also will contain a module for individual ordering, according to the specifications of the user.

The methodological elaboration of the consortium were tested and implemented in frame of the pilot service based on Hungarian data. The positive experiences of the pilot have proven, that we took a promising step towards the implementation of a modern international on-line service of the base data infrastructure. Our results were highly appreciated by the European Commission.

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