

Focus Groups for Workshop on GIS

20th Feb 2015, NeGD

Group 1

Building a Federated GIS
platform for embedding
Geospatial Technologies into
Government Processes and
Citizen Services

Building a Federated GIS platform for embedding Geospatial Technologies into Government Processes and Citizen Services

- Core of National GIS will be a Federated Service Delivery platform
- A Collaborative framework for Govt., Private Enterprises, Citizens and Developer community.
- It will be a Web/Cloud Based Platform and will host various government processes and citizen services.
- It will allow Single Window access for users to both spatial and non-spatial data as service.
- Capability to provide Shared and Authoritative content based services and applications for use.
- Generic geospatial services and APIs.

Building a Federated GIS platform for embedding Geospatial Technologies into Government Processes and Citizen Services

- Services hosted on the platform can be consumed by multiple computing and mobile devices.
- Available 24x7 on demand: anytime, anywhere and on any device.
- Participating agencies will own and host data on their servers which will be accessible by the platform for rendering services.
- User Departments/Ministries will run their own GIS systems for running their operations as well as have access to the National GIS.

Building a Federated GIS platform for embedding Geospatial Technologies into Government Processes and Citizen Services

- As a part of federated structure, states will also implement a similar GIS platform to serve the needs of State Departments. State GIS platform will adopt a similar federated architecture.
- Federated architecture will allow state users to access and consume National GIS Resources.
- Availability of Geo-Apps – A set of DSS applications including processing of planning and monitoring functions.
- Will facilitate integration of spatial and non-spatial data.

Building a Federated GIS platform to embed Geospatial Technologies into Government Processes and Citizen Services

- It should facilitate economic, social, political, or environmental indicators using rich and comprehensive maps to the stakeholders.
- Integrate the GIS with core IT systems including Core Government Processes and Citizen Services.
- Use cases of how the integration has been achieved by various technology players, Case study if any available can be discussed
- Create a high level functional architecture

Task for the Focus Group 1

- Create a high level functional architecture
- Use cases of how the integration has been achieved or by various technology players, Case study if any available can be discussed



Group 2

Creation of GIS Assets; User
Expectations, Concerns and Way
Forward

Creation of GIS Assets; User Expectations, Concerns and Way Forward

- Existing Datasets need to be made GIS Ready
- Data should be standards based to facilitate integration across disparate sources
- Ability to add non-spatial data
- Database to be Extensible and Scalable
- Adhere to Common Data Framework

Creation of GIS Assets; User Expectations, Concerns and Way Forward

- All the National Mapping Agencies should expose their content to the platform
- National Mapping Agencies will be encouraged to use contemporary technologies for data acquisition and adopt a workflow based data production and dissemination system
- Evolve a harmonised ecosystem
- Involvement of private sector for data acquisition, production and dissemination should be encouraged

Creation of GIS Assets; User Expectations, Concerns and Way Forward

- The ownership of the data will reside with the data creating agencies, who will also be responsible for updation and maintenance of the data
- Conflict of data ownership, if any, can be identified and addressed to establish a single source of truth
- Undertake data asset inventory and review of existing datasets
- Action Plan to be evolved to migrate the existing data to a common platform

Creation of GIS Assets; User Expectations, Concerns and Way Forward

- The Multiple representation problem is widely known problem in spatial databases.
 - The same spatial object may be considered as a point in one application as a polygon in the other.
- Aggregation and Consolidation of data from different sources where a different representation is followed.

Task for the Focus Group 2

- Identify the data requirements



Group 3

Enabling Policies for National
GIS

Enabling Policies for National GIS

- Comprehensive policy for data acquisition, access, sharing and use which will provide for:
 - Data acquisition through multiple techniques such as LiDAR, Aerial Photography, UAVs and High Resolution Satellite Imaging
 - Hosting of content on a web/cloud platform
 - Involvement of Private Sector in data acquisition, production and dissemination

Enabling Policies for National GIS

- One regulatory authority to oversee all aspect of spatial data acquisition, production and dissemination
- Service Level Agreement among all stakeholder agencies for data sharing, access and services.
- Direct purchase of imagery and other geo content from the producers.
- IPR of the spatial data will reside with the creator, who will also be responsible for updation and maintenance.

Enabling Policies for National GIS

- Due deliberations are required for:
 - Licensing Policy
 - Open Data Policy
 - Creation of Task force
 - Encompassing private players such as Google

Enabling Policies for National GIS

- National Map Policy -2005 - “addressing security and defense concerns”
- Remote Sensing Data Policy : 2001 and 2011
 - ISRO/DOS had positioned a RSDP-2001, which governed how satellite images were acquired and distributed from 2001 onwards.
 - RSDP-2011 embeds the concept of a High Resolution Image Clearance Committee to address the need of various users for 1m images.

Enabling Policies for National GIS

- CAR, 2010 for Aerial Survey
 - A single window clearance system for all aerial survey tasks. DGCAs responsibility to obtain internal approvals/clearances of various ministries and determine a “collective” clearance for the application.
- National Data Sharing and Availability Policy (NDSAP), 2012
 - The NDSAP, 2012 is designed to promote data sharing and enable access to Government of India owned data for national planning and development

Enabling Policies for National GIS

- The Delhi Geographical Spatial Data Infrastructure (Management, Control, Administration, Security and Safety), Act, 2011.
 - Delhi state has created a state GI content that includes about 48 lakh buildings, 3 lakh manholes and nearly 17,000 kilometres, demographics of the capital and utilities like storm-water drains, sewer lines, infrastructure projects and urban planning details under a Delhi State Spatial Database



Group 4

Standards for creating, managing,
sharing and use of geospatial data

Standards for creating, managing, sharing and use of geospatial data

- GIS technology illustrates relationships, connections, and patterns that are not necessarily obvious in any one data set, enabling organizations to make better decisions based on all relevant factors.
- Share, coordinate, and communicate key concepts between departments within an organization or between separate organizations using GIS as the central spatial data infrastructure.

Standards for creating, managing, sharing and use of geospatial data

- Share crucial information across organizational boundaries via the Internet and the emergence of Web Services.
- "Open GIS :
 - Open standards to ensure a high level of interoperability across platforms, databases, development languages, and applications.
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Standards for creating, managing, sharing and use of geospatial data

- Data Standards:
 1. Data converters (DLG, MOSS, GIRAS)
 2. Standard interchange formats (SDTS, DXFTM, GML)
 3. Open file formats (VPF, shape files)
 4. Direct read application programming interfaces (APIs) (ArcSDE[®] API, CAD Reader, ArcSDE CAD Client)
 5. Common features in a database management system (DBMS) (OGC Simple Feature Specification for SQLTM)
 6. Integration of standardized GIS Web services (WMS, WFS, ArcIMS)



Group 5

Capacity-building for adoption of
Geospatial Governance Systems

Capacity-building for adoption of Geospatial Governance Systems

- Educate the User Organisation in order to consume services hosted on the GIS platform.
- Short-term courses customized to cater to individual user departments.
- Capacity building in departmental training institutions like FTI, NPTI to conduct refresher courses for serving officers.
- A separate cadre Geographic Information Officer (GIO) to be created to build and retain geospatial competencies in the departments as a central resource.

Capacity-building for adoption of Geospatial Governance Systems

- Strengthen existing Geospatial education infrastructure in academic institutions.
- Skill up gradation programme for faculty in order to align their knowledge base to current and new technologies.
- Robust internship programme for merging domain and GIS technology skills.
- Engage private sector in continued augmentation of GIS resources.



THANK YOU