

# GEOCODING FOR THE COMMON PLATFORM OF GEOGRAPHIC INFORMATION

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With the development of science and technology and the popularity of the Internet, geographic information science has entered a comprehensive stage emphasis on geographic information service. Service groups from the past of the land, real estate professional departments of government functions be extended to all sectors of society and even the public. The integration of these information and integration are inseparable from the names / address data, as well as geocoding technology. Geocoding is a kind of geo-spatial positioning technology based on the encoding method, which establishes the non-spatial information and the spatial information connection through standardized process to existing massive descriptive information (address, geographic name information), is also pivotal to the conformity information resource.

This paper first introduces the development on address model and geocoding technology overseas and analyses the current trend. The U.S Census Bureau proposed Dual Independent Map Encoding(DIME) in 1960's, which play an important role in the process of census. Subsequently DIME was replaced by TIGER; Topologically Integrated Geographic Encoding and Referencing. Nowadays TIGER is recognized as a kind of geocoding standard in America. In the research field of geographic information system, a cooperative effort has been undertaken by several international organizations to define standards and specifications for address, whose purpose is to facilitate the exchange of address information.

Then, this paper proposed a multi-level address model considering China's actual situation on the basis of thorough investigation and study of existing geographic name/address, their description and combination rule. This model may distinguish the address range and the precision rank characteristic, is helpful in many kinds of localization demands. In order to realize the superimposition or the match process highly effective with the automaticity, this paper put forward the geographic name/address code structure, as well as geographical position coordinate expression method (i.e., whether a single representative point is enough or a complete geometry is needed). Furthermore, the code structure is implemented in two steps each of them using one of the chain of responsibilities defined in the hierarchy. In the first step, each level obtains all the locations with the requested name. After that, in the second step, the system builds the complete path of the geographic descriptions from bottom to top.

Finally, this paper introduced the project of common platform of geographic information being carried out in China, as well as its Geocoding Service and its construction, including the address model, address database and the standardization of service functions. This address model can meet the needs of the platform, to guarantee all types of thematic information through geo-coding to achieve effective integration, and promote the widespread sharing of geographic information.