Department of the Interior's (DOI) Geospatial Modernization Blueprint

Project Charter
2-10-2006

Introduction:

Why modernize the Department of the Interior's (DOI) investment in geospatial data* and services*? To the DOI, location is ubiquitous in all our endeavors. The Geospatial Modernization Blueprint is a planning practice that documents the business activities performed by the DOI in fulfilling its mission and goals, and identifies the information technology and other resources needed to support those activities. The identification and deployment of common architectural elements across the DOI will facilitate the sharing of information and services and enhance overall mission effectiveness. DOI has literally hundreds of mission functions that rely on location and addresses for business processes such as land use authorizations, management of surface and subsurface minerals, fire and emergency response, campground and reservation systems, engineering facilities or conducting a wide variety of important scientific studies. Many of these mission objectives require the use of the same types of geospatial information or the same type of capabilities. The enterprise GIS software license has already begun to save DOI millions of dollars over the first five years. The Blueprint is designed to identify additional opportunities for the common use of proven solutions to improve the quality, defensibility, and reduce risk of providing or integrating geospatial products into DOI business. Additional benefits of the Blueprint include:

- Creation of long term savings and business efficiencies
- Improve the ease, usability and reuse of location based information and services
- Improve the effectiveness of DOI investments

The Modernization Blueprint or Methodology for Business Transformation is a business-based framework for validating a baseline and determining a future state. The Blueprint includes a recommended path to the target future state and milestones for measuring performance. Like the Federal Enterprise Architecture (FEA) and the DOI Enterprise Architecture Repository (DEAR) it includes reference models focusing on business processes, performance, technology, services and data as key areas of interest.

* Geospatial data relates to geography, location, addresses, or a place on the earth's surface. Geospatial data may be planar, 2D or 3D. The term is often used in place of other terms such as maps, geographic data, or spatial data. It also includes individual point or site specific information referenced to a location on the earth or digital imagery of the earth. Examples of DOI geospatial information are: property records, leases, permits, elevation, facility addresses, migratory routes, crime scenes, vectors of disease transmission, and fire lines or burn areas.

*Geospatial services are web/computer applications or functions that process data and information that have a geographic reference or parameter and often illustrate a pattern or trend. The term can also be used to describe geodata services where geospatial data is streamed to an internet application or where data is searched and retrieved using geographic coordinates. There are many types of geospatial services such as georeporting, web mapping services, geoprocessing or spatial analysis, geometadata services and visualization. DOI geospatial services examples are: resource mapping and change detection (long-term monitoring), visualizing impacts of facilities management or development of newly acquired DOI lands, tracking and routing of law enforcement staff and equipment, and geospatial metadata clearinghouse.

Sponsoring Program:

Project Name: DOI Geospatial Modernization Blueprint is sponsored by the U.S. Geological Survey (USGS) National Geospatial Programs Office (NGPO) and the DOI Interior Enterprise Architecture (IEA) Program.

Organizational Context: The DOI IEA has been coordinating with the Investment Review Board (IRB) and E-government Teams to identify business areas for architectural analysis and subsequent modernization. Within DOI, geospatial capabilities are cross cutting horizontal services, serving many lines of business. Currently, with its usefulness to numerous mission areas and strategic objectives, geospatially related Information Technology (IT) investments, business processes, technology, data and systems tend to conform to program and business area funding. To date, there have been a variety of initiatives at all levels of the organization attempting to improve how the DOI collects, processes, uses or delivers geospatial capabilities and information services. All these activities have been and will continue to assist in the preparation of attaining higher degrees of geospatial enterprise cost optimization, interoperability, technology standardization, business process improvement and system acquisition.

Geo-Blueprint Core Team

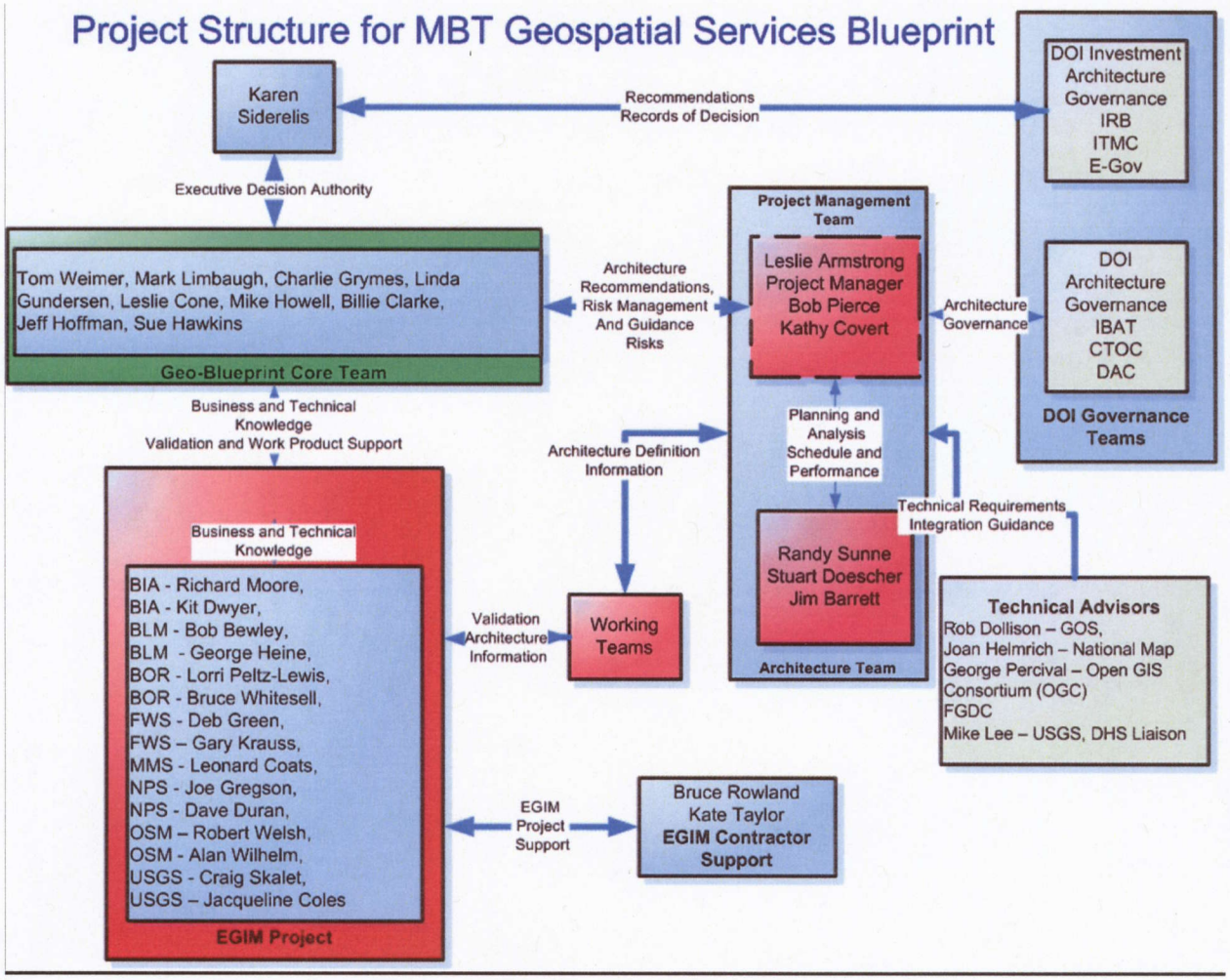
The Executive Sponsor for the Geospatial Modernization Blueprint is the Associate Director for Geographic Information for the USGS, Karen Siderelis. The Executive Sponsor provides business direction and guidance, guides policy decisions and facilitates the governance process. The co-chairs of the Investment Review Board: DOI Office of the Chief Information Officer (OCIO), Hord Tipton and Paul Hoffman, Deputy Assistant Secretary, Performance, Accountability, and Human Resources; and are supporting the architecture and business transformation as the chairperson of the IRB and the sponsor of the IEA. The project has assembled additional executive participation to represent DOI business and programs, existing investments, E-government and management accountability to include:

- Tom Weimer - DOI Assistant Secretary for Policy, Management and Budget
- Mark Limbaugh – DOI Assistant Secretary for Water and Science
- Charlie Grymes – DOI E-Gov Team Representative
- Linda Gundersen - USGS Acting Associate Director for Geology, E-Gov Representative
- Leslie Cone – BLM NILS Project Manager
- Mike Howell – USFWS CIO
- Billie Clark – OSM, Chief National Technology Innovation and Professional Services
- Jeff Hoffman – BOR, Chief Architect
- Sue Hawkins – NPS, Deputy CIO, Information Systems

As the Geospatial Modernization Blueprint process unfolds, key program areas will be identified and additional representation may be required to assist with ensuring business understanding and prioritization of resources. The executive and business sponsorship will be required to review and approve critical work products generated by the project. The executive and business sponsorship members will act as the project's governance board and be referred to as the Geo-Blueprint Core Team.

The Core Team Responsibilities:

- Attend Core Team meetings
- Review and approve blueprint documentation
- Provides guidance and set priorities
- Provide business focus area strategic and tactical expertise
- Contribute to core team discussions
- Provide access and introduction to SMEs and stakeholders during blueprint creation
- Participate in SME and stakeholder interviews
- Act as communications plan focal point for their organization
- Brief blueprint progress as required
- Secure resources and funding



External Interfaces: (Non-DOI organizations the team will need to work with): This project expects to work with the following organizations and initiatives during the development of the Geospatial Modernization Blueprint:

- Open GIS Consortium (OGC)
- Federal Geographic Data Committee (FGDC)
- National Geospatial and Intelligence Agency (NGA)
- Department of Homeland Security (DHS)....(others TBD)
- National Wildland Fire Enterprise Architecture, coordinated by National Wildfire Coordinating Group (NWCG)
- Office of Management and Budget (OMB)

Project Purpose: The purpose of this Geospatial Modernization Blueprint is to:

- document existing geospatially related architecture information,
- develop target enterprise architectures for business processes, data standards, authoritative sources, technical standards and services,
- develop a series of recommendations to improve the overall cost effectiveness and utility of enterprise geospatial information and technologies in service of the DOI strategic plan as illustrated in figure 1.0.

Figure 1.0 - DOI Strategic Plan Mission and Outcome Goals

As the scope and focus of the blueprint is articulated, the project team will develop a plan to create architectural recommendations to address the following issues:

- Numerous geospatial related investments, applications, business processes and program planning activities within the DOI that need to be coordinated and planned in more cost effective fashion,
- Ongoing activities continue to introduce redundant geospatial costs in the form of duplicative data collection, production processing, repetitive business processes and system development,
- Inability to efficiently and effectively deliver critical geospatial information to the DOI programs planning and decision making processes.

This plan will take into consideration business priorities, existing systems and investments, available resources, schedule constraints, risks and organizational readiness factors while producing actionable recommendations. These recommendations will be subject to the review of the project governance group and the DOI governance process.

Project Overview:

The project will conform to the DOI approved Methodology for Business Transformation (MBT) to perform an analysis of geospatial stakeholders, technologies, information stores, investments, applications and business processes. The MBT produces a series of architectural working products that lead to a set of recommendations which are governed by the DOI Investment Review Board, Interior Business Architecture Team (IBAT), and the Data Architecture Committee. The project team will be exploring and analyzing opportunities for improvement across the DOI Bureaus to identify opportunities for business improvements and increased cost effectiveness.

- **Project Goals and Objectives:**
    - Harmonize and simplify the means to use the FEA Geospatial Profile, FGDC policies and standards, DOI performance measures, and related activities,
    - Identify and develop critical reusable enterprise geospatial services and supporting business processes to improve DOI Program/mission effectiveness,
    - Identify opportunities for improving the use of geospatial processes, information and technology in support of decision making within Programs,
    - Improve usefulness and integration of existing geospatial investments and assets by identifying opportunities to collaborate and coordinate,
    - Improve geospatial interoperability thru appropriate standards development and adoption
    - Reduce duplicative data stores and business processes, while increasing effective deliverables to internal and external customers,
    - Align "best of breed" existing capabilities with current and future requirements,
    - Invest in identification and integration of missing required capabilities to achieve program objectives
    - Leverage existing Department and bureau strategic plans

- **Assumptions:**
  - The team members will have adequate available time and supporting resources to support the effort when required.
  - Program and System level information can be validated in a timely fashion.

- **Constraints:** The effort will create reusable and extensible architectures that will be applicable to future DOI systems, investments and business processes transformations. The scope of the first set of recommendations may not address all of DOI's business areas, systems, investments or business processes and may try to focus on areas where the business and resource readiness are optimal.

- **Scope:** The initial scope will be determined and documented during the analysis steps of the MBT. The group recognizes the potential value and affect to DOI business areas and plans to use a value-driven prioritization approach to identify significant incremental improvements for the DOI.

Proposed Strategies and Solution:

Use the DOI MBT to develop and assess the existing architecture information and formulate an enterprise DOI strategy to incrementally transition its current architecture to a target state. The EGIM team will identify, document and create the required information to guide the DOI business and governance communities to ensure the business practices, services, infrastructure and the supporting investments continue to align with the recommendations and priorities established within the MBT.

Project Authorizing Statement:

- **Executive Sponsor:** Karen Siderelis - GIO USGS

- **Authorization:** The DOI IRB has authorized the development of a Geospatial Modernization Blueprint in support of business transformation.

Anticipated Resources:

DOI OCIO Chief Architect's office and the USGS Executive Sponsor are providing contractor support. All bureaus are providing staff through the previous commitments of time and travel support to the EGIM team. USGS is supporting project management with time and travel support.

- **Project Management Team**

The project management team oversees and directs all of the contractors and teams activities and ensures timely delivery of products, that adequate support is available and that communications with the executive sponsor and core team proceeds as planned and as requested.
  - Leslie Armstrong, USGS – Project Manager
  - Kathy Covert, USGS -- Deputy Project Manager
  - Bob Pierce, USGS – EGIM Project Lead

- **Architecture Team**

The architecture team members will be performing project management tasks, as well as architecture development, analysis, outreach and planning tasks.

  - Jim Barrett, DOI Contractor Support
  - Stu Doescher, USGS
  - Randy Sunne, USGS Contractor Support

- **Subject Matter Experts (EGIM Team)**

The bureau subject matter experts (EGIM Team) will act as liaisons to their organizations and ensure that the quality and completeness of the architectural information is sufficient to develop the blueprint. They will provide their subject matter expertise to the supporting architectural staff in the compilation of recommendations and the blueprint plan.

  - BIA - Richard Moore
  - BIA - Kit Dwyer
  - BLM - Bob Bewley
  - BLM - George Heine
  - BOR - Lorri Peltz-Lewis
  - BOR - Bruce Whitesell
  - FWS - Deb Green
  - FWS – Gary Krauss
  - MMS - Leonard Coats
  - NPS - Joe Gregson
  - NPS - Dave Duran
  - OSM – Robert Welsh
  - OSM - Alan Wilhelm
  - USGS - Craig Skalet
  - USGS – Jacqueline Coles
  - EGIM Contractor Support, Bruce Rowland and Kate Taylor

- **Technical Advisors**

Technical advisors provide review, comment and expert consultation on an as needs basis and during various review periods of products. They ensure interoperability between systems and proposed future development and consistency with other related federal efforts.

  - Rob Dollison – USGS, GOS Tech Lead (contractor),
  - Joan Helmrich – USGS, National Map
  - George Percival – Open GIS Consortium (OGC)
  - Brenda Smith – EPA, Geospatial Enterprise Architecture – (support of the development of the FEA Geospatial Profile),
  - Mike Lee – USGS, DHS Liaison

Project Manager:

Leslie Armstrong — 2/10/06 Date

Authorization:

Karen Siderelis, Executive Sponsor — 2/16/06 Date

Hord Tipton, Investment Resources Board Co-Chair — 5/19/06 Date

Paul Hoffman, Investment Resources Board Co-Chair — 5/2/06 Date