

# The Network Distribution and Service System of Surveying and Mapping Products Based on the Internet

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The Network Distribution and Service System of Surveying and Mapping Products (NDSS) is integrative exchanging system of metadata for surveying and mapping products covered the whole China. This project was initiated in 2007 by the State Bureau of Survey and Mapping of China (SBSM) and the 31 provincial bureaus have been joined through the net. More than 650 thousand metadata XML files have been uploaded into the NDSS and composed the Catalogue Federation based on Internet web service until the end of 2008. The normative interfaces were carried out in NDSS and protocol consistent with relative standards developed by ISO/TC211, OGC specifications and other industrial standards for Web Service, such as XML, WSDL, UDDI, SOAP and etc. The NDSS composed of one host node and 31 nodes, the host node is a web portal and other nodes are configured respectively by metadata server and distributing service server. The main parts of workflow are gathering or capturing metadata, founding the metadata service system and establishing the distribution website. The Technical Manual of NDSS has been compiled and sent to the consumers of provincial bureaus and interested developers.

The Key Technologies of the system are:

1. Working out and implementing the Content Specification for Products Metadata (CSPM) of surveying and mapping.
2. Developing the software to supply capture and edit of the metadata in accordance with CSPM, to convert or process a batch of the metadata Database in existence from different metadata standards.
3. Implementing metadata service, including query, management and maintenance the distributed metadata in according to the OGC. Particularly the metadata from 31 provincial systems registered and uploaded to the portal site, and updating synchronized its metadata with the 31 nodes.
4. Controlling the quality of metadata when upload the data to website, that is satisfying all requirements of metadata quality and filtrating some ineligible metadata elements.

According to the Technical Manual, implemented the functions of each of the 31 nodes are as follows:

- &#61548; Metadata edit, management and distribution
- &#61548; Set up new template of metadata
- &#61548; System synchronization with the portal site
- &#61548; System management

The NDSS is a part of governmental website of SBSM and is first time to issue the integrated products catalogue. The first step of its construction has been finished by the end of 2008 and the services have been started to the users through the host node. It is confirmed that the NDSS is an effective and useful distribution and service system of surveying and mapping products in China. Also it is very useful for geo-spatial information data sharing and application. As the responsible organization, the National Geomatics Center of China (NGCC) will maintain the whole NDSS and provides technical supports to all 31 nodes. The website address of NDSS is <http://data.sbsm.gov.cn/>. Each provincial bureau will maintain their own node for updating the products metadata continually and provide services for distribution. Next step, the NDSS will extend to the products metadata of enterprises who are permitted for surveying and mapping, and it will increase the metadata services for thematic data, images and other archives.