



Geo-enabling Data.Gov and the US Department of Interior (DOI)

**Sonny Bhagowalia
Chief Information Officer (CIO), DOI**

**ESRI User Conference
San Diego, California
July 12, 2009**



Agenda

- **The Importance of Geospatial Information to the Mission of DOI and the Nation**
- **The Role of Geo-spatial in Open and Transparent Government (Data.Gov and Recovery.Gov)**
- **DOI Commitment to the Geo-spatial Program**



Role, Responsibilities and Authorities of a Federal CIO



FEDERAL CIO ROADMAP



Source: <http://www.ndu.edu>
<http://www.cio.gov>



New Priorities in the President's Technology Agenda*



Ensure the Full and Free Exchange of Ideas through an Open Internet and Diverse Media Outlets

Create a Transparent and Connected Democracy

Deploy a Modern Communications Infrastructure

Improve America's Competitiveness

Prepare All our Children for the 21st Century Economy

Prepare Adults for a Changing Economy

Employ Science, Technology and Innovation to Solve Our Nation's Most Pressing Problems

* <http://www.whitehouse.gov/agenda/technology/>



A Context for The Role of US Government...



Executive Branch

Source:
Wikipedia;
CIA World
Factbook

| Department | Creation | Order of succession | 2007 Budget (Billions of dollars) | Employees (2007) |
|--------------------------------------|----------|---------------------|-----------------------------------|------------------|
| <u>State</u> | 1789 | 1 | 9.96 | 30,266 |
| <u>Treasury</u> | 1789 | 2 | 11.10 | 115,897 |
| <u>Defense</u> | 1947 | 3 | 439.30 | 3,000,000 |
| <u>Justice</u> | 1870 | 4 | 23.40 | 112,557 |
| <u>Interior</u> | 1849 | 5 | 10.70 | 71,436 |
| <u>Agriculture</u> | 1889 | 6 | 77.60 | 109,832 |
| <u>Commerce</u> | 1903 | 7 | 6.20 | 36,000 |
| <u>Labor</u> | 1913 | 8 | 59.70 | 17,347 |
| <u>Health and Human Services</u> | 1953 | 9 | 543.20 | 67,000 |
| <u>Housing and Urban Development</u> | 1965 | 10 | 46.20 | 10,600 |
| <u>Transportation</u> | 1966 | 11 | 58.00 | 58,622 |
| <u>Energy</u> | 1977 | 12 | 21.50 | 116,100 |
| <u>Education</u> | 1979 | 13 | 62.80 | 4,487 |
| <u>Veterans Affairs</u> | 1989 | 4 | 73.20 | 235,000 |
| <u>Homeland Security</u> | 2002 | 15 | 44.6 | 208,000 |
| Total budget (fiscal year 2007): | | | 1,523.42 | 4,193,144 |

+ \$ 0.787 Trillion ARRA

US GDP:

\$13.86 trillion (2007 est.)
~ \$ 2.7 Trillion (US Gov't)

Area:

Total: 9,826,630 sq km
land: 9,161,923 sq km
water: 664,707 sq km

Land use:

arable land: 18.01%
permanent crops: 0.21%
other: 81.78% (2005)

Irrigated land:

223,850 sq km (2003)

US Population:

303,824,646 (July 2008 est)
White 81.7%
Black 12.9%
Asian 4.2%
Amerindian and Alaska native 1%, Native Hawaiian and other Pacific islander 0.2% (2003 est.)



A Geo-Spatial Value Proposition

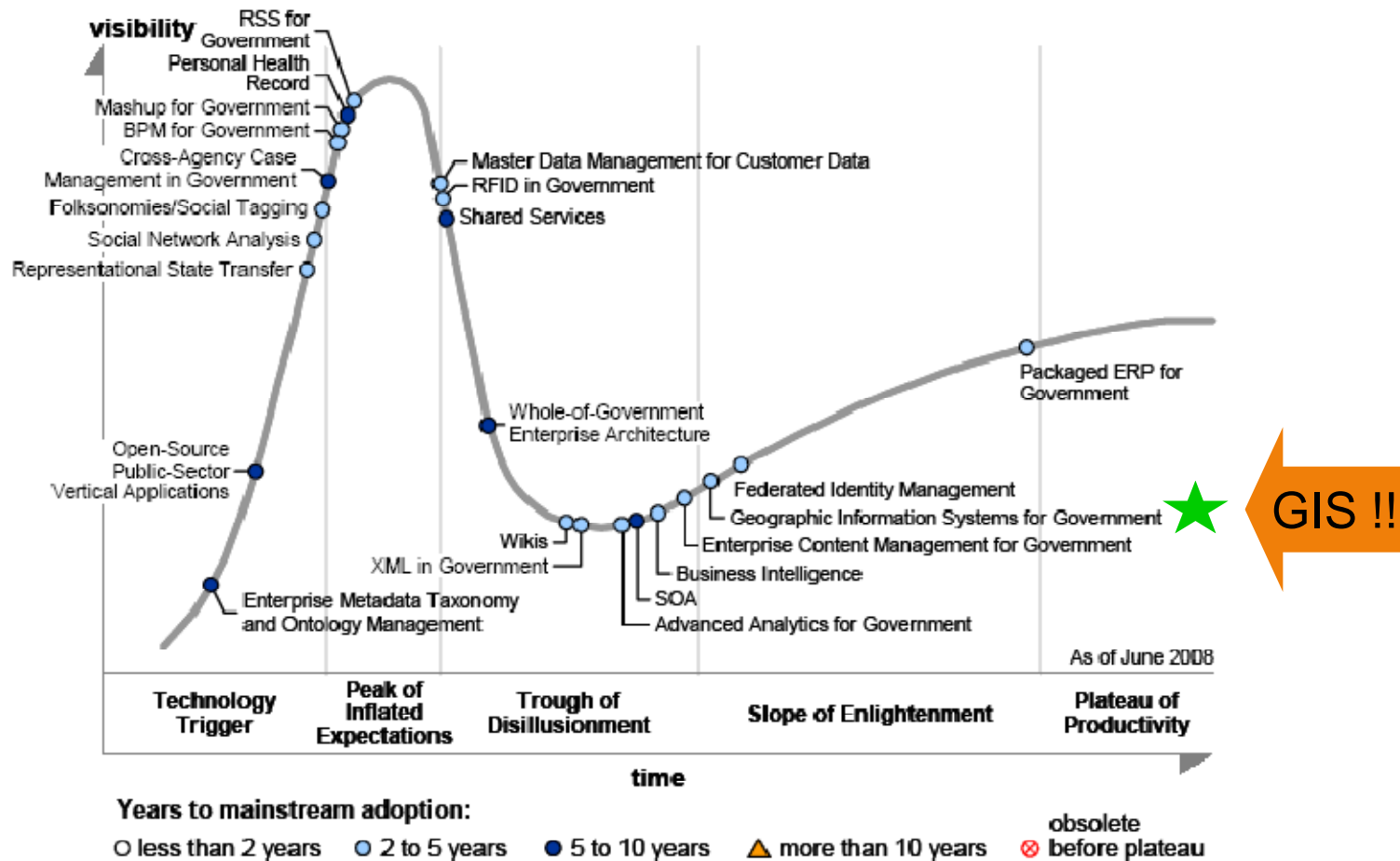
How are Government Agencies impacted by the Information Age and Economy?



Challenge: How do we institutionalize information and knowledge practices where “geo-enabled” information and knowledge is integrated into systems/Apps, widely shared and is available in a Timely, Secure, Cost-Effective Manner?



Gartner's Hype Cycle for Government Transformation 2008






GIS Being Used in Presidential Initiative: Recovery.Gov

Geospatial Data is being used to add value to Recovery.Gov!

FRIDAY, APRIL 24, 2009 Text A* A* A

 **RECOVERY.GOV** Sign up for updates: Enter Email ZIP **SIGN UP**

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pages that help explain how Act.

IN THIS SECTION
[State Certifications](#)

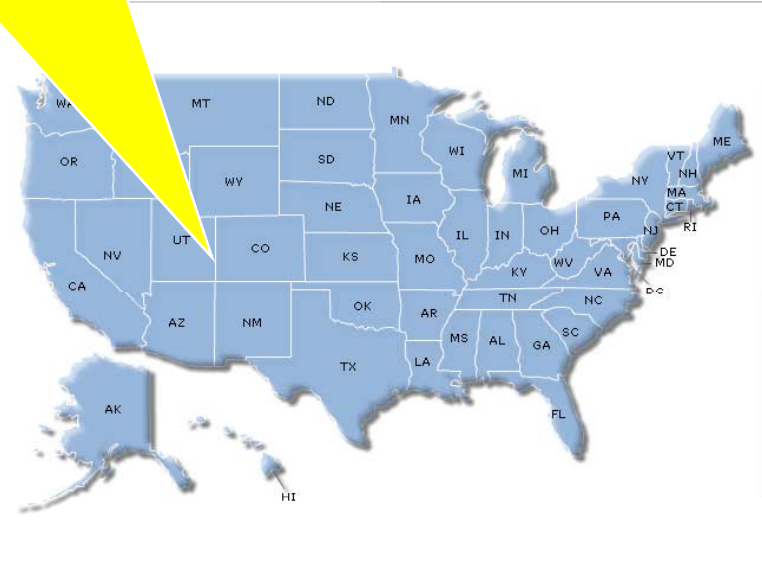
impact of the American Recovery and

Accountability and Transparency
This is your money. You have a right to know where it's going and how it's being spent. Learn what steps we're taking to conduct oversight of funds distributed under this law in order to prevent fraud, waste and abuse.

Share your Recovery Story
Tell us how the Recovery Act is affecting you. What's working? What isn't? We want to hear from you.

State Progress and Resources
Curious about the recovery progress in your state? Learn more about statewide recovery efforts here.

Agency Progress and Resources
We're bringing transparency and accountability to all areas of government. Learn about Recovery investments and grant programs at government agencies and departments.



View Territory Recovery Sites: [American Samoa](#), [Guam](#), [Puerto Rico](#)

[Show Tabular View](#)



Data.gov Launched May 21, 2009 (DOI Co-Lead for OMB Program)

FRIDAY, JULY 10, 2009 Text A⁺ A⁻ A

DATA.GOV

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DISCOVER. PARTICIPATE. ENGAGE.

Search the following Data.gov catalogs:

- "RAW" DATA CATALOG
- TOOL CATALOG
- GEODATA CATALOG

FEATURED TOOL: THE NEW FEDERAL IT DASHBOARD

A journey towards greater Transparency and Accountability. Analyze and Evaluate a portfolio of over 7000 Information Technology investments.

[VIEW THIS TOOL](#)

Welcome to Data.gov

The purpose of Data.gov is to increase public access to high value, machine readable datasets generated by the Executive Branch of the Federal Government. Although the initial launch of Data.gov provides a limited portion of the rich variety of Federal datasets presently available, we invite you to actively participate in shaping the future of Data.gov by suggesting additional datasets and site enhancements to provide seamless access and use of your Federal data. Visit today with us, but come back often. With your help, Data.gov will continue to grow and change in the weeks, months, and years ahead.

How to use Data.gov

Data.gov includes searchable **data catalogs** providing access to data in three ways: through the "raw" data catalog, the tool catalog and the geodata catalog. Please note that by accessing datasets or tools offered on Data.gov, you agree to the [Data Policy](#), which you should read before accessing any dataset or tool. If there are additional datasets that you would like to see included on this site, please [click here](#). For more information on how to use Data.gov, [view our tutorial](#).

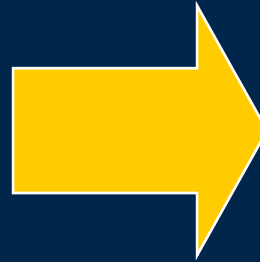
DATA.GOV | [Data Policy](#) | [Accessibility](#) | [Contact Info](#) | [Privacy Policy](#)



Data.gov has 3 searchable catalogs with Datasets and Metadata

May 21, 2009 (Launch):

- 47 “raw” datasets
- 27 tools
- **Total: 74**



July 10, 2009:

- 391 “raw” datasets
- 41 tools
- 109,502 geo datasets
- **Total: 109,934**

DATA.GOV

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DATA.gov Catalogs

Use the Data.gov catalog below to access U.S. Federal Executive Branch datasets. Click on the name of a dataset to view additional metadata for that dataset. By accessing the data catalogs, you agree to the [Data Policy](#). Data.gov offers data in three ways: through the “raw” data catalog, using tools and through the geodata catalog. The “Raw” Data Catalog provides an instant download of machine readable, platform-independent datasets while the Tools Catalog provides hyperlinks to tools that allow you to mine datasets.

“RAW” DATA CATALOG | TOOL CATALOG | GEO DATA CATALOG

Search “raw” data by keywords

Search “raw” data by file type
XML CSV/Text KML/KMZ Shapefile Other

Search “raw” data by single/multiple category

Search “raw” data by single/multiple agency

Page 1 of 16 (201 records) Results per page: 25 | 50 | 100

| Name (click for metadata and to rate dataset) | Rating | Agency | XML | CSV/TXT | KML/KMZ | Shapefile | Maps | Other |
|--|-----------------|--------|-----|----------------|---------|-----------|------|-------|
| 2005 Toxics Release Inventory data for American Samoa The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and waste management activities reported annu... | ★★★★☆ (3 votes) | EPA | | ✓ CSV 2,208 | | | | |
| 2005 Toxics Release Inventory data for Cuam The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and waste management activities reported annu... | ★★★★☆ (2 votes) | EPA | | ✓ CSV 2,208 | | | | |
| 2005 Toxics Release Inventory data for Puerto Rico The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and waste management activities reported annu... | ★★★★☆ (2 votes) | EPA | | ✓ CSV 2,208 | | | | |

DATA.GOV

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METADATA

2005 Toxics Release Inventory data for American Samoa

DATASET SUMMARY

Agency: Environmental Protection Agency
Category: Geography and Environment
Date Released: 3/22/2007
Date Updated: 11/5/2008
Time Period: Calendar Year 2005
Frequency: Annual
Description: The Toxics Release Inventory (TRI) is a publicly available EPA database that contains information on toxic chemical releases and waste management activities reported annually by certain industries as well as federal facilities.

DATASET RATINGS

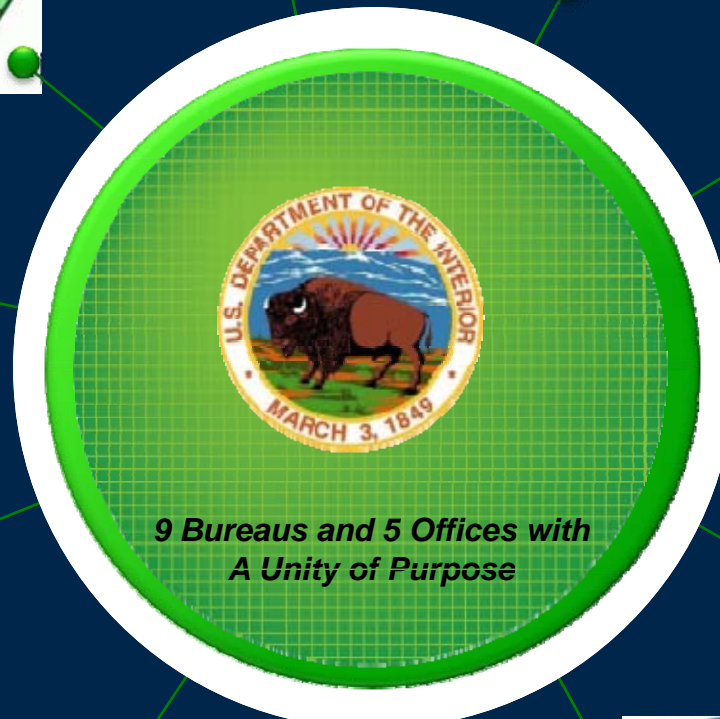
Overall: ★★★★★ (3 votes)
Data Utility: ★★★★★ (3 votes)
Usefulness: ★★★★★ (3 votes)
Ease of Access: ★★★★★ (3 votes)

DATASET INFORMATION

Data.gov Data Category Type: Raw Data Catalog
Specialized Data Category Designation: Administrative
Keywords: TRI, TRI Data, TRI Reporting, Toxics, Toxics, Toxics Release, Toxics Release, Toxics Release Inventory, Toxics Release Inventory

Download Information: Feeds (CSV/TXT, XLS, KML/KMZ), Maps

DOI Is a Cabinet Department

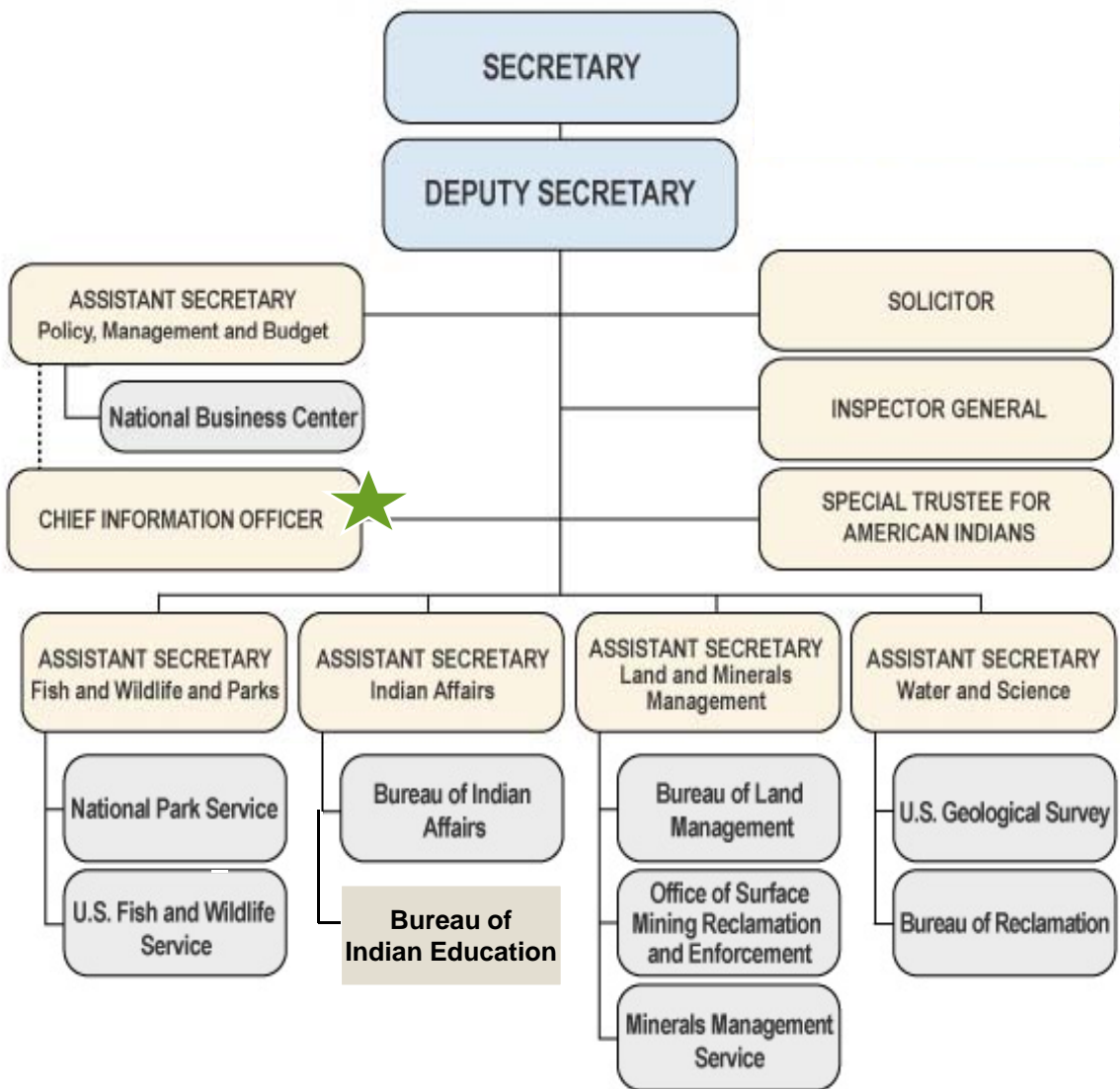




DOI Organization

U.S. Department of the Interior

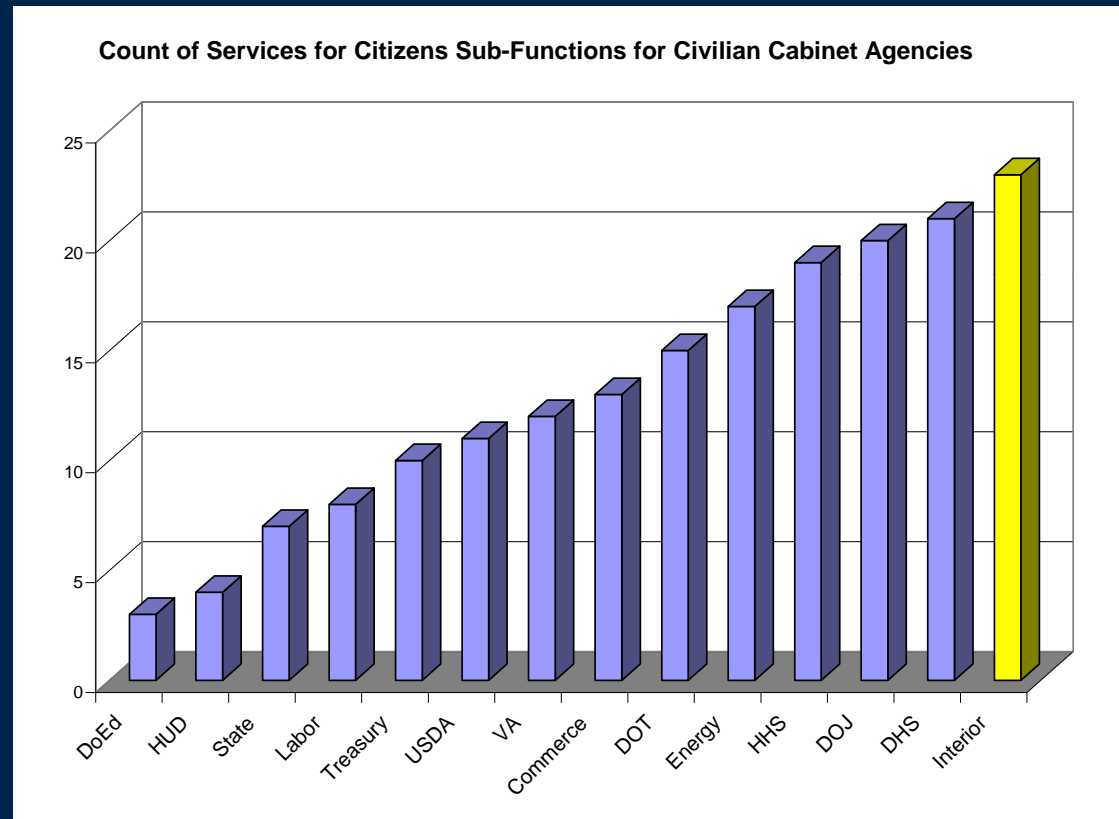
Click on the office for more information





DOI Has One of the Most Diverse Missions in US Government*

Why Does America Depend on DOI?

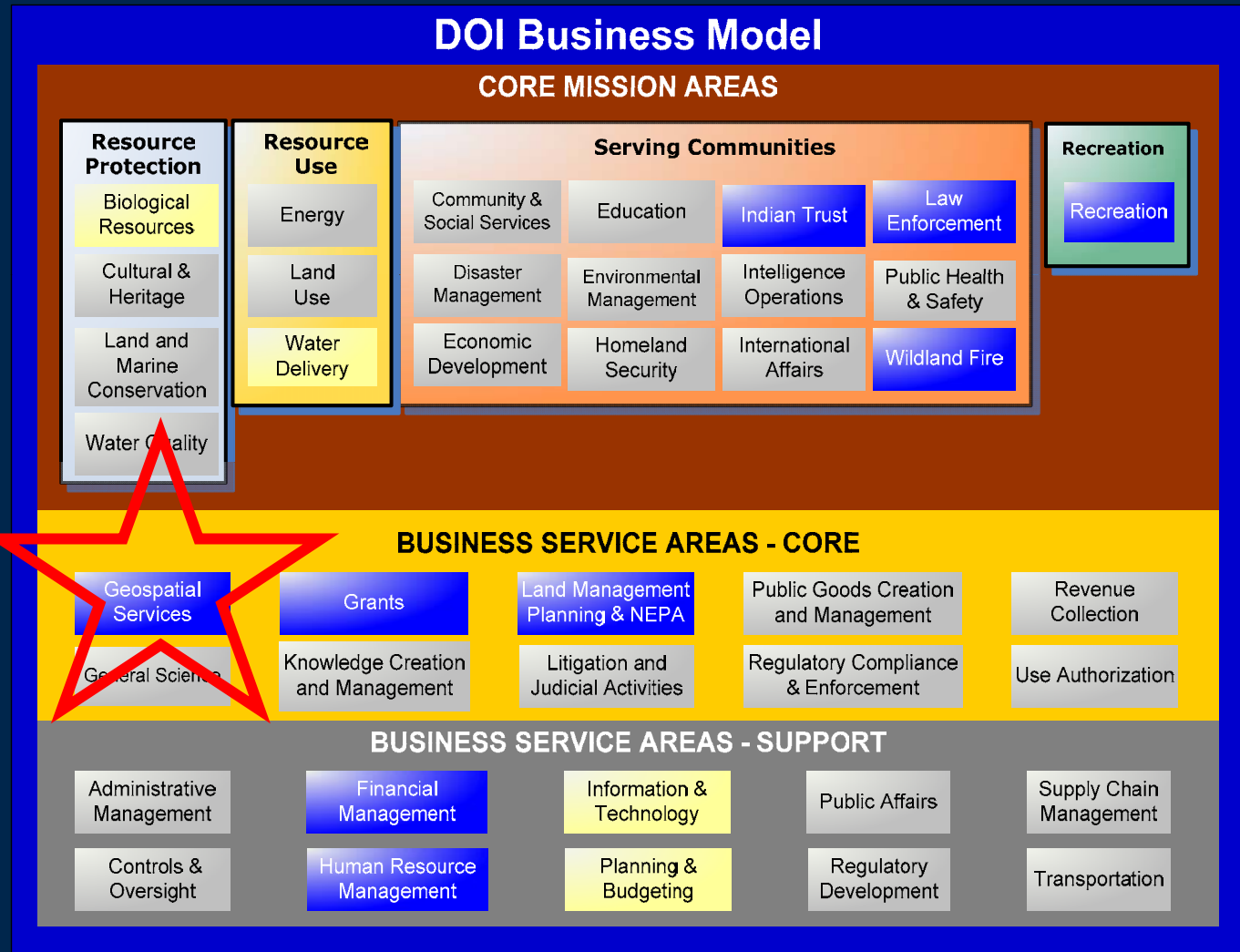


DOI has the Largest Number of Services for Citizens in the US Government

(Source: OMB Updated Annual Report on Information Technology (IT) Spending for the Federal Government)

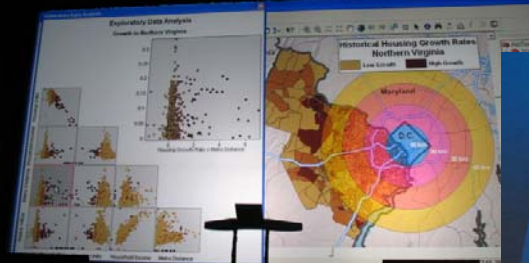
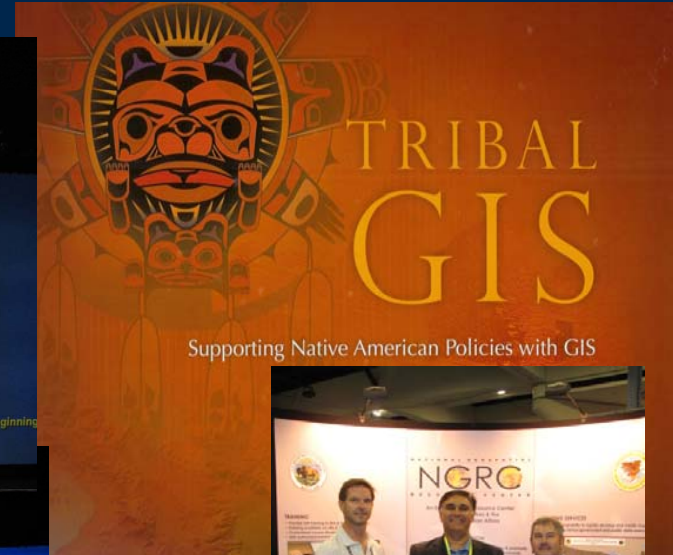
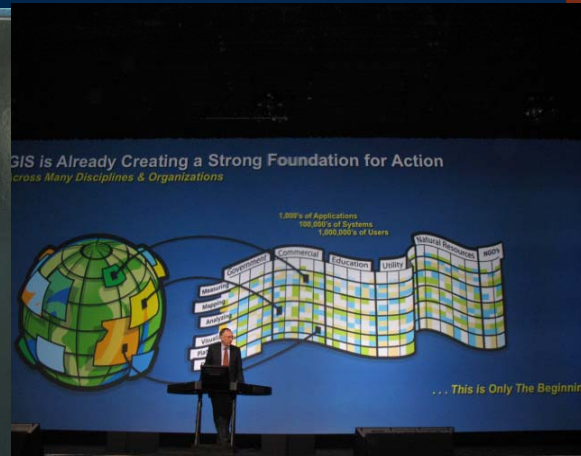
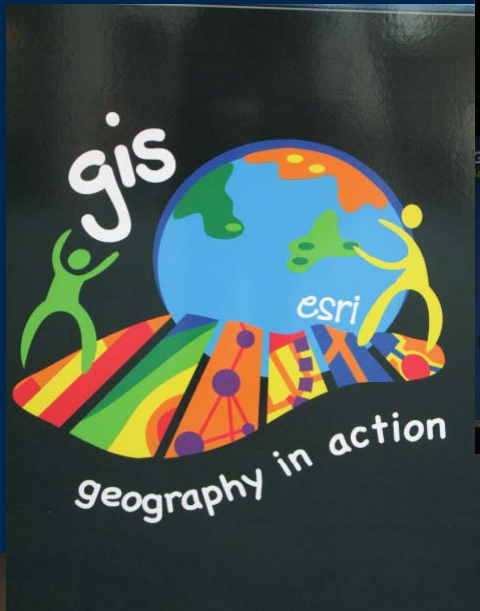


...and Geospatial Services are a Core Business Service Area



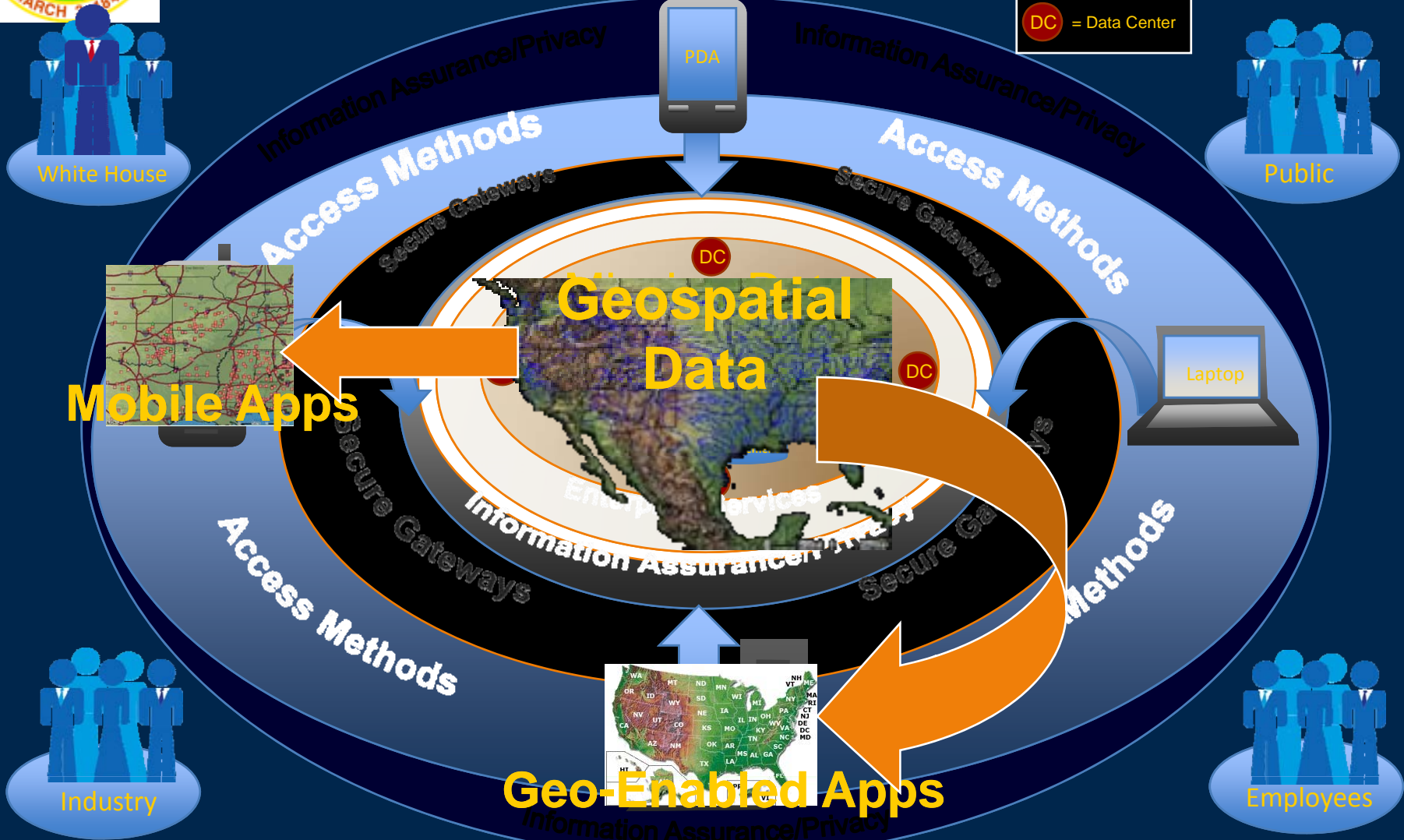


Last Year's ESRI Conference was an "Eye-opener" to the Possibilities of Better Leveraging GIS at DOI...





Our Vision Includes GIS...

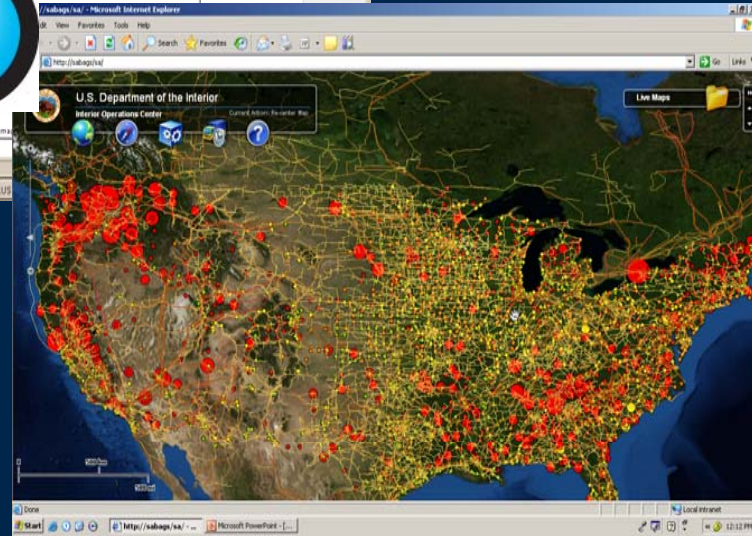
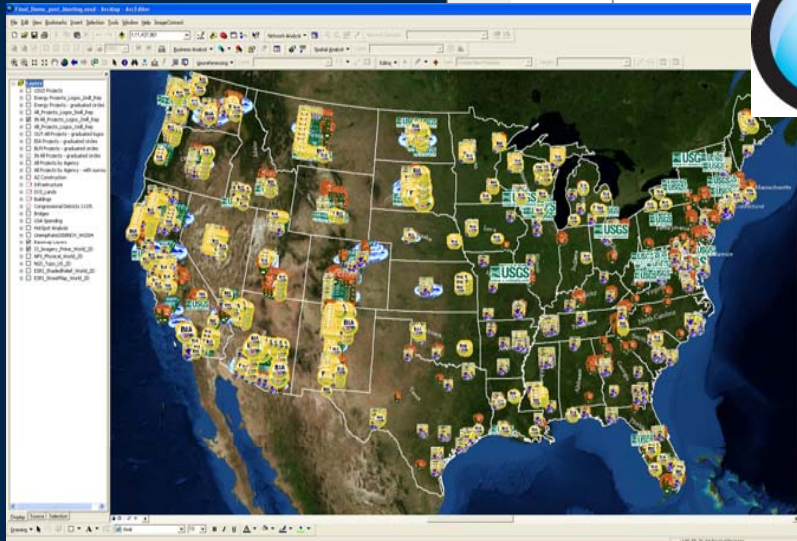
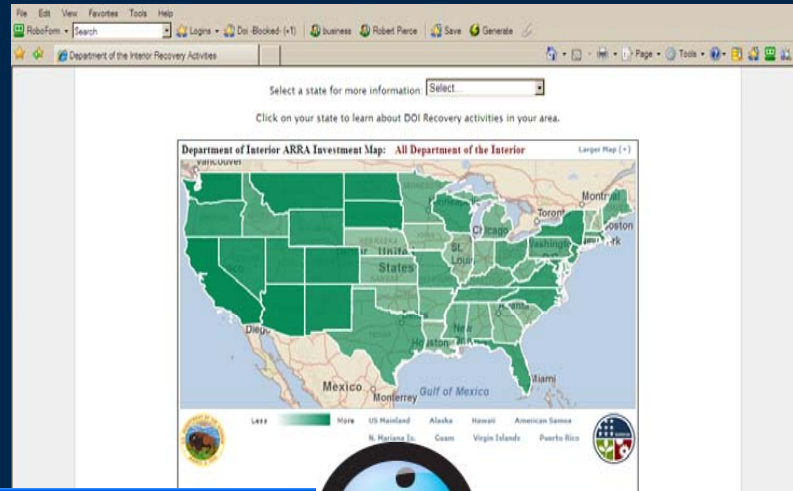


Access to the right information for authorized users any time, anywhere, any mission, securely and reliably.



...in Partnership with the DOI Geospatial Information Officer (GIO)

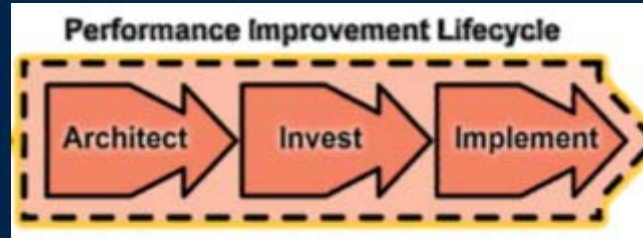
Geospatial
Data, and
Apps





...With Geo-Spatial Investments

OMB



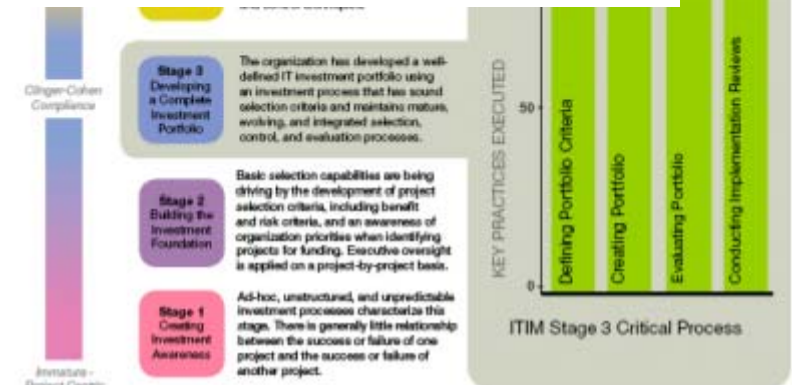
Architect

Q2 FY2008 Overall EA Assessment Rating: GREEN

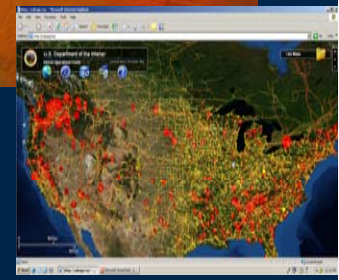
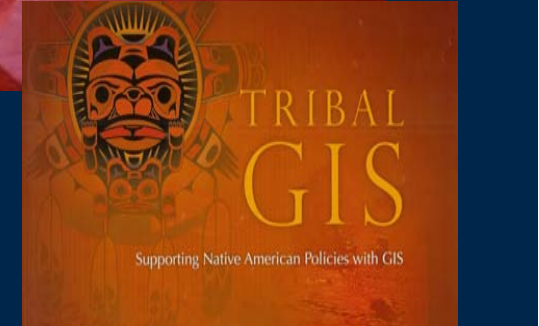
| Summary Data: | DOI Self Assessment Q2 FY2008 | OMB FEA PMO Assessment Score Q2 FY2008 | Rating Indicated by Score |
|---------------|-------------------------------|--|---------------------------|
| Completion | 5.0 | 4.7 | GREEN |
| Use | 5.0 | 4.8 | |
| Results | 5.0 | 5.0 | |



Invest



| Item | Start | End | Priority | Progress |
|------|-----------|-----------|----------|----------|
| 1 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 2 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 3 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 4 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 5 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 6 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 7 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 8 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 9 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 10 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 11 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 12 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 13 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 14 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 15 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 16 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 17 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 18 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 19 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 20 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 21 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 22 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 23 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 24 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 25 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 26 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 27 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 28 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 29 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 30 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 31 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 32 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 33 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 34 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 35 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 36 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 37 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 38 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 39 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 40 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 41 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 42 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 43 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 44 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 45 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 46 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 47 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 48 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 49 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |
| 50 | 12-Jan-08 | 12-Jun-08 | 1-3 | 100% |

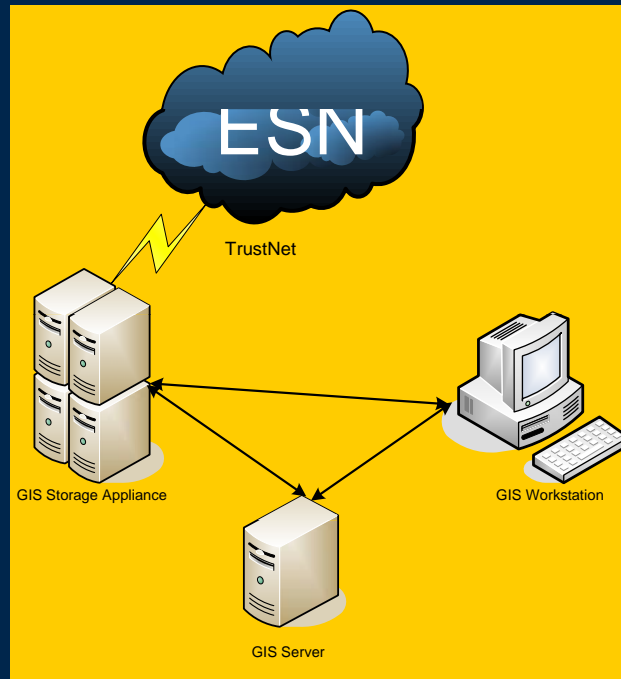


Implement

| | | | | | | | | | |
|--|----------------|------------------|------|--------|------|--------|--------|--------|---|
| 15a. VISA** | Michael Howell | Antonia Charite | HIGH | HIGH | HIGH | MEDIUM | MEDIUM | MEDIUM | 1 |
| 15b. EDM** | Michael Howell | Antonia Charite | HIGH | HIGH | HIGH | MEDIUM | HIGH | HIGH | 1 |
| Radio Program Management Improvements [4] | | | | | | | | | |
| 4a. Implement LMR Governance | Tim Quinn | Shard A. Ott | LOW | HIGH | HIGH | MEDIUM | MEDIUM | MEDIUM | 1 |
| 4b. Establish LMR PMO | Tim Quinn | Shard A. Ott | LOW | HIGH | HIGH | MEDIUM | MEDIUM | MEDIUM | 1 |
| 4c. Establish Technical Service Center | Tim Quinn | Shard A. Ott | LOW | HIGH | HIGH | MEDIUM | MEDIUM | MEDIUM | 1 |
| Data of Rest Implementation [16]** | | | | | | | | | |
| 16a. Data of Rest Implementation [16]** | Michael Howell | Chris Rutherford | LOW | HIGH | HIGH | HIGH | HIGH | HIGH | 1 |
| Two-Factor Authentication [17]** | | | | | | | | | |
| 17a. Two-Factor Authentication [17]** | Michael Howell | Lora Dineale | LOW | MEDIUM | HIGH | MEDIUM | MEDIUM | HIGH | 1 |



....And GIS Use Across Missions



What GIS Supports...

- ✓ Realty
- ✓ Title
- ✓ Natural Resources
- ✓ Forestry
- ✓ Irrigation
- ✓ Range Management
- ✓ Transportation
- ✓ Fire Management
- ✓ Law Enforcement

What OCIO Provides for the GIS community...

- ✓ Desktops and Servers
- ✓ IT Support
- ✓ Secure Wide and Local Area Networks
- ✓ Patch Management
- ✓ Large Capacity Data Storage Solutions

What GIS can do for DOI...

- ✓ Translates and graphically displays land ownership and encumbrance information
- ✓ Accurately displays Natural Resource Spatial Data
- ✓ SO MUCH MORE.....



Future Shock (What is Value of GIS)? Big!



- “Human knowledge is expected to be doubling by the year 2012” (Alvin Toffler)
- “By 2015 the power of an off-the-shelf computer will exceed the intelligence of that of a human being” (Ian Jakes & Ted McCalu)
- How To Realize the Promise of GIS for the Nation?
 - Geo-data “architected and built-in”
 - Geo-Applications and Mash-ups
 - Lightweight for Web 2.0/Gov 2.0
 - Incremental, Agile, Actionable and Affordable Delivery