

# Future of IT

## Geographic Knowledge Will Power Good Government



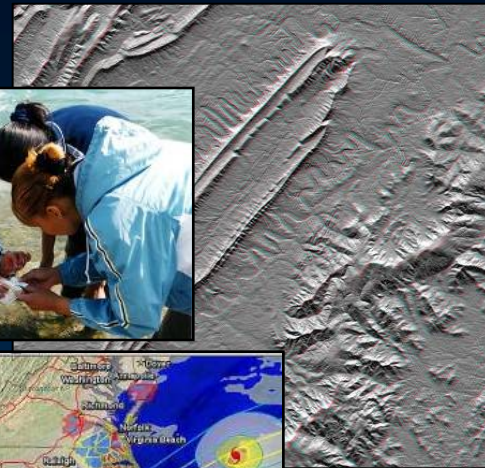
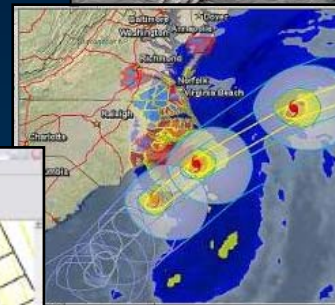
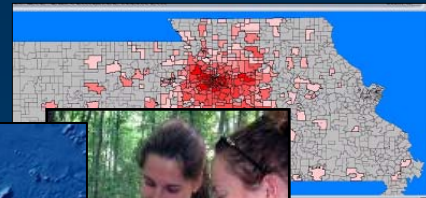
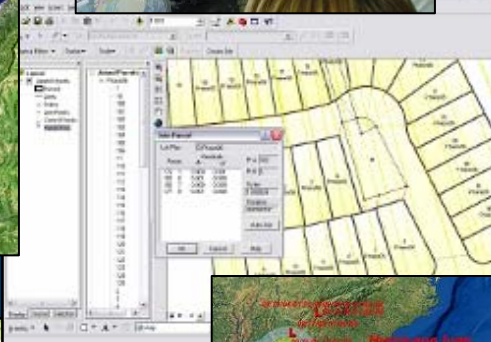
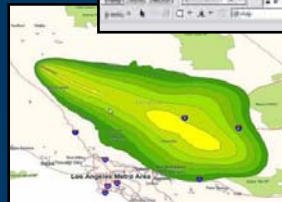
Jack Dangermond



# We are Moving to a Geodata Rich Society

## *More Geospatial Information, Applications and Access*

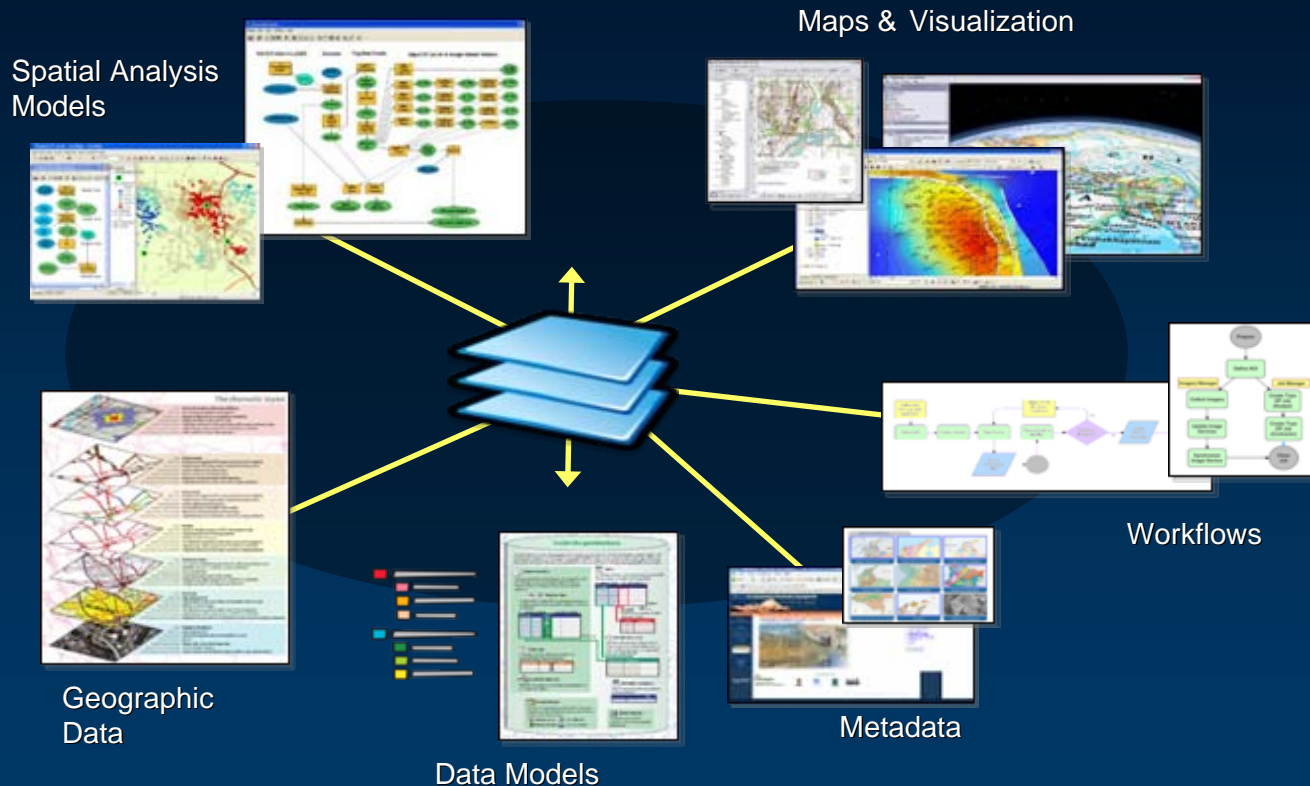
- Satellite Imagery (100x)
- GPS / Location Data
- Georeferenced Data
- Real Time Change Monitoring
- Locationally Aware Devices
- Online GIS Services
  - Mapping
  - Visualization
  - Consumer Access



*... Our Global Society is Increasingly Spatially Literate*

# Geographic Information Systems (GIS)

Manage, Analyze, Visualize, & Disseminate Geographic Knowledge...



*Designated by NASCIO as a "Top Ten" technology for the last three years*

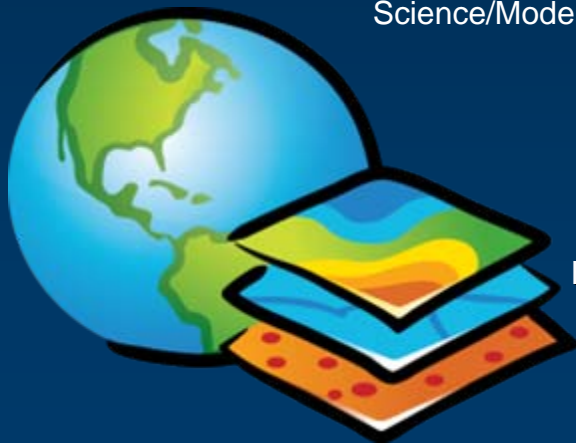
A Strong Platform for . . .

. . . Applications, Collaboration, Problem solving, & Decision-making

# Today GIS Is Very Valuable to Government

*Applied to many priority missions ...*

Natural Resources Conservation Land Management  
Energy  
Environmental Protection  
Education Planning Agriculture/Forestry Public Safety  
Economic Recovery Human Health  
Pollution Water  
Emergency Management Biodiversity Public access to information  
Science/Modeling  
Citizen Engagement  
Energy Transportation/Logistics  
Business Efficiency  
Disaster response  
Fleet management  
Carbon accounting  
Law Enforcement



Economic Recovery

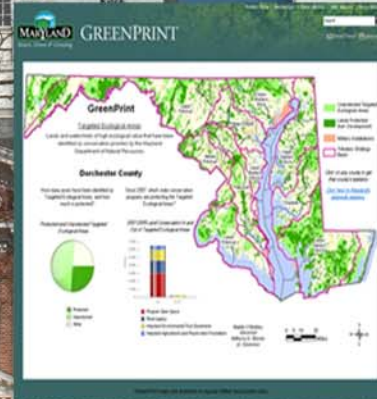
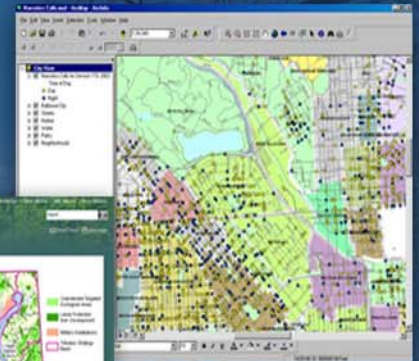
*... supporting critical management challenges*

# GIS is Becoming Embedded in the Fabric of Government

## *Providing a New Management tool for Transparency & Accountability*



A screenshot of the Maryland StateStat website. The page features a navigation menu on the left, a central content area with a "Welcome to Maryland's Recovery &amp; Renewment" message, and a right-hand sidebar with various news and information links. The website is designed with a professional, government-style layout.

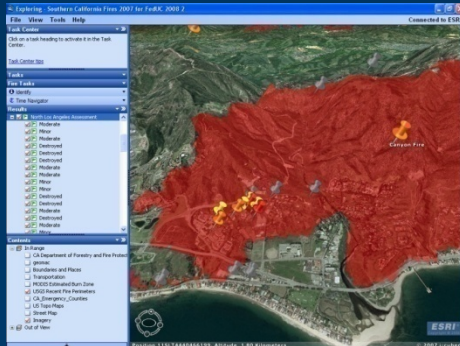


...Helping monitor progress, review actions, adjust resources, achieve outcomes

# GIS is Beginning to be Managed as Enterprise Technology

## California Has Designated GIS as One of its Critical Systems

- Heavily invested
  - Natural resources
  - Public safety
  - Transportation
  - Health
- Enterprise Projects
  - OCIO, Fire, Water
- Appointment of GIO
- Services Architecture
- Robust Infrastructure



Statewide  
Information  
Technology  
Capital Plan

2009

Transforming Strategic Goals into Actions,  
Volume 2

Arnold Schwarzenegger  
Governor

Teri Takai  
Chief Information Officer

Today There is a Big Movement  
For **Sharing Government Data** on the Web

## Data.Gov

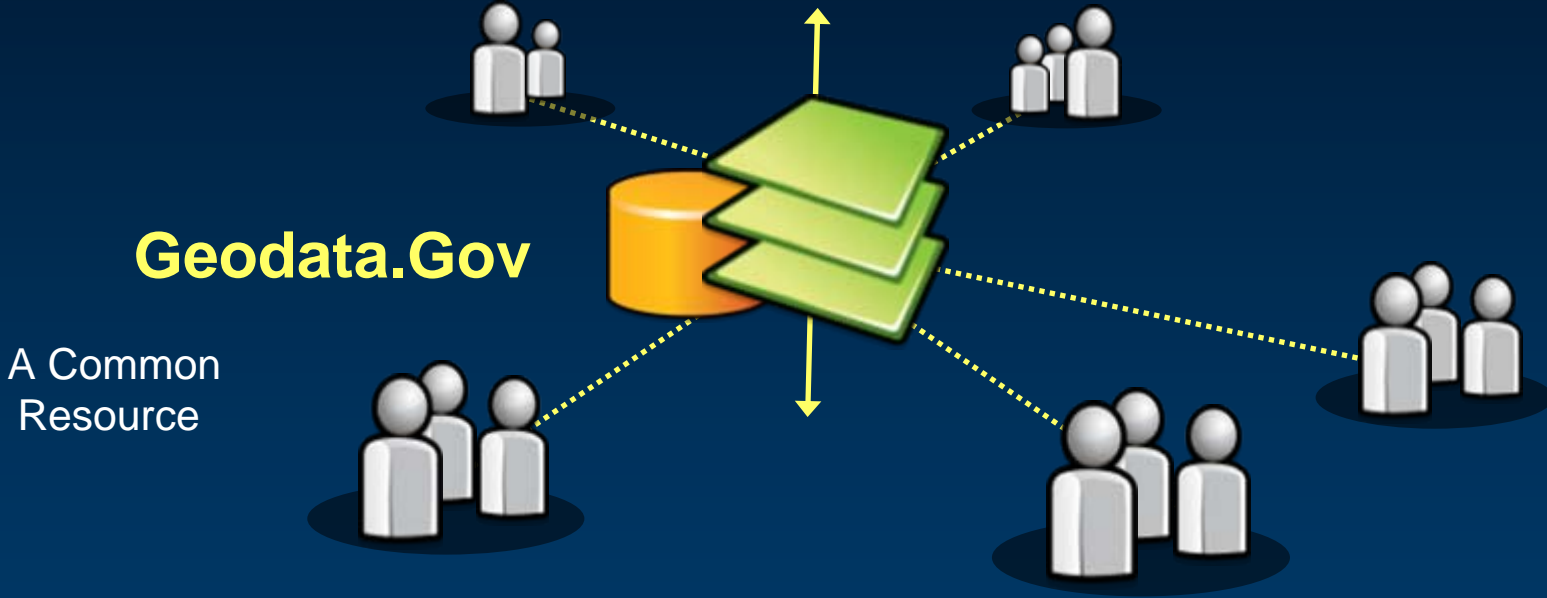
### **Thought to Be the Next Big Step**

- Free Internet Down Loads of Data
- Provide Citizens Access to all Government Data
- Let Private Sector Exploit Government Data Platform

*. . . Supporting Gov. 2.0*

# GIS Data Sharing has Benefited Government For a Long Time

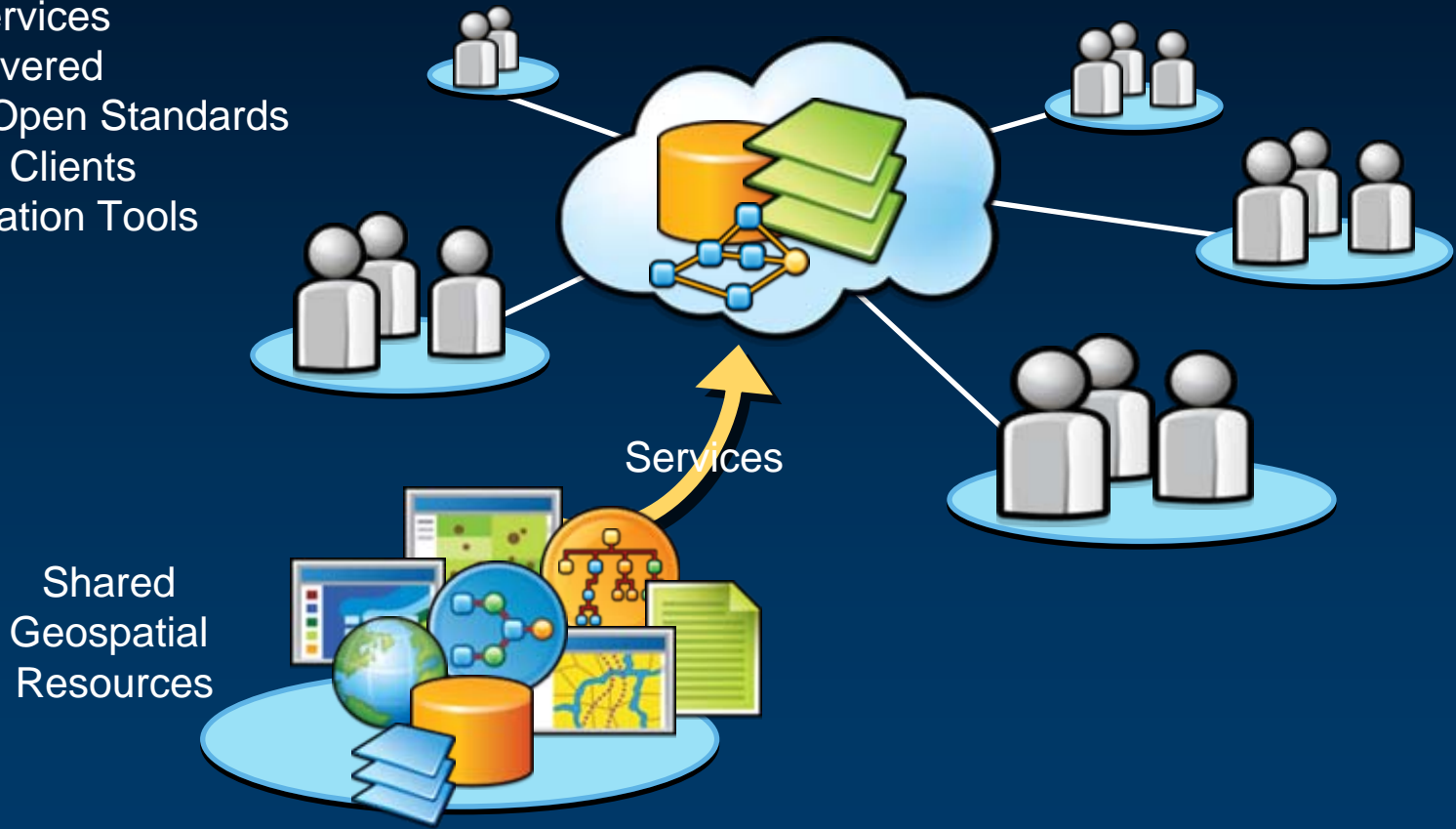
*Data Clearinghouses Have Provided Open Access . . .*



*. . . But These Efforts Haven't Resulted in a Collaborative Geospatial Framework*

# Governments Are Beginning to Create **Geo-Services**

RESTful Services  
Easily Discovered  
Supporting Open Standards  
Easy to Use Clients  
Free Application Tools  
(API's)



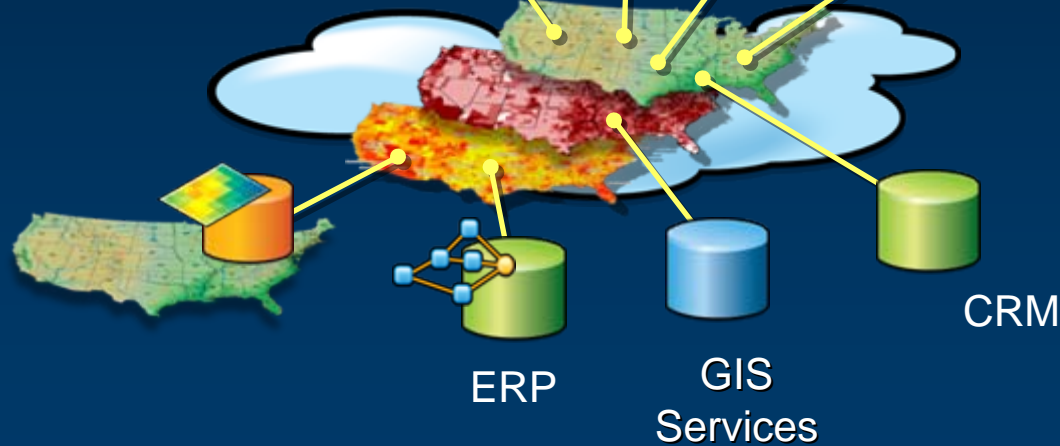
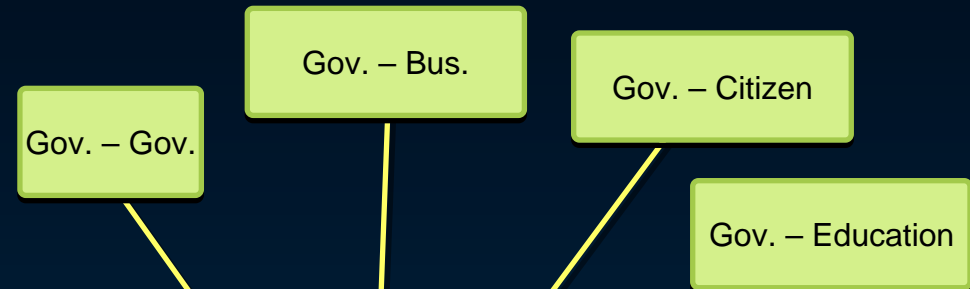
*Moving from Data File Sharing to Creating Shared Services . . .  
Opening Access to Many New Users & Applications*

# This is Creating an Exciting Geospatial Framework

*Providing Efficient Access and a New Platform for Applications*

- Authoritative Data
- High Quality Maps
- Visualizations
- Spatial Analysis & Models
- Rich Applications

## Government Applications



*Integrating All Levels of Government . . .*

*Supporting Open Access, Collaboration, Transparency & Efficiency*

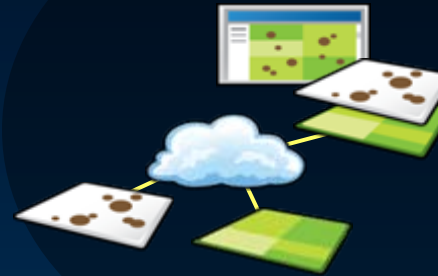
# GIS is Supporting New Computing Paradigms

## Services-based architectures



Sharing and agility

## Web 2.0s—mash-ups



Integrate diverse content

## Mobility



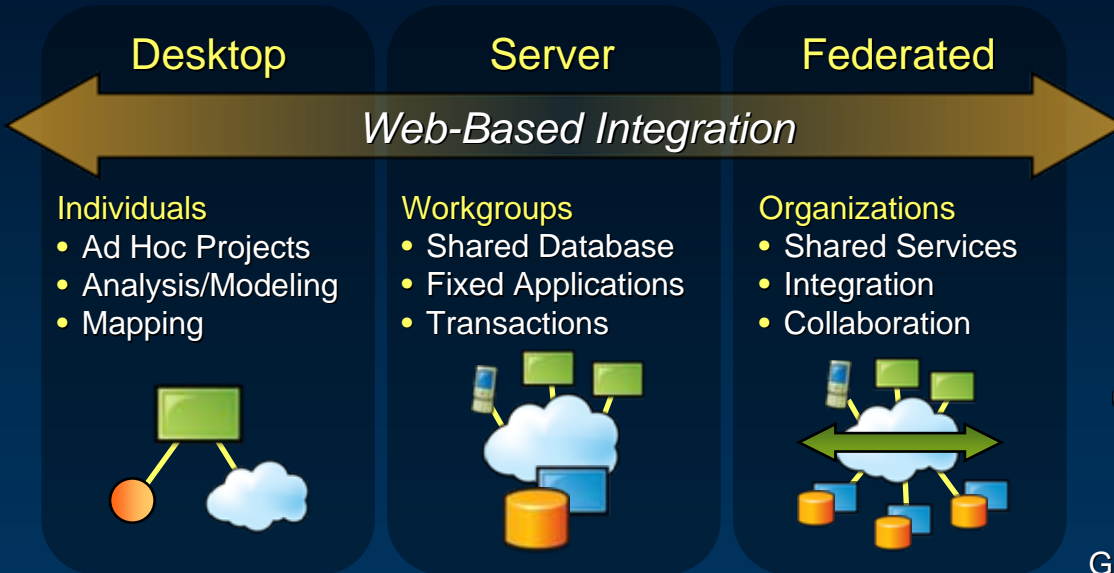
Extend the reach of the enterprise, support real time operations

## Cloud computing — Infrastructure, software, content, services

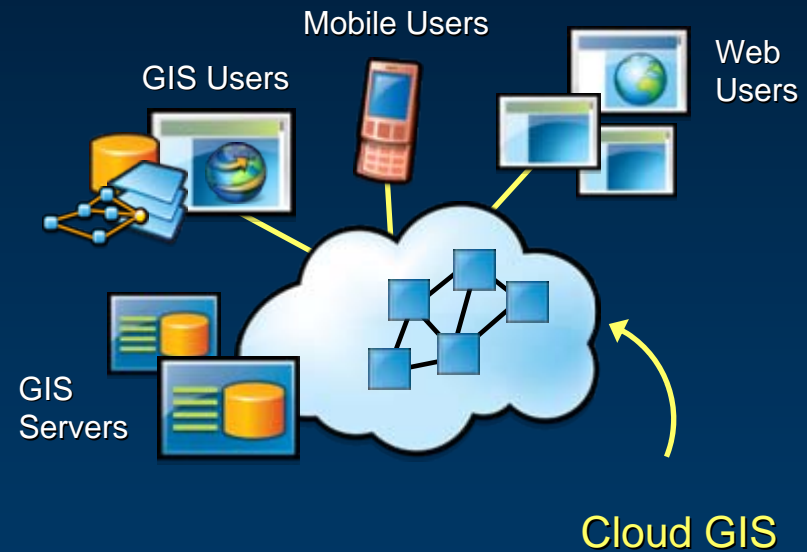


Efficiency and reliability

# Today GIS Implementations Follow 3 Common Patterns

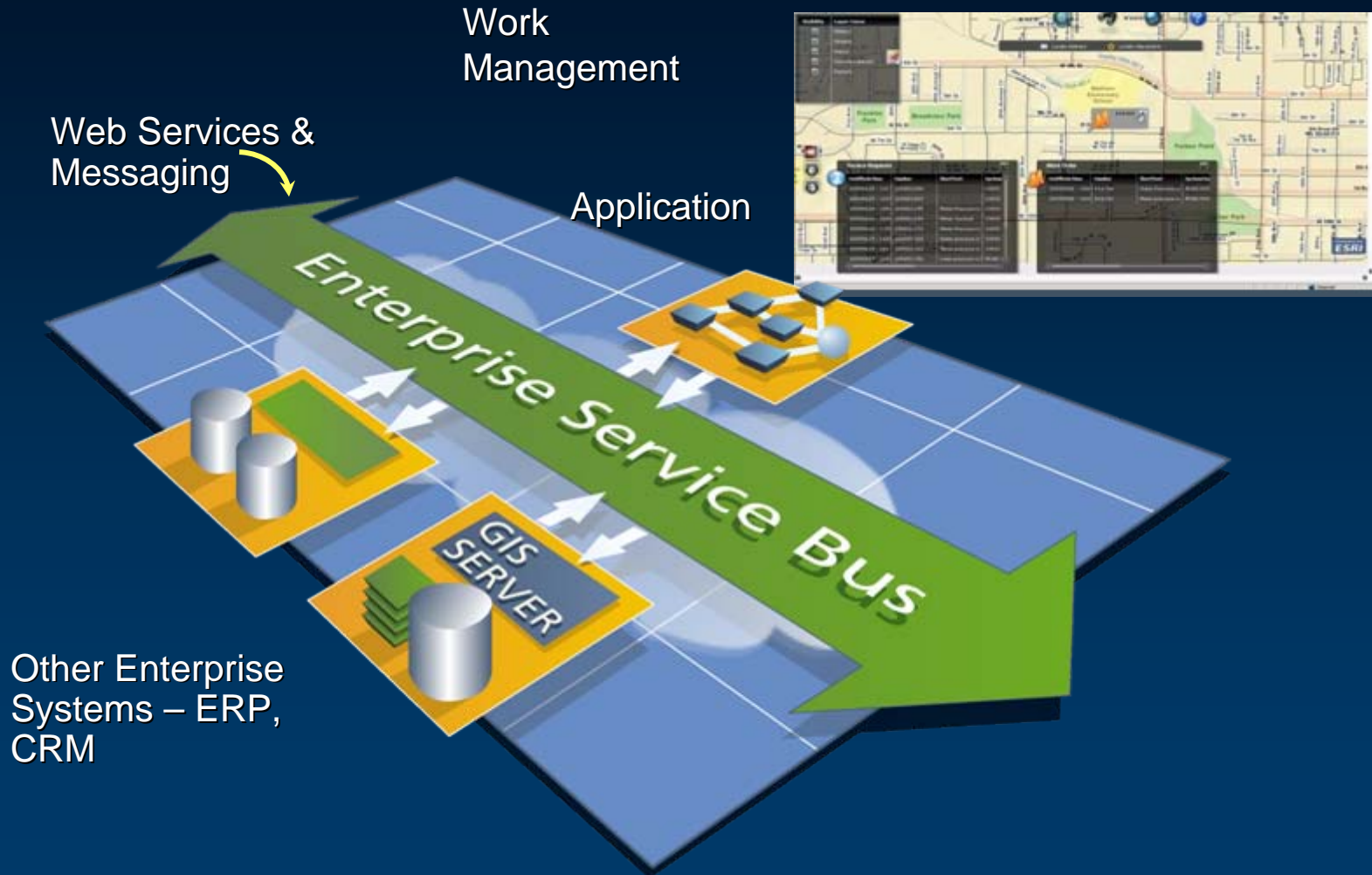


... The Cloud is an Emerging Pattern



... Providing New Opportunities

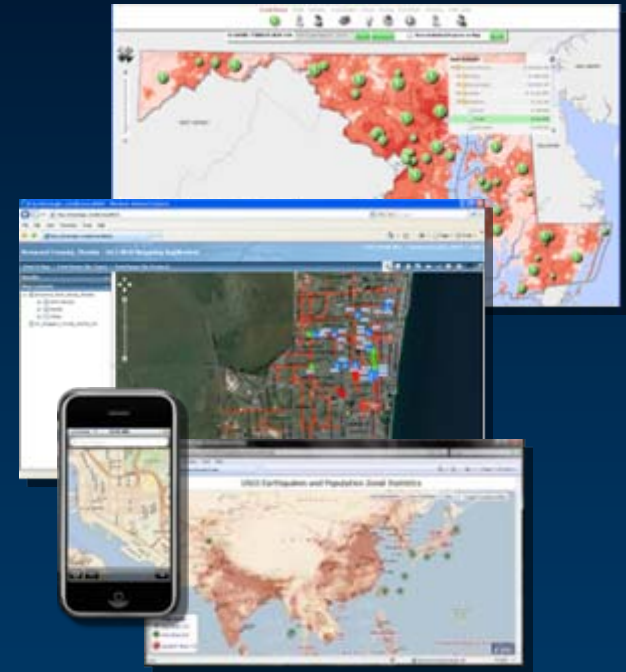
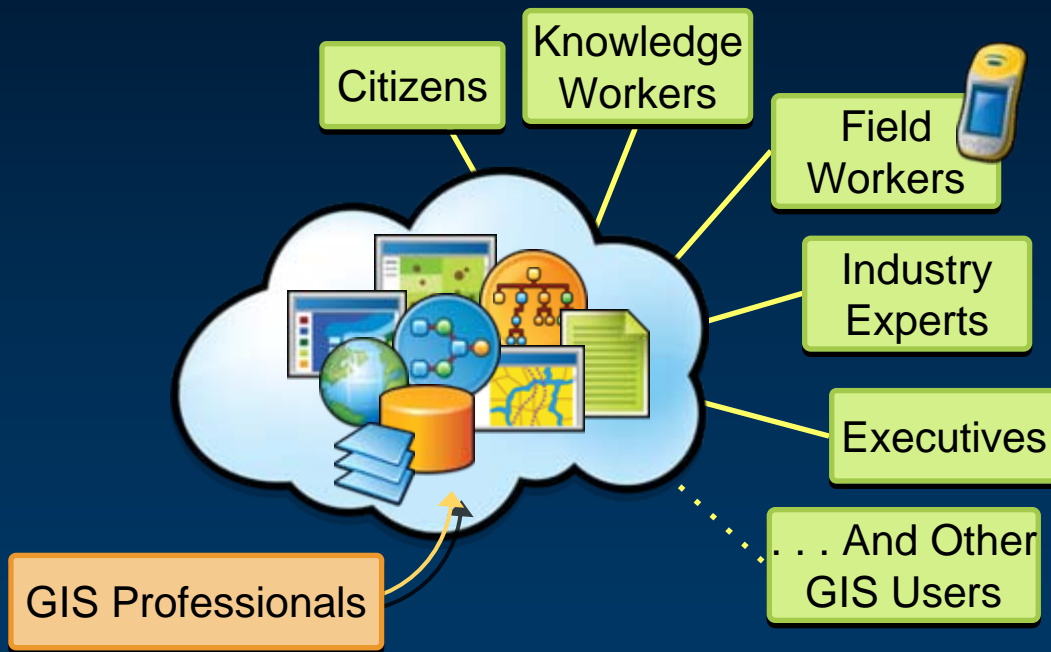
# GIS Servers also Integrate With Other Enterprise Systems



*... Open, Flexible, and Standards Based*

# GIS Servers are The Foundation

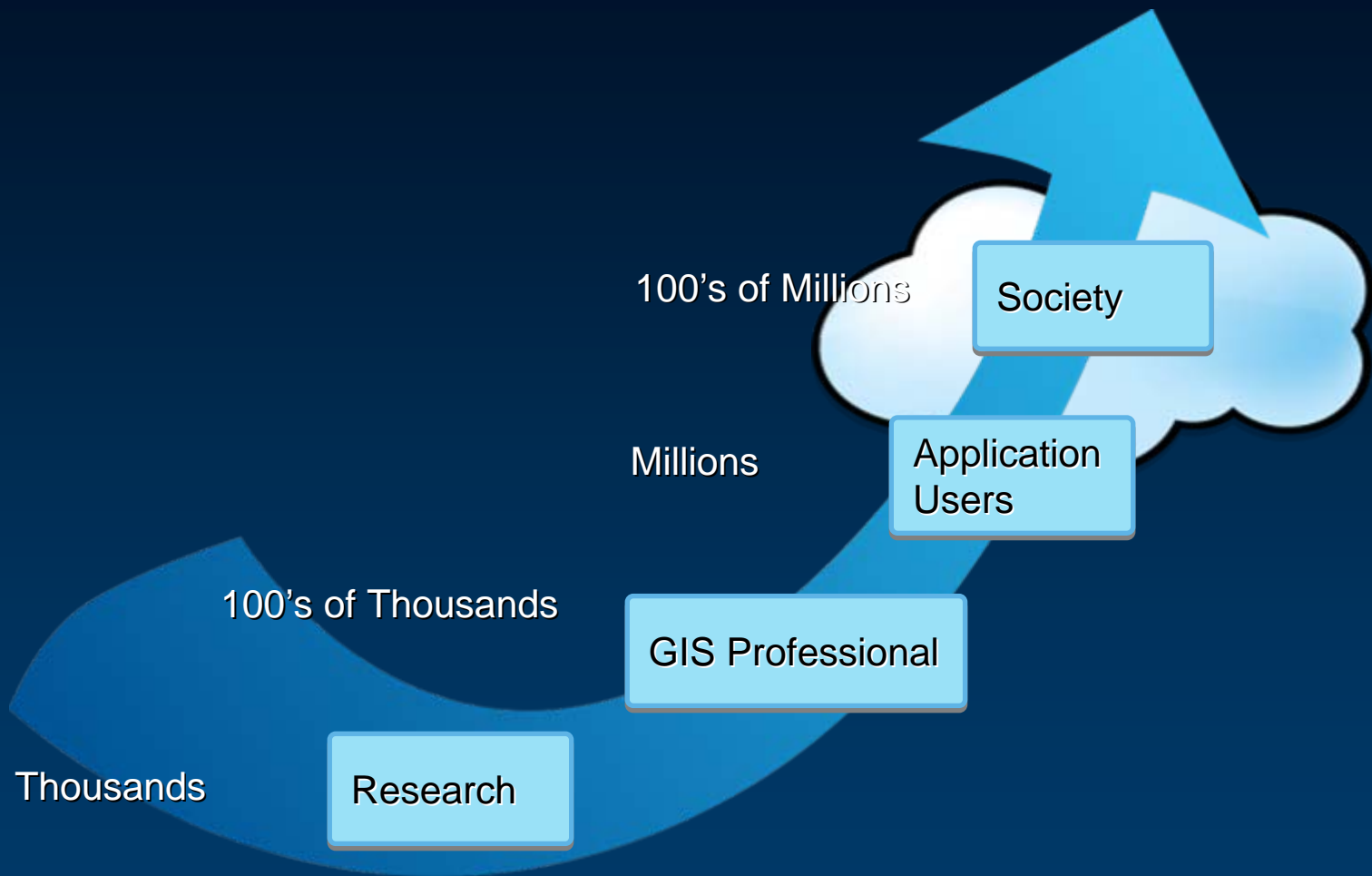
*Distributing Geographic Knowledge Everywhere*



*And Leveraging this Content . . .  
. . . To Serve the Needs of Multiple Users*

# GIS in the Web/Cloud Will Power Good Government

*Creating an Explosion in the Use of Geospatial Applications*



*Leveraging the Large Investment in Government Data . . .  
... Connecting Government and Citizens  
... Encouraging New Collaborations.*