



# 2004 NACo Achievement Award



## An Enterprise Geodatabase

Enterprise Applications Division – Geographic Information Systems Team  
Montgomery County Department of Technology Services

The Montgomery County, Maryland Department of Technology Services - Geographic Information Systems (DTS-GIS) team has been providing, as one of the most important functions of the team, database services to County GIS users. The DTS-GIS data collection encompasses a wide range of spatial and non-spatial data including vector data, raster/imagery data and attribute tables such as Census 2000 publications. The County GIS data collection has been growing ever since 1992, the beginning of the County GIS program. It is now a terabyte inventory of data. Data originally required a single UNIX workstation for storage and has expanded over the years into a collection that occupies multiple UNIX and Windows workstations and mini-servers.

In 1996, DTS-GIS advanced its GIS database technology by creating its first geodatabase using Environmental Systems Research Institute (ESRI) Spatial Database Engine (SDE) technology. Since 1996, the geodatabase has been expanded, enhanced, and made more accessible to a greater variety of users including GIS specialists, IT specialists, engineers and desktop operators. The data is accessed through the use of GIS desktop software, Internet and intranet applications. The County geodatabase, powered by the industrial standard database management system Oracle and coupled with the latest enhanced functionality of ESRI ArcSDE 8.3, has improved significantly and has emerged from a small scale, GIS specific database into an enterprise level, multi-function database.

The 100+ GIS data layers that have been developed and/or maintained over the years are now

uploaded into ArcSDE/Oracle hosted at the GIS-DB3 Server. These data layers were organized into the following Feature Datasets:

Basemaps	Infrastructure	Properties
CAD	Landuse	Public_Safety
CLINES	Locations	Public_Works
Districts	Muni&Urban_Areas	Regional
Environment	Nature&Rec	Sewer
Grids	Planning	Water

Since both Oracle and ArcSDE communicate to their client software through the TCP/IP protocol, deployment of the geodatabase to all users and departments is much easier than the old way of mounting file systems. Most end users were able to enter the database server information into their desktops by following a set of simple instructions. Few end users required phone services or office visits. The deployment was quick and smooth, yielding a big savings on the GIS system administrator's time.

The enterprise approach enables single point of access of GIS data for ALL County users. It relieves the users from the need to search through multiple servers for accessing needed data. It eliminates the danger of accessing earlier versions of data due to the fact that multiple copies of data residing on multiple servers can be of different vintages. With the help of fiber-optic network connections, other agencies in the MC:MAPS Consortium can also access these vast collection of GIS data. This in turn reduces the time required for the DTS-GIS Team to service the agencies.

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