A Functional Taxonomy for a Customer Driven Enterprise GIS

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ABSTRACT

Since 2002, Sarasota County, Florida, has had an established Enterprise GIS. Once the GIS operations were in place, the county recognized the strategic value of GIS technology and the need to apply its use to business processes. The county began an evolution of GIS from reactive project development to proactive customer driven project planning. This effort was driven by a set of GIS Vision Meetings, which allows the county to analyze, identify, develop, and prioritize GIS. This new organizational model is based on four functions or taxonomy's of county services, built, environmental, social, and economic rather than the traditional departmental or unit based organization. This allows more of a distributed GIS, which leads to collaboration, cooperation, coordination, and commonality of GIS within the county.

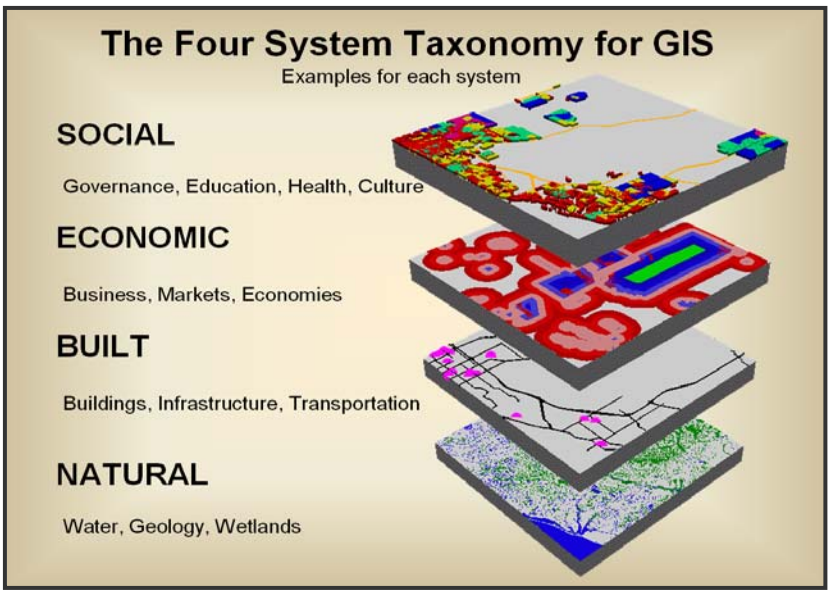
INTRODUCTION

Founded in 1921, Sarasota County encompasses approximately 575 square miles on the southwest coast of Florida. Sarasota County's beautiful beaches, barrier islands, and pristine natural areas make it a very desirable place to live. According to the United States Census Bureau's 2000 Census, Sarasota County had a total population of 325,457 people and in the 1990 Census counted 277,776 people. In one decade Sarasota County experienced a 17% increase in population. With the rapid growth of the county, a Centralized GIS was needed. In 2002, the Geomatics Services Center (Enterprise GIS) was established to consolidate data, software and personnel.

The Geomatics Service Center was developed as a division of the Planning and Development Services Business Center. As a result, some Business Centers did not fully integrate their staff into the Enterprise GIS. During the first two years of service, the Geomatics Service Center created a centralized GIS center of operations. Data consolidated from various groups established the Enterprise Data Servers using ArcSDE as well as the development of internet applications using ArcIMS. The primary funding

model for the center was reactive, in order to have the projects drive the funding. This funding model worked to a point but did not allow GIS to expand within the county.

In the spring of 2004, the county recognized the strategic value of GIS and began to integrate GIS into various county business processes. The idea of distributed GIS was reviewed. This would allow the administrators of projects and data to control their work, rather than be controlled by the Geomatics Service Center. Dividing the GIS into departments or business units did not follow the concept of an Enterprise GIS. The idea of dividing the county into Taxonomy's was presented. This concept is new in GIS, but has been used in the planning field as a tool for Sustainable Community Development. The Taxonomy organizational model is based on four functions of county services: Built, Environmental, Social, and Economic. This allows a distributed GIS, which leads to collaboration, cooperation, coordination, and commonality of GIS within the county. The new model was created to allow GIS to be proactive, to drive projects rather than have the projects drive GIS. Using the concept of Taxonomy, the county began an Evolution of GIS. The idea of an Evolution, rather then an abrupt change in structure, allowed the completion of major projects already underway in the Geomatics Service Center and provides for a smooth transition for county GIS staff.

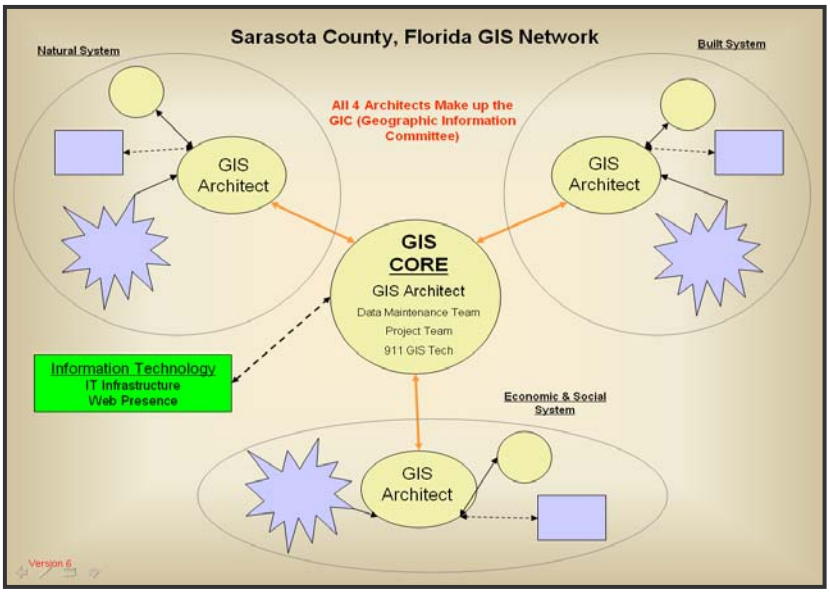


THE TAXONOMY MODEL

This new model is still an Enterprise GIS, but allows the county to have distributed GIS capabilities, concentration on GIS usage and provide proactive customer driven project planning. The concept of the taxonomy, rather than grouping GIS by departments, was

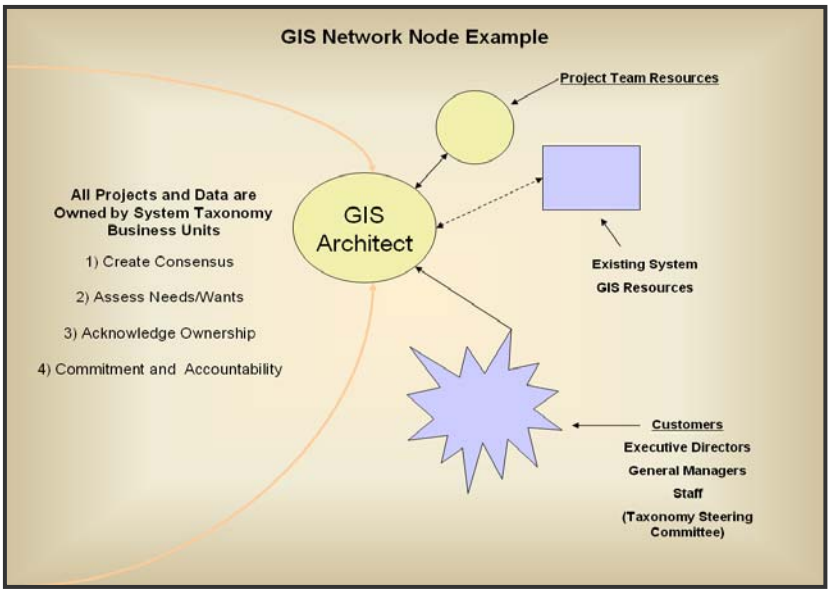
that many of the county's services cross departmental lines, which would lead to duplication of services.

The new model is a network of resources. Each taxonomy, along with a central core for GIS technology, forms this network. Each taxonomy is guided by a GIS Expert (GIS Architect) who works with the subject matter experts (Customers, Directors, Managers, and Staff). These teams create a node on the GIS Network. The GIS Architects rely on the GIS Core (the center of the Network) where GIS resources and data professionals are located. This group controls the foundation of technology, maintaining SDE, software licenses, and Core Data. This Core Data includes parcels, streets and associated layers. The GIS Core also serves as a shared resource to assist each taxonomy with projects. The GIS Core has a GIS Architect, an expert in GIS technology, and two teams, a project team and a data maintenance team. The data maintenance team focuses their efforts on maintaining the foundation layers and managing data needs as they arise. The project team works on ad hoc projects and planned projects that are passed down from the taxonomy.



The concept of nodes for each taxonomy forces the ownership of the customer's data and projects back to the subject matter experts. In the past, most customers relied on Geomatics Services to support their data updating and projects. This created a burden on the Geomatics Services Staff to continually edit unfamiliar data. This was time consuming, preventing opportunities to expand skill sets or explore new technology. Having a GIS Architect lead a specific taxonomy allows consensus, assessment of needs, acknowledgement off ownership and to establish commitment and accountability from customers. Inside each node, proactive project planning occurs between the GIS

Architect and the customers. The planning starts in a series of GIS Vision Meetings to help Analyze, Identify, Develop, and Prioritize GIS needs for the GIS Enterprise.



Along with the GIS Network, the four GIS Architects form a policy development team called the Geographic Information Committee (GIC). The GIC takes concerns and new policies to the GIS Executive Committee. The GIS Executive Committee is made up of the Executive Directors for each of the businesses centers who help fund GIS and the Chief Information Officer (CIO). This committee approves new policy and provides the necessary resources needed to keep GIS on the cutting edge.

VISIONS FOR THE FUTURE

In order to provide the necessary resources for proactive project planning, a series of GIS Vision Meetings were held. These meetings were based on the strategic initiatives of the county. Specialized subgroups were also formed. Subject matter experts and outside organizations who work within these areas were included. A series of five vision meetings were held regarding Water Resources, Economic Development, Neighborhoods, Mobility, and Costal Management. Each meeting focused on using GIS to simplify work, the current use of GIS, data and application needs, and comparing needs between groups. The two primary issues of focus were data and application needs. Application refers to the application of GIS within a department, not necessarily programming.

After all vision sessions concluded, a master document, or road map for GIS, was developed. All data and project needs were prioritized. This document allowed for the

GIS services and products to be directed to the customers, thereby eliminating duplication.

CONCLUSION

On January 1st, 2005, the Evolution of GIS began for Sarasota County. This concept has enjoyed a positive reception throughout the county. As with any process of change, there is opposition. One example is the process of renaming the Geomatics Service Center to reflect the changes is taking place within the Center. The staff has been very resistant to the potential name change. On the positive side, many departments who are without GIS personnel have enjoyed the opportunity to interact with a GIS Architect directly to evaluate their needs.

The Evolution of GIS is an ongoing process of change. The Taxonomy system is ideally suited for continued evolution and improvement. As each Taxonomy works individually and together with the Core, productivity is enhanced. Placing ownership of projects in the hands of those most familiar with the subject, while providing access to GIS expertise, successfully and effectively distributes resources. As the Evolution of GIS for Sarasota County continues, we look forward to perpetual opportunities for growth and development.

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