

Intergovernmental Solutions Awards Entry

Integrated Forest Information Resource System (IFRIS) Virginia Department of Forestry

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IT Solution Description

Through two major and sequential IT initiatives, the Virginia Department of Forestry (VDof) has eliminated multiple paper processes, married rich data in new applications, integrated geospatial imaging into business processes and pushed converged data to handheld devices in the field. These initiatives amount to radical business reprocessing. They enable best management of the state's more than 15 million acres of forest land, maximize financial and human resources and significantly improve service delivery to citizens and businesses.

The Integrated Forest Information Resource System (IFRIS) is a centralized, Web-based enterprise system that sews geospatial mapping into routine employee accomplishment recording. With IFRIS in operational use since April 2006, VDof now has launched the next phase, the "Forest Protection and Mobile Computing" (FPMC) project. FPMC expands on the geospatial toolset by integrating use of GPS-enabled Pocket PC devices for efficient, timely, and geospatially accurate field data collection. Secure data transfer and synchronization is created for activities such as wildfire incidents and mitigation, water quality law enforcement, and forest health observations.

Unprecedented benefit will derive from enterprise use of GPS-enabled mobile devices for field data collection. IFRIS minimizes redundant data entry and errors, increases workforce productivity and supports a mobile workforce through technology. It streamlines and integrates administrative functions with business applications, supports multiple program areas, enables location based tracking of activities, feeds employee and agency accomplishment reporting and vastly improves customer service. This application is the first of its kind in the nation and is being used as a prototype for other states.

Technology Leadership

Seamless GIS functionality tracks accomplishments by mapping the time-series of forest management activity, including employee reporting. IFRIS allows staff, many without GIS experience, to easily perform Web-based editing of geodatabases that store geometry of forest management activity with data describing existing forest stand type/condition. Users navigate to the property of focus and, guided by aerial photography, map forest management work.

VDOF's work relies on the ability to view and use maps and mapped data in the field. Incorporation of GPS-enabled handheld devices allows staff to capture data describing the nature and location of wildfire incidents, forest observation and other critical data. Collecting and visualizing geospatial data in the field improves the quality of information, and therefore service quality. Synchronization of enterprise database and geospatial data from handheld devices is brokered by Web services.

Intergovernmental and Collaborative

VDOF leverages the Virginia Geographic Information Network (VGIN) by integrating digital aerial photos and topographic maps from VGIN's Geospatial Enterprise Platform (GEP). IFRIS and GEP are hosted by the Virginia Information Technologies Agency (VITA) to minimize redundant efforts. IFRIS leverages Web services and Service Oriented Architecture constructs to unify all spatial and nonspatial operations. It leads the way for enterprise mobile computing in the Commonwealth.

Business Transformation

IFRIS supports agency performance metrics in VDOF's Strategic Plan and the Commonwealth's Strategic Plan for IT. IFRIS and the FPMC project have over 25 metrics for success in the Project Performance Management Plan, including:

- Elimination of redundant data entry labor and postal costs
- Elimination of support of antiquated legacy systems
- Improved data formats, accessibility and use
- Unique service delivery through on-demand maps and guidance documents
- Improved customer service across all activities
- Project management best practices
- Increase in workforce productivity
- Development of a mobile workforce through technology
- Mapping of employee and agency accomplishments to individual, strategic, and grants-matching goals.

Impact and Results

By integrating business functions, VDOF has reduced paper information flow, thus improving data accuracy and timeliness. By geospatially enabling its core business data, VDOF supports increased information availability and usability. IFRIS allows easy data share across boundaries of government by leveraging GEP data layers. FPMC solves the issue of how to safe data transfer from mobile device to secure server enterprise application, thus protecting assets, credentials and privacy of systems and users.

In less than one year five paper forms have been eliminated and one full time payroll position has been transferred to customer service. Virginia's Cost Benefit Analysis Tool projects measurable financial benefit. Cost avoidance is expected to be \$293,000, cost savings \$558,600 and the ROI is expected to be 55% with a payback period of 2.6 years.

Available and Transferable

IFRIS is a model for agencies planning to sew GIS functionality into enterprise systems. The Departments of Conservation and Recreation and Game and Inland Fisheries are currently developing uses. IFRIS serves as a model nationally for all state forestry organizations who must adopt geospatial accomplishment reporting to the U.S. Forest Service by October 2007; several other states are currently consulting VDOF. Future applications will include public access to IFRIS's rich datasets.

List all supporting organizations and public and private partners that assisted in this innovation:

Virginia Information Technologies Agency
Virginia Geographic Information Network
Commonwealth of Virginia IT Investment Board