Geospatial Data Sharing and Web Services Network

Business Plan Update

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NITC | Nebraska Information
Technology Commission
GIS Council

A GIS Council Working Group Presentation

Technical Working Group

Jim Buehler - OCIO

Jeff McReynolds – City of Lincoln/Lancaster County

Michael Niedermeyer – Nebraska Department of Roads

Sudhir Ponnappan – Game and Parks Commission

Steve Rathje – Department of Natural Resources

Nathan Watermeier - OCIO

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Needs Identified in Strategic Plan

- **Improve data sharing while enhancing access to geospatial data and services.**
  - Develop a business plan for NebraskaMAP as a statewide geospatial data clearinghouse
  - Develop and communicate resources that encourage data sharing
  - Explore and evaluate new technologies that facilitate future data access and sharing opportunities

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Project Goals and Objectives

Goals: (original project charter goals)

Develop an enterprise-level geospatial data sharing network for finding and providing online access to Nebraska-related geospatial (GIS) data available from a wide range of state, local and federal agencies.

Another goal of this data sharing network is to provide a wide range of geospatial data services that could be developed collaboratively at the enterprise-level and then used and/or consumed by a range of public agencies and thereby avoiding unnecessary duplicate of effort to develop and maintain these data services in multiple public agencies.

Modify goals to consider enhanced enterprise goals

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Project Goals and Objectives

Objectives: (Technical)

- **Assess NESDI Layers and appropriate mechanisms to access and share data**
- **Define an enterprise-level geospatial data sharing network**
- **Create budget and return on investment analysis**
- **Allocate resources for infrastructure and staffing**
- **Create mechanism to formalize data stewardship**
- **Develop and implement components of the enterprise-level geospatial data sharing network**
- **Evaluate, maintain, and update enterprise network over time**

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Project Goals and Objectives

Objectives: (Policy)

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Perceived Benefits and Justification

- **Over 100 statewide, regional and local geospatial datasets in excess of 50 Tb of disk storage.**
- **No central access and formalized approach for data stewardship.**
- **Benefits**
    - Enhanced access to geospatial data
    - Improved data interface-more intuitive and user-friendly tools
    - Enhanced information by combining data from multiple agencies
    - Improved consistency of public policy implementation across agencies
    - Increased state and local collaboration and formal approach to data stewardship
    - Enhanced online applications with addition of graphical and mapping components
    - Improve efficiency in software licensing

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Requirements - Technical

Current Structure
- NebraskaMAP marketed as a Metadata Portal
    - 242 metadata files currently in portal
    - Limited web services for imagery and other NESDI layers
    - Limited and outdated geocoding service
- Production server in virtual environment
    - ArcGIS Server 10
- No staffing to support infrastructure, voluntary

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Requirements - Technical

Planned Structure

- Enterprise GIS/Geospatial Approach
  - Formalize Data Stewardship
  - Provide Shared GIS Infrastructure *(Collect Once, Use Many)*
  - Strengthen OCIO GIS Shared Services
- Platform to handle security, scalability, redundancy, and backup for NESDI layers
- Efficient and cost effective data hosting for large static and public type data sets
- Secured local and privatized data and information
- Tools to assist data management workflows

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Costs, Resource Allocation, and ROI - Technical

- **Technical Staff**
- **Hardware/Software**
  - Secured software platform(s) and services
  - Secured hosting environment
- **Tools to combine local data**

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Implementation Plan

- **Phased approach to meeting expectations and current limitations**
- **Technical Example**
  - Phase 1 – Budget Development and Return on Investment Planning
  - Phase 2 – Infrastructure and Technical Staff Implementation
  - Phase 3 – NESDI Data Implementation through Infrastructure

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Relationships among other Business Plans

- **This business plan is integral to the success of all other business plans.**
  - Catalyst for data sharing and access to data for the other NESDI Layers
  - Metadata portal is a vehicle to work with data stewards
    - Preparation and review process for data

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Progress To-Date

- **Technical group to work on various metrics involved in an enterprise infrastructure**
- **Assess software, hardware, and tools**
- **Assess staffing needs**
- **Assess hosting large data sets such as imagery**
    - Discussed caching levels to conduct study
    - Conducted pilot to cache imagery in Amazon Cloud
    - Next step to upload to NebraskaMAP
- **Establish estimated budget**
- **Metadata Portal**
    - Workflow

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Questions for Discussion

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