



Southwestern Virginia Technology Council 2011 High Technology in Government Award



The Southwestern Virginia Technology Council (SWVTC) announced Mountain Empire Regional GIS (MERG) as the winner of the coveted 2011 High Technology in Government Award. The MERG project streamlines the process for data sharing among localities and the state through development of a regional GIS data replication system in near real-time. It significantly improves public safety in a large region of the state, and is the largest regional geographic data repository project in the Commonwealth of Virginia.

The project began when the Virginia counties of Lee, Russell, Scott, Smyth and Washington and the City of Bristol identified a need to improve emergency response to 9-1-1 calls. The area is significantly mountainous and largely rural. Within the 2,505 square miles covered by the MERG project, there are numerous areas of sparse population and difficult access. 5,440 miles of roads, 97,066 addressed structures and 182,975 citizens depend upon the six government entities in a variety of public safety events, which rarely adhere to county lines. Public safety answering points (PSAPs) can be affected by the terrain, particularly when calls originate from cellular telephones. Frequently, the area has need for coordinated response across government boundaries. For example, Scott County transferred 949 emergency 9-1-1 calls to other jurisdictions in 2010. Mapping, and particularly current and correct mapping, can be critical to effective response.

Prior to project implementation, the area's characteristics, lack of coordination and dependence upon paper maps could hamper and delay public safety response. The MERG project was designed to enable sharing and upkeep of current GIS data across jurisdictional boundaries, thus enhancing emergency response and providing critical backup capabilities. Other jurisdictions easily may join the partnership in the future, creating further benefits for everyone involved.

The citizens of the six MERG jurisdictions are the primary beneficiaries of improved services from MERG through the various Public Safety Answering Points (PSAPs). Dispatchers now share

near “real time” GIS mapping with responders, including updated roads, centerlines, parcel and E9-1-1 addressing information available at the dispatcher position. Responders and emergency coordinators, formerly reliant on paper maps that were rarely current, now receive map data which is updated nightly if changes occur. The immediate benefit is the ability to shave seconds from life threatening incidents. In reality, mapping without borders can reduce response time by hours in remote locations when E9-1-1 wireless and wire line calls are received.

Administratively, GIS technicians at each jurisdiction are freed from the time consuming task of continually reaching out to bordering neighbors in an effort to obtain data that is often outdated before it is available to the PSAP. Emergency coordinators and other county administrators also now share connectivity, frequent communication and planning for new uses of this agile data repository.

MERG easily supports the vision and the practice of VGIN’s statewide geospatial clearinghouse, which sources authoritative data from the localities to share information regionally, statewide, multi-state and federally. MERG data is available to support state efforts through a single point of contact versus the time and effort of reaching out individually to the localities involved. Consequently the local authoritative data flows into statewide road centerline data and becomes part of collaborative state-led efforts with commercial data providers such as Navteq and TomTom and web mapping applications such as MapQuest, Bing and ESRI. The result of the MERG collaboration is delivery of the most accurate and current data, available to both citizens and government.

The greatest challenge to interoperable communications in the region was the lack of local funding and the lack of jurisdictional information systems support.

The challenge was addressed by building a regional team to qualify for a regional project grant through the Virginia E9-1-1 Wireless Board grant program. The grant program provided the \$775,000 grant award that enabled the MERG vision to become a reality. Because the funding was made available to the MERG team, there was a heightened sense of accountability that fostered an attitude of innovation and success. Every dollar spent was leveraged for additional benefits and return on investment for its constituents. The result of this process was that the team actively sought ways to capitalize on the grant investment. It was able to accomplish an infrastructure that supported not only this project’s objectives but also many other value adds—such as creation of a web-based information portal, data backup and recovery of other data systems for the jurisdictions.

MERG was designed to assist participants without adding requirements for increased staff or budget – critical in the current economic environment. It has been implemented through leverage of an innovative funding stream and positively exemplifies local-state partnerships. The data repository is designed to not be limited to GIS-based data. The full vision of this project is to create the foundation of data sharing, services, transferring, backups, etc. for the continued improvement of the region’s public safety and overall planning endeavors. Plans for MERG II already are underway.

MERG implements a “come as you are” GIS approach. Whether members have a simple or very sophisticated GIS program, participation is easy. The flexible, scalable platform development and secure, firewalled network eliminated previous barriers to service improvement.

The MERG project shines as a leading practice in Virginia due to both the government to government project collaboration and the leveraging of simple yet advanced technologies of the ESRI v10 software. It is a classic case of the business need driving the technology and not the other way around as it is so often. Organizational hurdles melted away because of the unifying regional need. The PSAP Grant Program provided the perfect funding opportunity. The v10 ESRI software made the technical solution easily attainable, sustainable and expandable. The entire project concept dovetailed with ongoing efforts at the state level.

With its service oriented architecture, growth into new forms of data is enabled. The original grant wisely has been used to build a platform that does not depend upon further funding or staffing to expand. The regional cooperation is a model for other government entities.

Appropriately, the citizen rarely if ever knows of the technology which supports the business of improving E9-1-1 response. However, this innovative use of technology has met the business need and stands ready to assist any citizen in need during public safety responses.

The MERG project is an outstanding example of local, regional and state cooperation – and innovation.

Even in a tight economy, participants focused on improving operations to benefit their citizens and employees. Project implementation followed best practices throughout, from clear identification of the business problem to project launch. The business need clearly drove the technology.