Abstract

The Washington Army National Guard (WAARNG) has developed an enterprise GIS system that has incorporated proven, effective GIS tools used to streamline data browsing, collection, analysis, distribution of information, and the management of growth, utilizing GIS technology. This enterprise GIS system integrates various data sources into one Enterprise GIS portal, thereby reducing costs and increasing efficiency across the entire military division. Planners and Engineers are able to make informed decisions quickly utilizing accurate, up to-date information. The management team members are able to create reports, view Maintenance and Operations data, and evaluate situational and infrastructure data.

Introduction

Technology Associates International Corporation (TAIC) is assisting the WAARNG Facilities Maintenance Office in creating an ArcIMS based Enterprise Web Portal. In addition to the Web tools, TAIC also created an ArcView 3.2 application that was utilized to monitor security at the 2002 Winter Olympics Ice Rink events in Salt Lake City, Utah. This ArcView application has also been ported to ArcGIS.

The Winter Olympics ArcView Application implemented physical security GIS tools and Incident Command System (ICS) GIS tools that allowed WAARNG to track command center activity, checkpoint activities and contacts, major and minor incidents and assets. Also included are reporting and automated map creation tools.

Features include:

- Custom Tools for barrier and personnel planning and inventory
- Imagery and Basemap data
- Custom Interfaces
- Report Writing Tools

The Enterprise Web GIS application prototype was designed for use at the Headquarters level. The application allows users to view all installations within the command. All data is accessible from easy to use tools for planning and assessment. Adding the portal functionality provides WAARNG with management tools and the ability to present information to all participants.
Features include:

- Integrated, Web Based GIS application using custom ESRI ArcIMS
- Web enabled CAD and Document searches
- Displays CAD drawings and Photographs
- Access to various data sources from integrated Active Server Pages (ASP) and Microsoft .NET web environment
- Web Portal site

Cost Sharing Consortium

Using the WAARNG as a template, TAIC is currently working with other states in identical development paths. The Oregon Military Department, Mississippi National Guard, Georgia National Guard and Hawaii National Guard are all working with TAIC to provide an enterprise approach to ESRI GIS solutions. Through this cooperative effort significant cost and time reductions have streamlined the design, development and deployment of the portal technology.

Software

Software and technology solutions were evaluated for ease of use, the potential for easy customization, and compatibility with existing data sources and existing software. Based on these criteria, Microsoft SQL Server with ESRI's ArcSDE has been selected as the database solution, and ESRI's ArcIMS, in conjunction with .Net technology was used for the web portal implementation. ArcGIS is being used for the power desktop GIS users for data generation and manipulation.

Development of the System

One of the key requirements for the enterprise web portal was ease of use. Our target audience is the general users in the ARNG HQ and at the States. Most of these individuals have never used a GIS application before, and therefore simple, intuitive controls are essential. An additional factor in determining to use the ArcIMS web portal was that current GIS personnel can do the “on the fly” customization and data connection without substantial time investment in training.

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