



**Please!**  
**Turn OFF cell phones**  
**and paging devices**

(or at least turn to silent)



## ESRI Product Line Understanding the Best Options for You

Damian Spangrud  
ArcGIS Product Manager  
ESRI

# ESRI Products...

Arc<Insert Name Here>

- ArcInfo
- ArcEditor
- ArcView
- ArcReader
- ArcGIS Explorer
- ArcGIS Engine
- EDN
- ArcGIS Spatial Analyst Extension
- ArcGIS 3D Analyst Extension
- ArcGIS Network Analyst Extension
- ArcGIS Data Interoperability Extension
- ArcGIS SDE
- ArcGIS Server
- Maplex
- ArcScan
- Geodatabase
- ArcGIS Server Enterprise

Arc what?

- ArcGIS Enterprise
- ArcGIS Workgroup
- ArcGIS Workgroup
- ArcGIS Enterprise
- ArcGIS Group
- ArcGIS Extension
- ArcGIS Spatial Extension
- ArcGIS GeoPortal Extension
- ArcGIS Extension Mapping
- ArcGIS Extension Mapping
- ArcGIS Aeronautical Mapping
- ArcGIS Nautical Mapping
- ArcGIS Workflow Manager
- ArcGIS Data Reviewer
- MapIt
- Business Analyst
- ArcLogistics
- ArcLogistics Navigator
- ArcGIS Online
- ArcGIS for AutoCAD
- ...

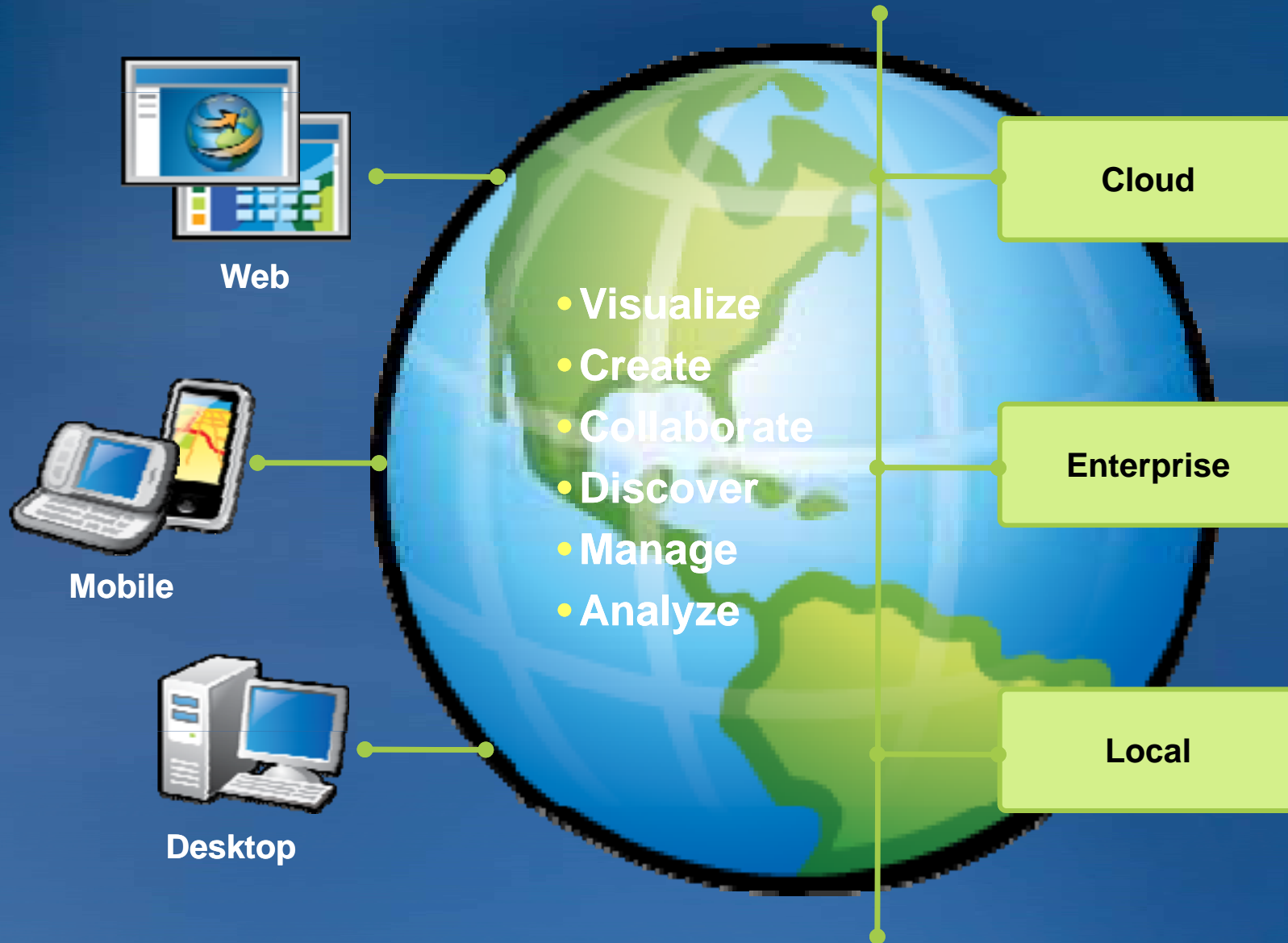
# ESRI Products

## Addressing workflows and technology needs

- **GIS 'Tools' Products**
  - Foundation of GIS around the world
  - Generic tools for GIS Professionals
  - Works around many disciplines
- **Focused Solution Products**
  - Built on core GIS technology
  - Focused on specific market and workflow

# ArcGIS

*A Simple & Pervasive System for Using Maps & Geographic Information*





# ArcGIS

## Products

### Desktop

- ArcReader
- ArcView
- ArcEditor
- ArcInfo
- Engine



### Server

- Workgroup
- Enterprise



### Mobile

- ArcGIS Mobile
- ArcPad



### Online

- Content
- Services
- Sharing

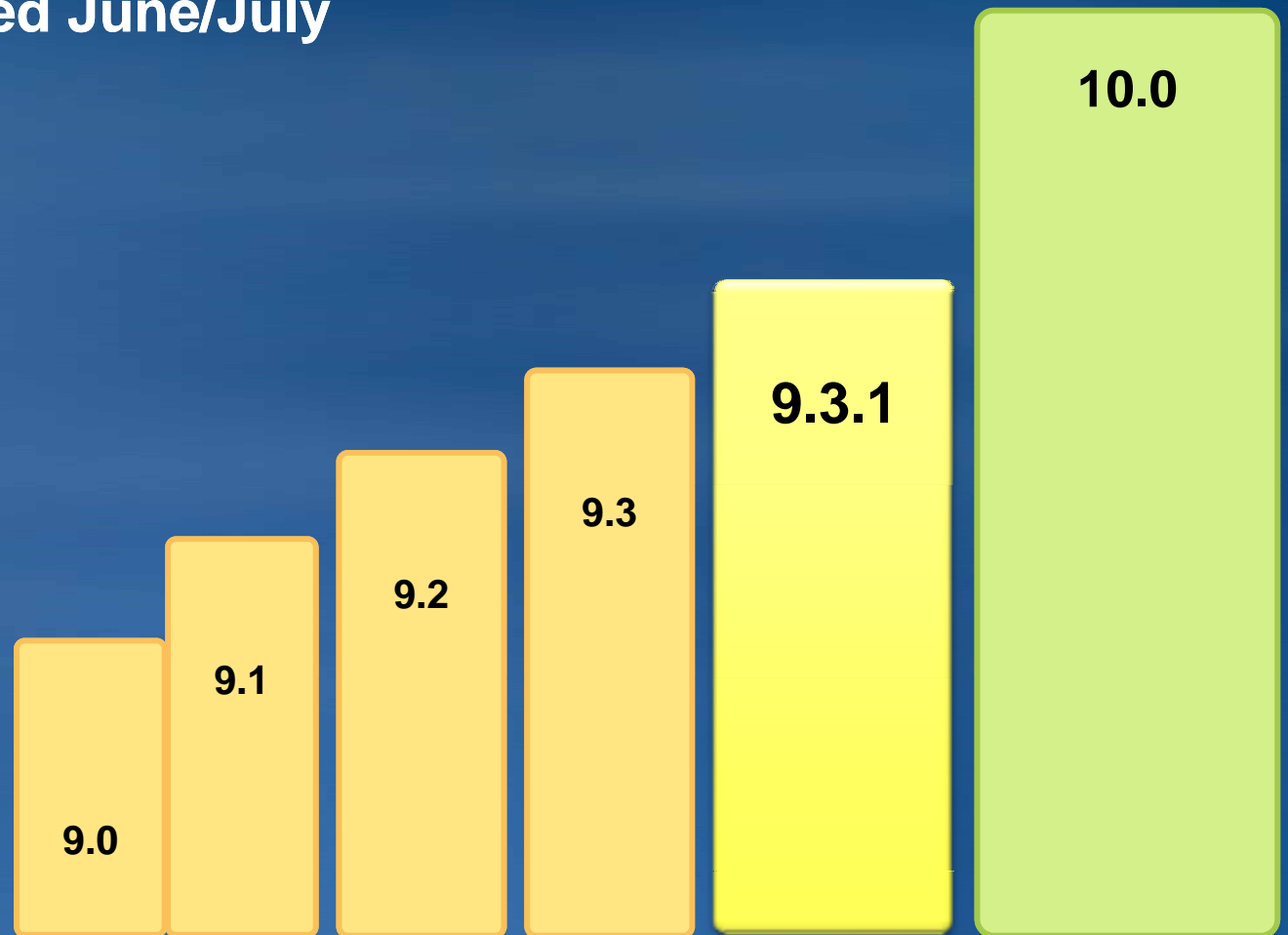


*A Complete Integrated System*

*... For Authoring, Serving & Using Geography Everywhere*

# ArcGIS Releases

- Current Release 9.3.1
- ArcGIS 10, expected June/July



# ArcGIS DESKTOP

**ArcInfo**

**ArcEditor**

**ArcView**

**ArcReader**

*For Authoring & Applying Geographic Knowledge*

- Compilation
- Data Management
- Mapping
- Analysis
- Advanced Geoprocessing



- Compilation
- Data Management
- Mapping



- Mapping
- Using



- View

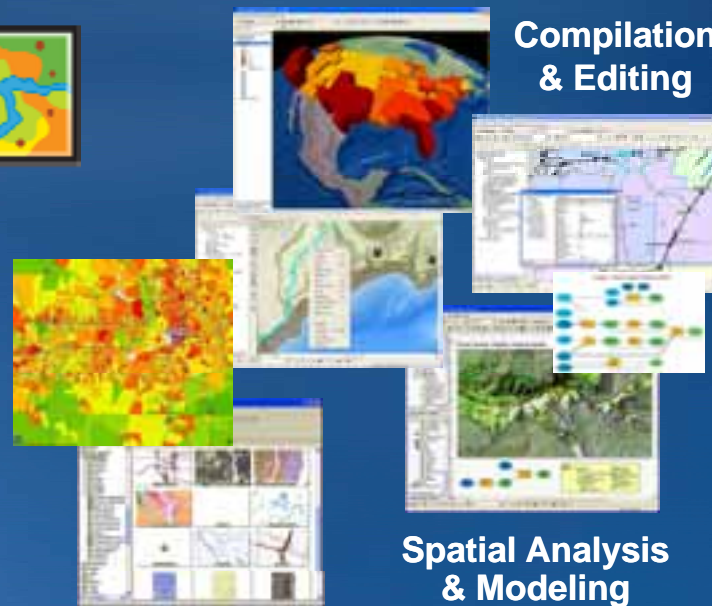


**Mapping & Visualization**

**Compilation & Editing**

**Spatial Analysis & Modeling**

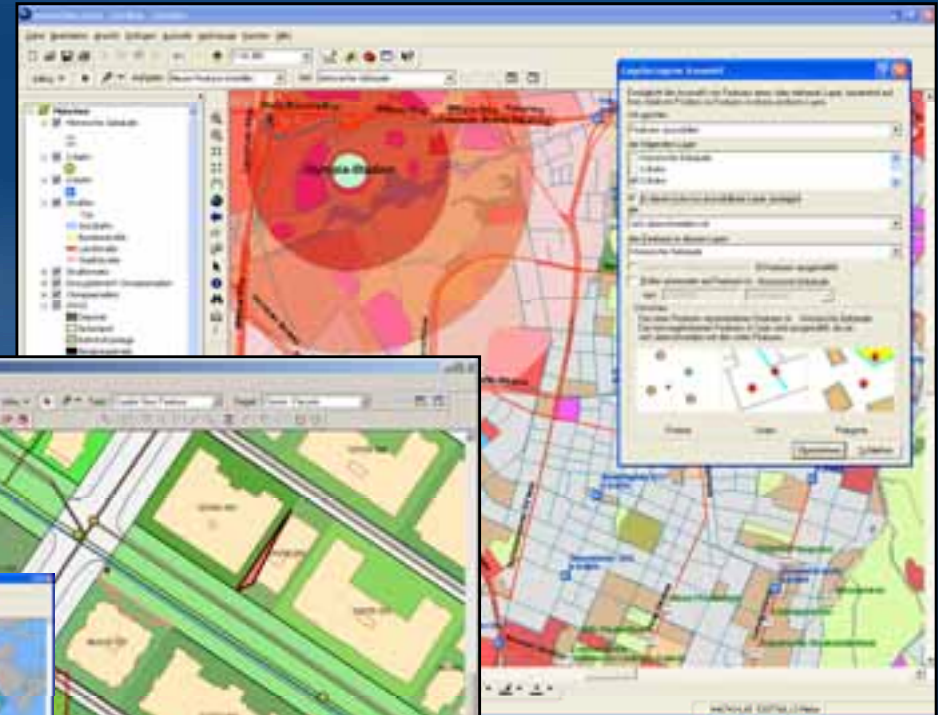
**Catalog & Metadata**



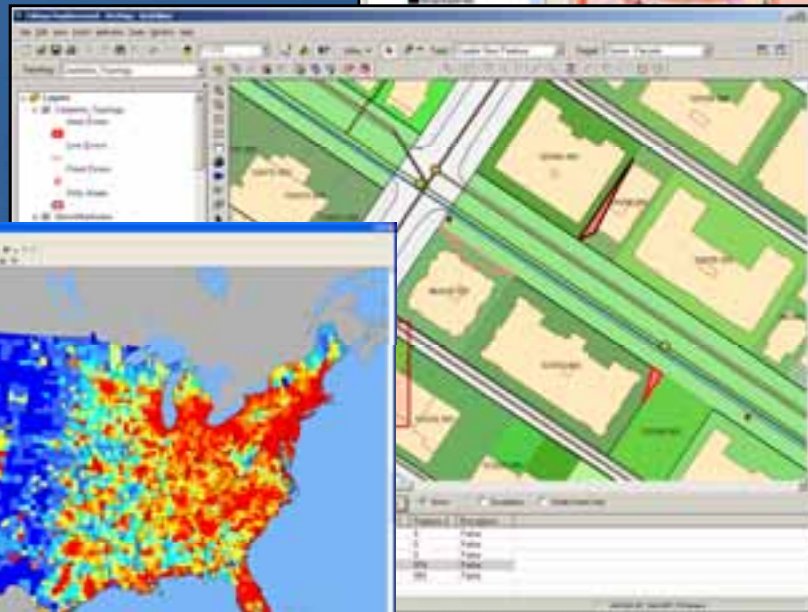
# ArcGIS Desktop

## Authoring and Using Geographic Knowledge

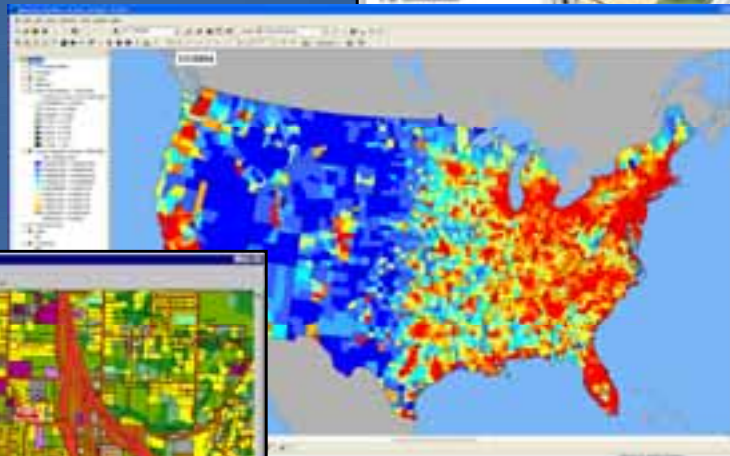
ArcInfo  
(Geoprocessing/Analysis)



ArcEditor  
(Create/Manage)



ArcView  
(Use)



ArcReader  
(View)

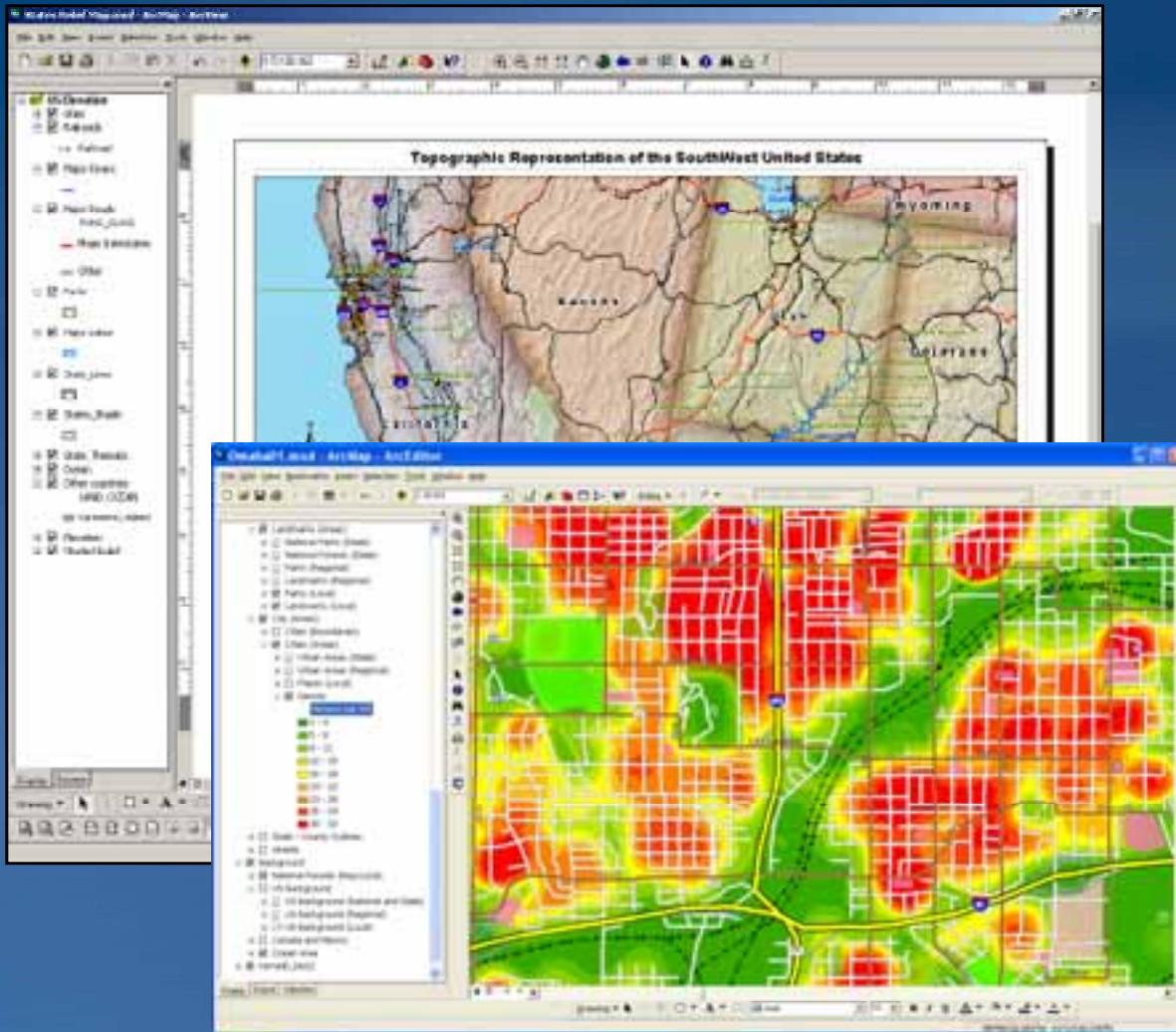
*Common, Scalable Family of Products*



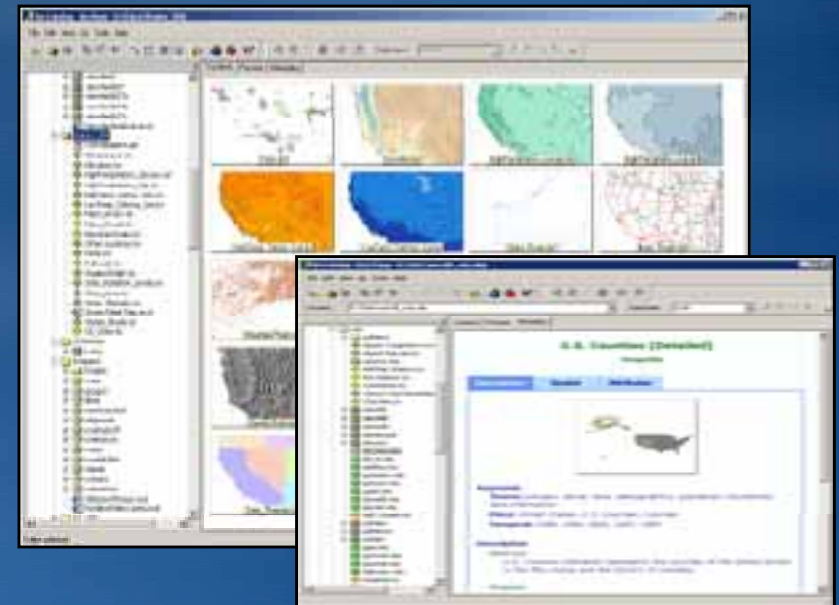
# ArcGIS Desktop Applications

## ArcView, ArcEditor, and ArcInfo

### ArcMap



### ArcCatalog



# ArcGIS Desktop Functionality

## **ArcInfo = ArcView + ArcEditor +**

Advanced Cartography

Workstation ArcInfo, Coverage editing and tools

Complete Geoprocessing and analysis (*~290 tools*)

*Includes Maplex*

## **ArcEditor = ArcView +**

Advanced GDB behavior: Topology, Geometric networks, Feature linked annotation, Relationship classes, Enterprise Geodatabase editing

Advanced Editing/COGO tools

Advanced Geoprocessing (*~240 tools*)

*Includes ArcScan*

## **ArcView**

Display, analyze, manage, and store vector, raster and tabular data

Basic Geoprocessing (*~200 tools*)



# ArcGIS Desktop functionality

- <http://support.esri.com> -Search for “Desktop Functionality Matrix”

## ArcGIS® Desktop --- Functionality Matrix

[illegible]

Tablet PC				
Support Windows XP Tablet PC Edition	X	X	X	
Edit Features or Graphics with a Stylus	X	X	X	
Use Ink Gestures to Perform Common Mapping Tasks	X	X	X	
Annotate the Map with Redlining and Highlighting Tools	X	X	X	
Find Handwritten Notes within the Map	X	X	X	
Convert Redlining Handwriting to Text	X	X	X	

Multiuser Geodatabase Editing	ArcReader	ArcView	ArcEditor	ArcInfo
General Editing				
Multiple Editors Can Simultaneously Edit the Same Feature Classes in a Multiuser Geodatabase			X	X
Isolate Editing Projects in Separate Versions (Create Version) Enabling a Variety of Workflows			X	X
Merge Versions (Reconcile and Post)			X	X
Manage Conflicts between Editors by Row or Column			X	X
Manage Conflicts between Editors Interactively or Automatically			X	X
Delete Versions			X	X
Simultaneously View and Edit Versioned GIS Data in ArcGIS and Non-ArcGIS Applications			X	X
Administration Geoprocessing				
Modify Data Privileges for Data in a Multiuser Geodatabase			X	X
Register "SDE" Data with the Geodatabase			X	X

Topology		ArcReader	ArcView	ArcEditor	ArcInfo
Map Display					
Display a Summary of the Errors and Exceptions in the Topology			X	X	X
Display the Feature Classes and Rules in the Topology			X	X	X
Display Errors, Exceptions, and Dirty Areas in the Map			X	X	X
Editing					
Construct and Edit Topologies Created from Layers in the Map			X <sup>a</sup>	X	X
Move Topological Edges and Nodes			X <sup>a</sup>	X	X
Show or Select Adjacent or Connected Features			X <sup>a</sup>	X	X
Reshape Shared Edges between Features			X <sup>a</sup>	X	X
Modify the Coordinates of Shared Edges or Nodes			X <sup>a</sup>	X	X
Split shared edges at a specific point, distance, or percentage along the edge			X <sup>a</sup>	X	X
Move Edges and Nodes to a Specific Location			X <sup>a</sup>	X	X
Shift edges and nodes based on an offset from their current location			X <sup>a</sup>	X	X
Merge connected edges			X <sup>a</sup>	X	X
Control Which Adjacent or Connected Features Move When a Shared Edge or Node is Moved			X <sup>a</sup>	X	X
Create Polygons from Lines or Create Lines from Polygons				X	X
Split Lines Where They Intersect				X	X
Validate a Specific Area or the Entire Topology				X	X
Search for Errors of a Specific Type within One Area or the				X	X

## Providing Specialized Capabilities

- 
- The collage displays a variety of GIS capabilities and interfaces:
- Software Interfaces:** Screenshots of ArcMap, ArcCatalog, ArcToolbox, and other GIS applications, showing their respective toolbars, menus, and data panes.
  - Maps and Data:** Various types of maps, including topographic maps, satellite imagery, and thematic maps (e.g., land use, elevation, population density).
  - Data Management:** Screenshots showing the process of adding, editing, and managing spatial data in a GIS database.
  - Analysis and Modeling:** Screenshots of spatial analysis tools, such as the Buffer tool, the Intersect tool, and the Spatial Analyst extension, demonstrating how data can be processed and modeled.
  - Visualization:** Screenshots showing the results of spatial analysis, such as a 3D surface model, a map with a color-coded legend, and a map with a network diagram.

# ArcGIS Desktop Platforms

- Microsoft Windows ( XP, Vista, Win7)



# Developer Products

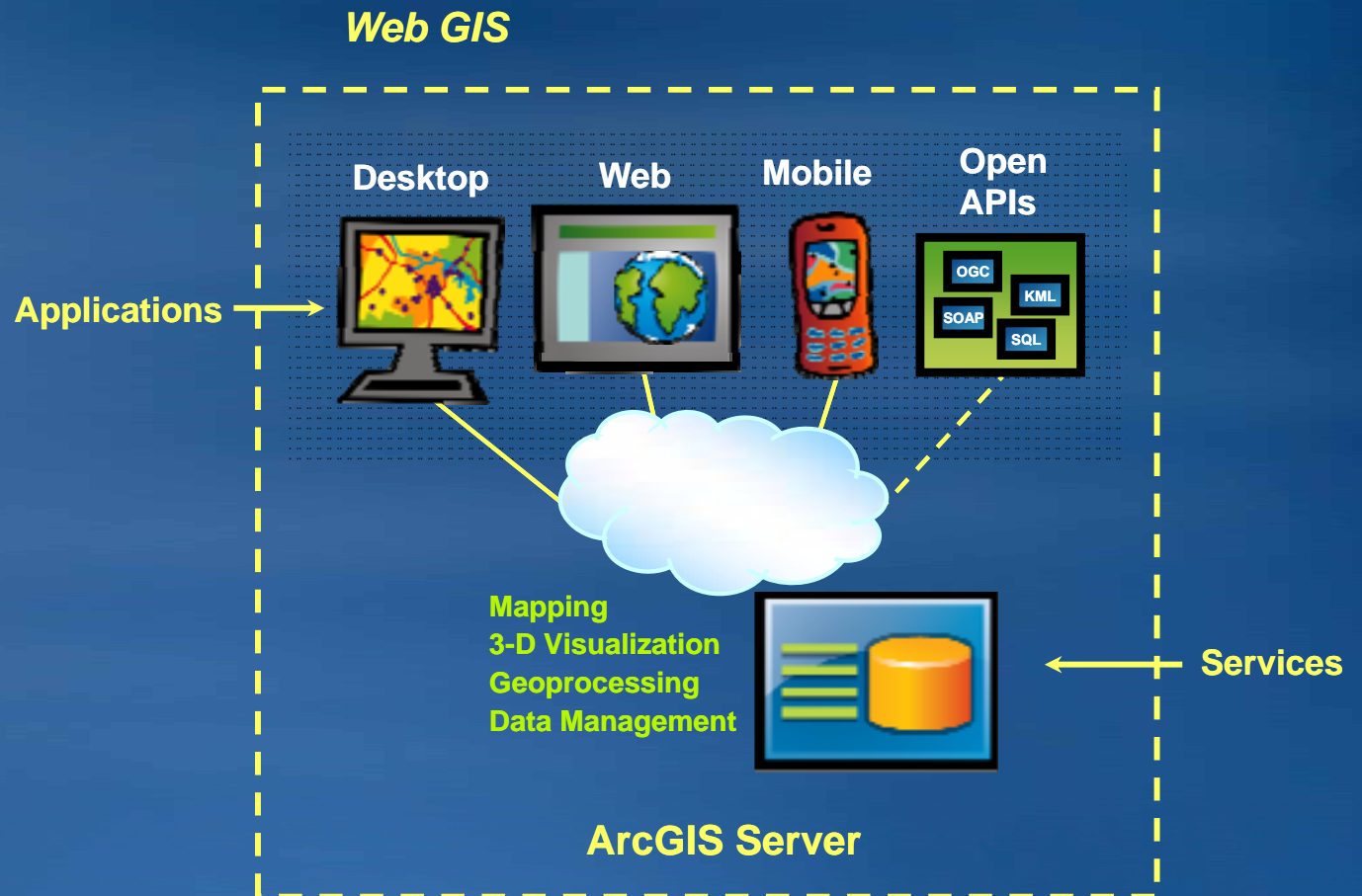
## Expanding the Reach of ArcGIS

- **ArcGIS Engine – ‘headless ArcGIS Desktop’**
  - C++, .NET, Java SDKs
  - Windows, Linux, Solaris Platforms
- **EDN**
  - Developer solution bundle
  - Includes ALL Core ESRI Products for DEVELOPMENT and TESTING only.
  - Enable your developers to develop across the product stack.

# ArcGIS Server Is a Platform

## *Comprehensive Server Based GIS*

- Rich Application Clients
- Out-of-the-Box GIS Services
- Easy to Install & Manage
- Scalable
- High Performance
- Interoperable



*... Enabling Enterprise GIS*

# ArcGIS

# SERVER

**Advanced**

**Standard**

**Basic**

*For Disseminating & Storing Geographic Knowledge*

- Data Management
- Data Access
- Mapping
- Web Applications
- Web Editing
- Complete Geoprocessing
- Mobile Access



- Data Management
- Data Access
- Mapping
- Web Applications
- Web Editing
- Basic Geoprocessing



- Data Management
- Data Access



**Serve**



**Author**



**Use**





# What is ArcGIS Server?

- **Author** ArcGIS files in a familiar environment (ArcMap, ArcGlobe, ModelBuilder)
- **Serve** ArcGIS files (.mxd, 3dd, .tbx, etc.) as Geoservices
- **Use** in a wide variety of clients
  - Desktop
  - Web
  - Mobile



# ArcGIS Server is for:

- Dissemination
  - Web Maps
  - SOA Integration
  - Web Applications
  - Interoperability
- Hosting
  - Data
  - Processes



# What types of services can ArcGIS Server offer?



## Map

View or query a 2D map on the server



## Globe

View or query a 3D globe on the server



## Geocode

Perform address matching on the server



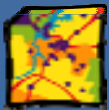
## Geodata

Perform data replication, extraction, or query over the intranet or Internet



## Geoprocessing

Run a tool or model on the server and get the results back



## Image

Provide access to raster data through a Web service

# What clients can I use with ArcGIS Server?

## – Desktop client

- ArcMap, ArcGIS Explorer, ArcReader, ArcGIS Engine application



## – Web Application

- Browser based: JavaScript / Flex/ Silverlight via REST
- Server based: .NET, JAVA



## – Mobile client

- ArcGIS Mobile application for Windows Mobile devices
- .Net SDK for Mobile and Tablet platforms



## – OGC clients (via WMS, WFS, WCS, KML)

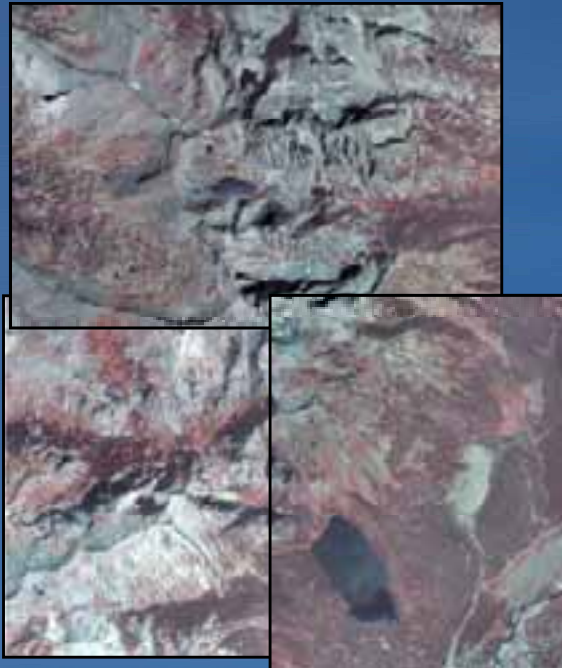
- OpenLayers, Gaia, Google Earth...



# ArcGIS Server Image Extension

## Providing Dynamic Image Services

- An Extension to ArcGIS Server
- Efficiently manages, accesses and serves large amounts of file-based imagery.



- Image processing on-the-fly. Multiple products served from one image.
- Reduces time between image acquisition and distribution.



# ArcGIS Server

## What do you need?

- If you want to store data in an Enterprise Database
  - Database experience
  - Database software\*
- If you are building web applications
  - Web Server / Application server
  - Web Development Experience\*



# ArcGIS Server

## Platforms

- **Web / Application**
  - Microsoft Windows Server (2003, 2008)
  - LINUX (SuSe and Redhat) on Intel processors
  - Sun Solaris on SPARC processors\*
- **Databases**
  - Oracle, SQL Server, IBM DB2, IBM Informix, Postgres

# Functionality matrix for ArcGIS Server editions

	Basic	Standard	Advanced
Geodatabase management (ArcSDE)	✓	✓	✓
Geodatabase replication	✓	✓	✓
Mapping		✓	✓
3D services (Globe, KML)		✓	✓
ArcView-level geoprocessing		✓	✓
ArcInfo-level geoprocessing			✓
Web Application Development Framework (ADF) (.NET or Java)		✓	✓
Mobile ADF (.NET)			✓
Enterprise JavaBeans (Java)			✓
Web-based editing		✓	✓
Support for ArcGIS Server extensions		✓(*only)	✓

\*Data Interoperability, \*Job Tracking, \*Network, 3D, Geostatistical, Schematics, Spatial

# Mobile GIS Challenges

- Many different mobile GIS applications
- Each with unique requirements
- Rapidly developing technology
- Trade-offs
  - Capabilities
  - Price
  - Size
  - Ruggedness
  - Weight
  - Battery life
- One size does not fit all



# Mobile devices

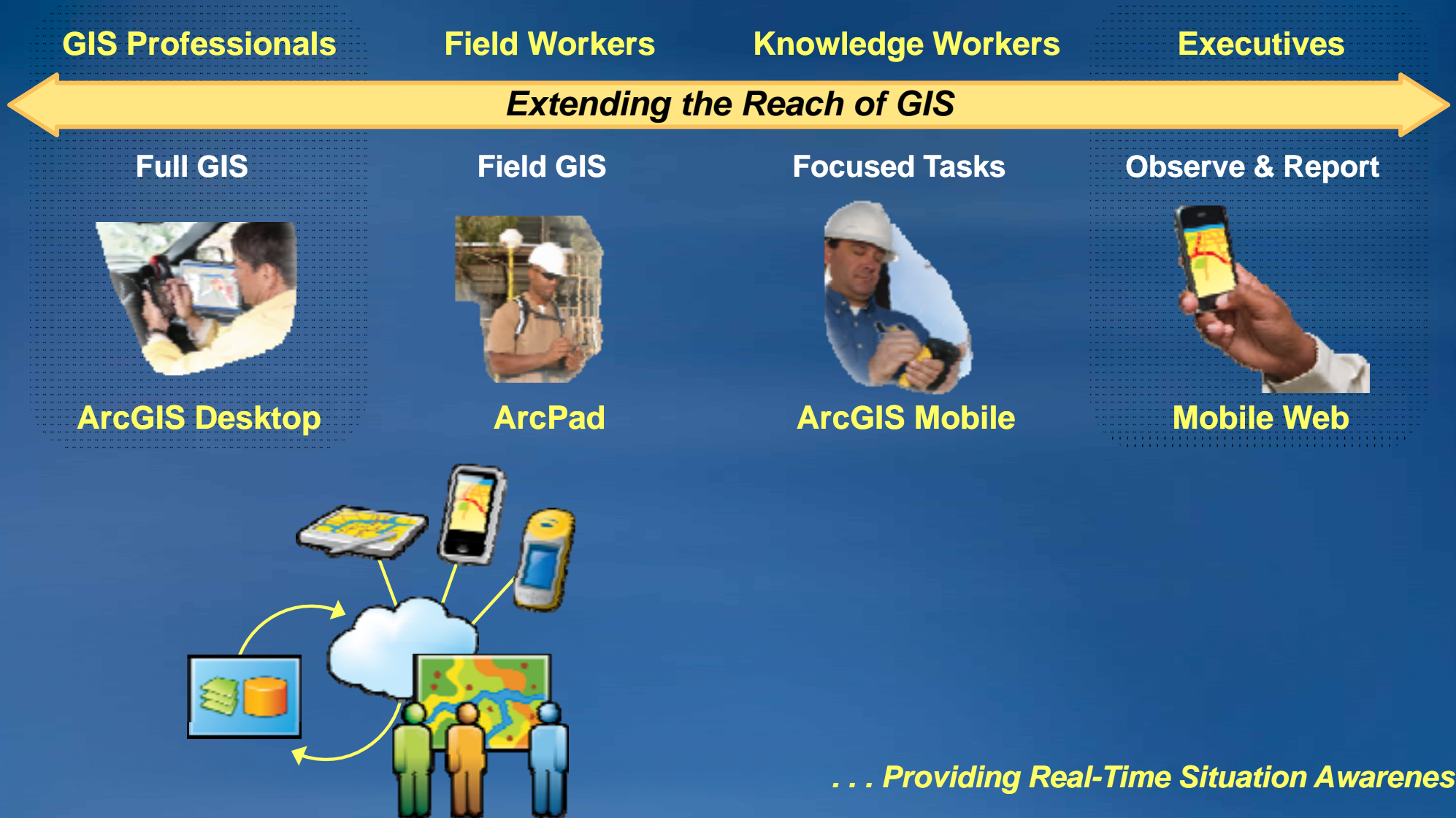




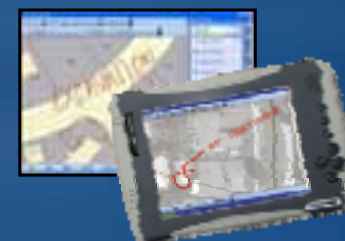
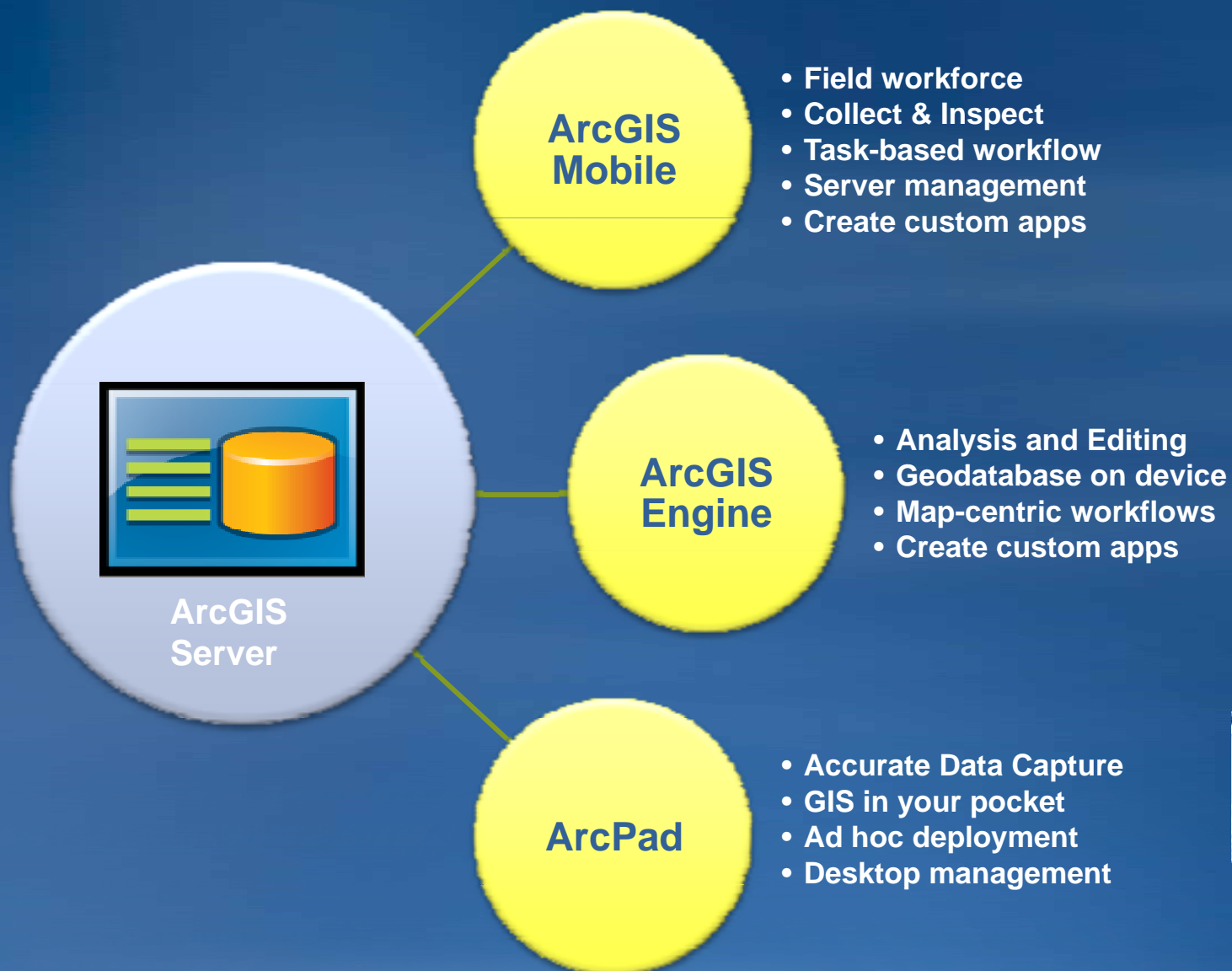
# Mobile GIS Is Growing Rapidly . . .

*. . . Becoming Part of the Enterprise*


## Enabling Many New Applications



# ESRI Mobile GIS Products

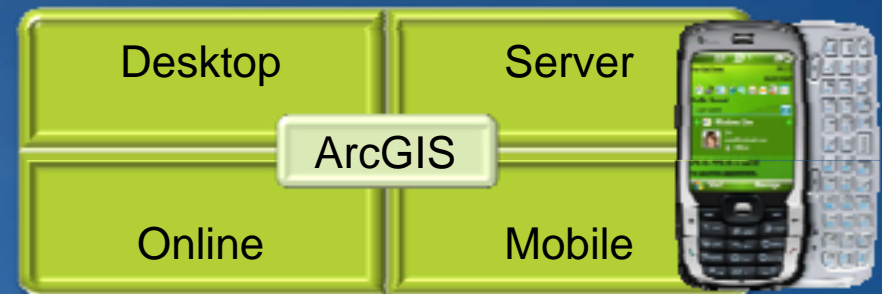




	ArcPad	ArcGIS Mobile	Navigator	ArcGIS Engine	ArcGIS Server Web API	
	GPS/GIS Data Collection	Ideal	Ok	No	Ok	No
	Workforce Automation (handheld & In Vehicle)	Ok	Ideal	No	Ok	No
	Vehicle Routing & Navigation	Ok	Ok	Ideal	Ok	Ok
	Field Editing and Design	Ok	Ok	No	Ideal	No
	Mobile Web Applications	No	Ok	No	No	Ideal

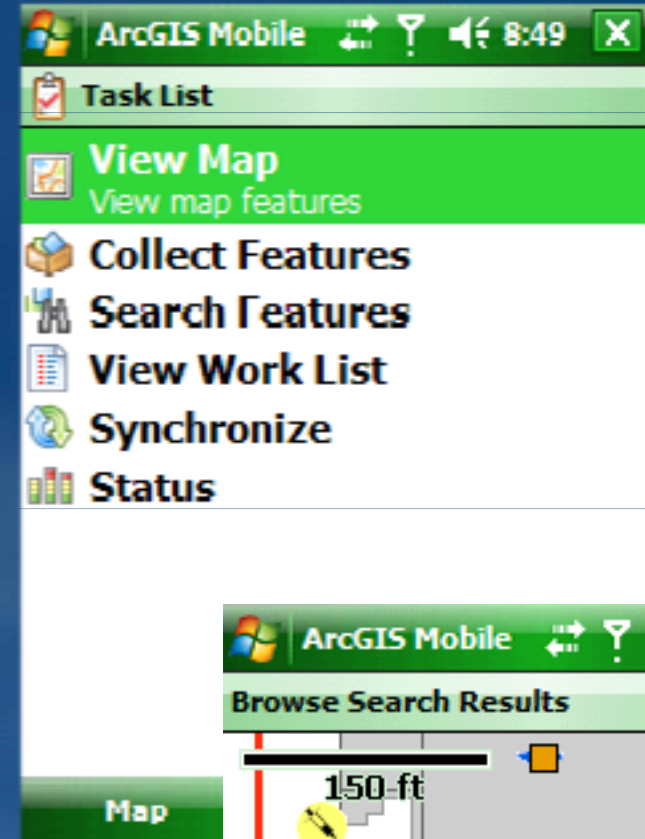
# ArcGIS Mobile

- **ArcGIS Mobile compliments ArcGIS Server and allows an organization to deploy maps and GIS tasks to their mobile workers.**
- **ArcGIS Mobile includes:**
  - Application
  - Runtime
  - SDK



# ArcGIS Mobile Application

- Task-driven user experience
- Create and configure
- Target Applications
  - Simple GIS Feature Editing
  - Map Viewing
- Target Platforms
  - Windows Mobile 6 Professional
  - Apple iPhone (@10)



# What Can You Do with ArcGIS Mobile SDK?

- Build focused and scalable mobile GIS applications
- Develop solutions:
  - Centered on geographic information
  - Map-enable existing mobile systems
- Server-centric deployments that enable free flow of information through an enterprise
- Synchronize via wireless or wired internet connections





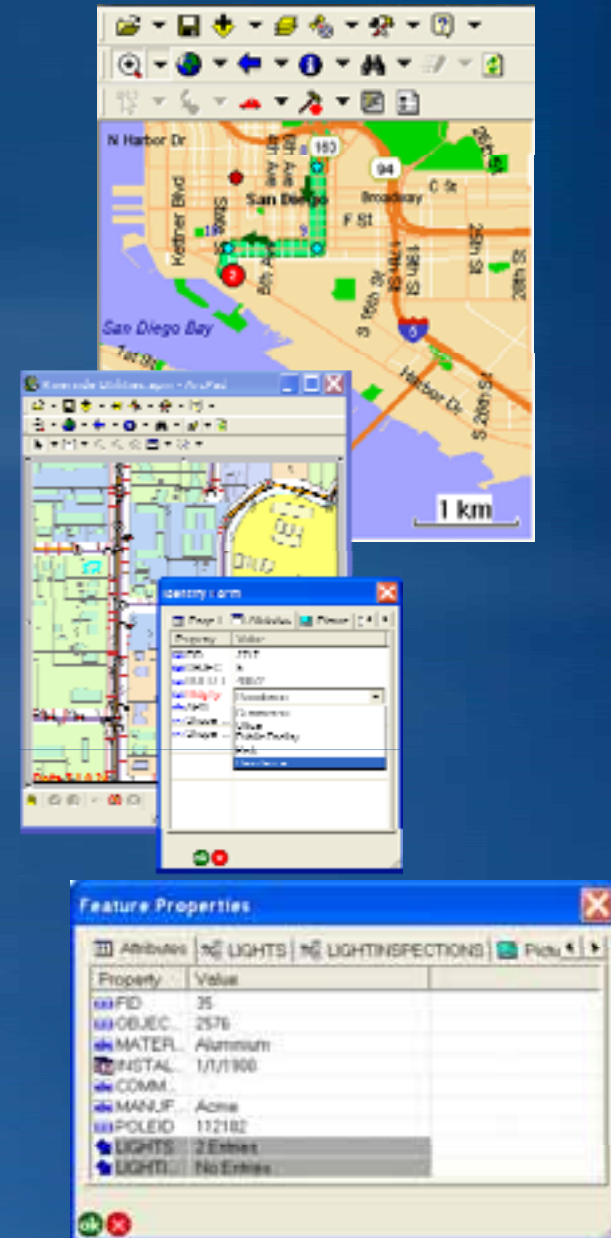
# ArcPad

- Out-of-the-box mobile GIS application for field mapping
- Extensive GIS and GPS tools
- Integrates with GPS receivers, rangefinders, digital cameras and other devices
- Designed for broad range of mobile systems
- Extensive customization capabilities



# What Can You Do with ArcPad?

- Deploy data for field use
- Display data
  - vector, raster, Streetmap, photos, and graphics
- Use the pre-loaded Streetmap data to geocode and create routes
- Query your data using query builder and customized query forms
- Field data capture and editing
- Use data capture devices
  - GPS, rangefinder, and camera
- Navigate with your GPS
- Update enterprise geodatabase
- Customize ArcPad to streamline your workflow



# ArcPad and ArcGIS Mobile

- **Complimentary**
- **Powered by Geodatabase and ArcGIS Server**
- **Choose based on your workflows.**
- **Generally...**
  - **ArcGIS Mobile – for focused Geographic Aware applications run by non-GIS users**
  - **ArcPad – for generic GIS applications run by GIS professionals (or at least GIS trained) staff**

# ArcGIS Explorer Is Expanding GIS for Everyone

*Integrating, Visualizing & Analyzing Geographic Information*

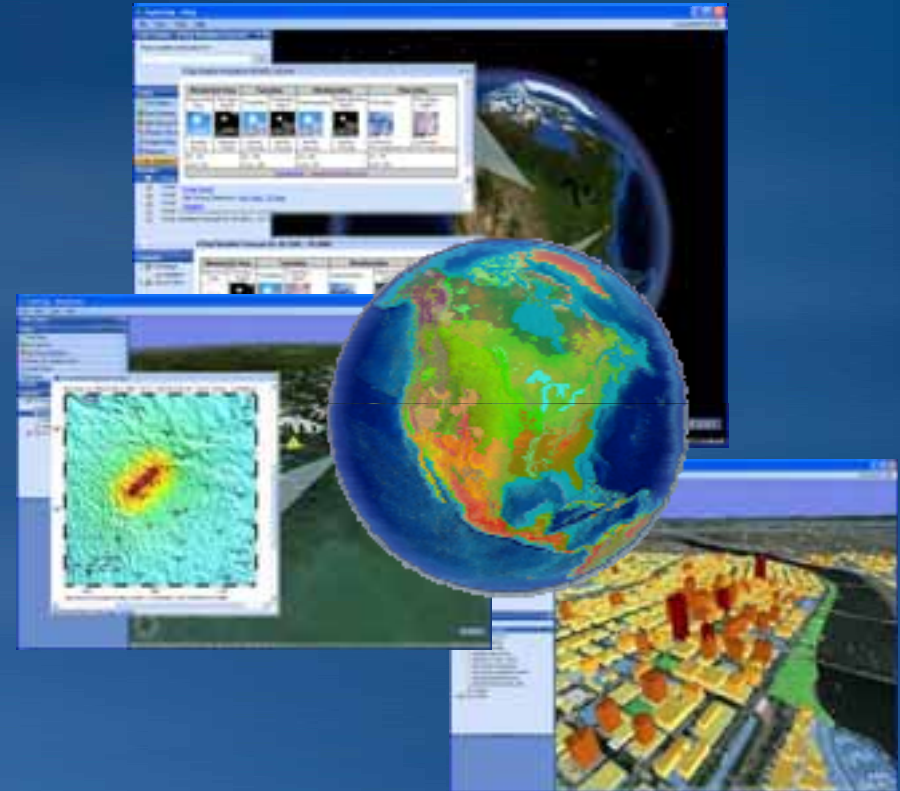
- Fast
- Intuitive
- Web Centric

Accessing Maps,  
Models & Globe Services



ArcGIS Online

ArcGIS Server

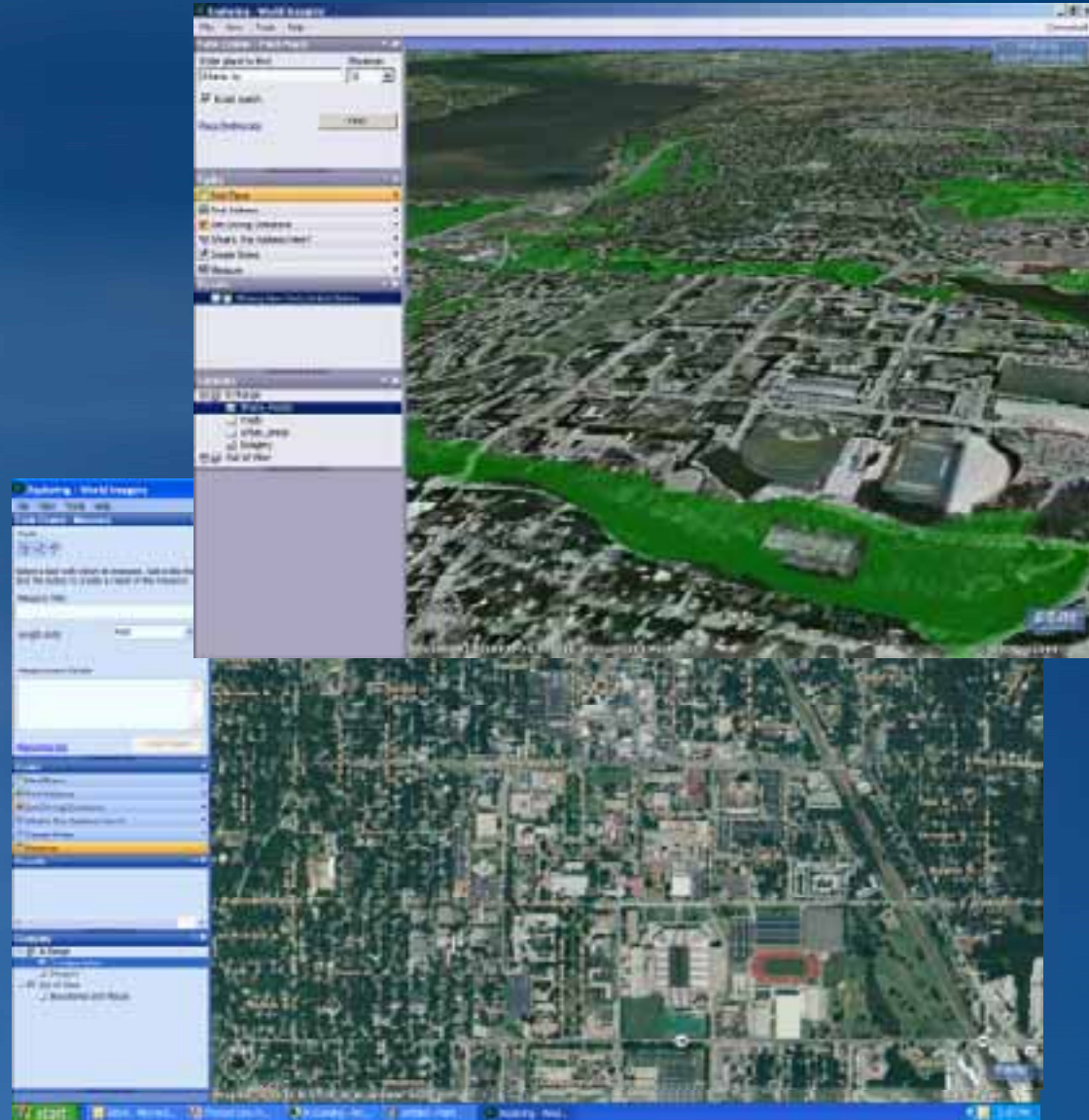


*. . . Creating a New Community of Users*



# What's ArcGIS Explorer?

- It's a free, easy to use program available for download. It brings GIS to everyone!
- Spread access to geodatabases and enable corporate geoprocessing tasks
- ArcGIS Explorer can use maps/tasks served by ArcGIS Server as well as data stored locally.



# GIS Content Is an Integral Part of ArcGIS

*Now Delivered as Online Services*



*Providing Consistent & Accurate Basemaps, Imagery & Data . . .  
. . . Helping GIS Professionals be Immediately Productive*

# ArcGIS for AutoCAD

## Bringing GIS into CAD

- Free Download
- Allows ArcGIS Server Services to be used inside AutoCAD
- Provides tools to better attribute CAD drawings for exchange with GIS

# Solutions

## Focused GIS tools, workflows, and data

- Data, Map, Chart Production
- Transportation Logistics
- Business Analytics
- Business Geo demographic Data



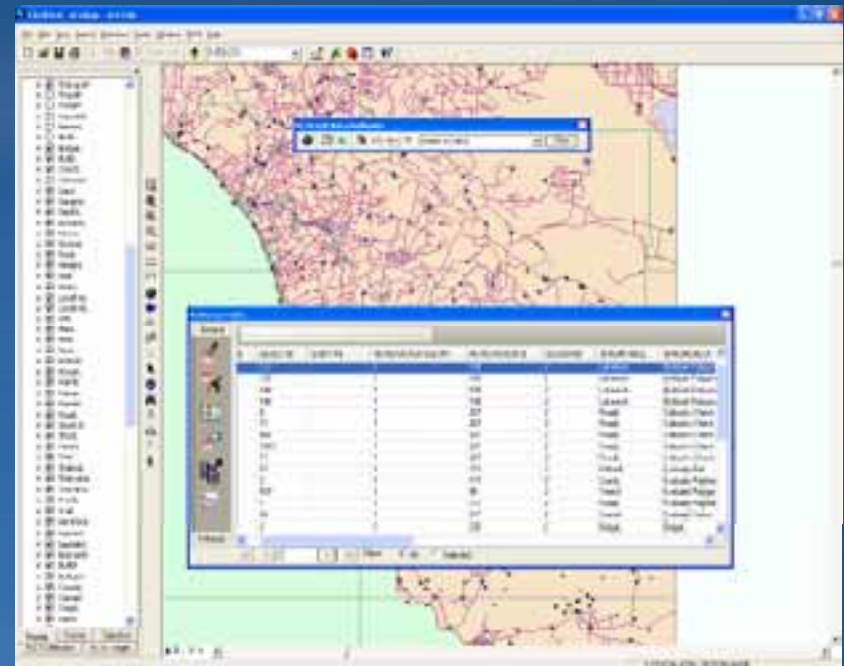
# **Solution: Data and Map/Chart Production**

## **Standardizing the processes and workflows**

- **Workflows**
- **Tools**
- **Data Models**
- **Focused areas**
  - **Production Mapping**
  - **Defense Products**
  - **Nautical Products**
  - **Aeronautical Products**
  - **Workflow Management**
  - **Data Review/Validation**

# ArcGIS Data ReViewer

- Performs QA/QC checks on data.
- Tools for finding errors
  - You can check data yourself and document anomalies
  - You can set the GIS Data ReViewer to check for errors
- Tools for fixing errors
- Tools for verifying error fixes



# Workflow Manager

## *Solution for managing enterprise geospatial workflows*

- Work management system
- Integrated with your GIS
- Applications for publishing your business processes
- Work Management and Tracking
  - Task tracking
  - Role management
- Workflow Management
- Geodata Management
  - Version and Data Access Controls
  - ArcGIS Integration
- Desktop and Server



# ArcGIS Server Geoportal extension

- Enable discovery and use of geospatial resources
- Provide a single-point of access to resources in a Spatial Data Infrastructure





# ArcLogistics

## Providing Logistic Modeling for Fleet Management

- Provides substantial cost savings (20+% on average)
- Manages the routing and timed deliveries and pickup
- Reduces fuel, time, and late arrivals
- Solution extends from the desktop into the vehicle
- Many Areas of application:
  - Small Delivery (Beverage, flowers, furniture, repair...)
  - Inspection (Building, Food, Safety,...)
  - Person Pickup/Drop Off (Rideshare, Special Needs, ...)

# ArcLogistics

## *Reduce Costs While Increasing Productivity*

- Desktop application for route optimization and scheduling
- Reduce costs
  - fuel, vehicle use, and employee overtime
- Increase productivity
  - more stops per driver, on time deliveries, tighter time windows
- Includes high quality U.S. or European street data
- Use your own street data

Display routes, vehicles, orders, and time windows



Create manifests



Transmit routes to navigation devices



# ArcLogistics Navigator

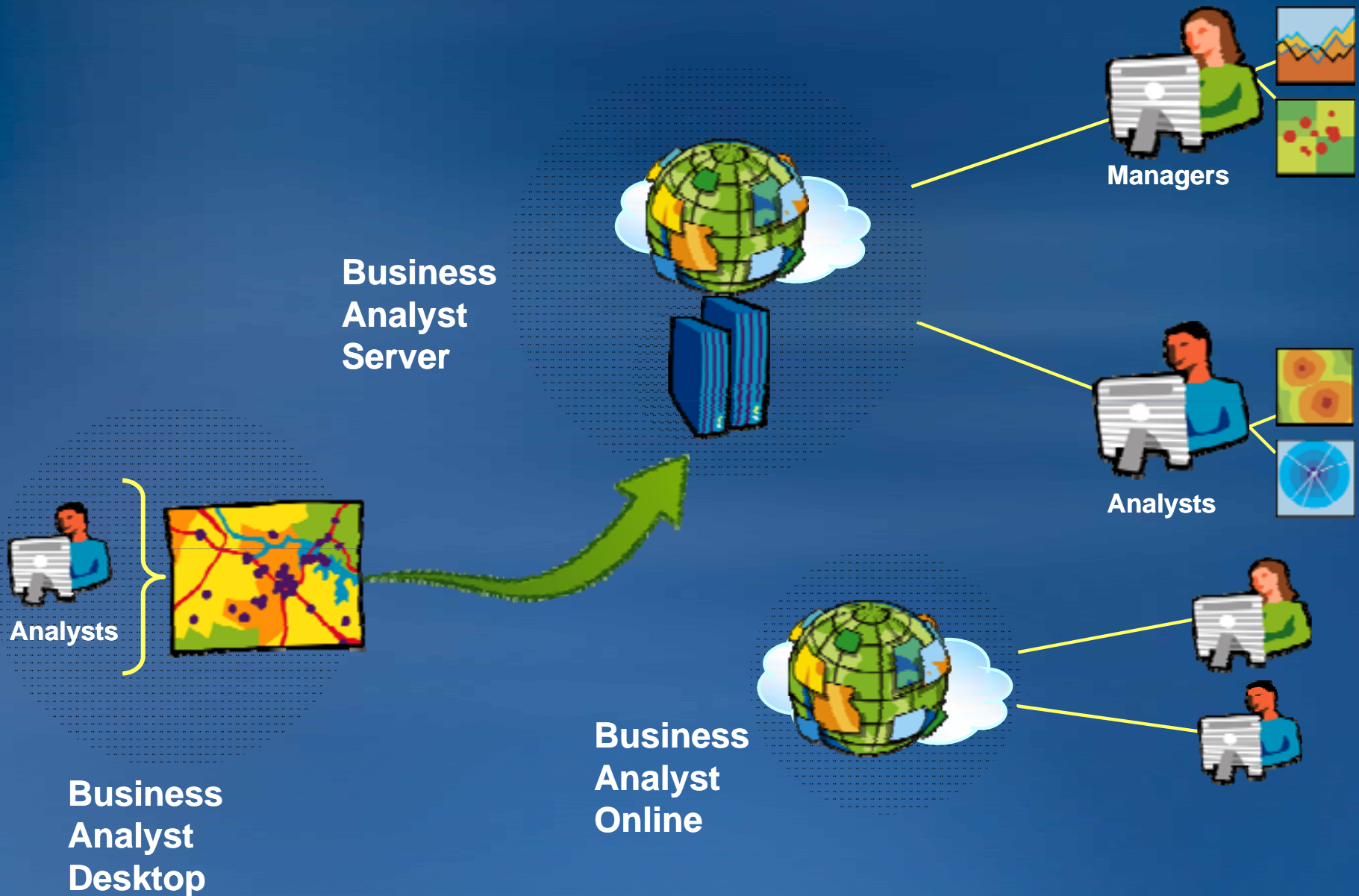
*Reduce Costs While Increasing Productivity and Safety*

- Extending ArcLogistics from the desktop to the dashboard
- Increase safety
  - Audible directions
- Increase efficiency
  - how do I get to my customers?
- Includes high quality U.S. or European street data



# Business Solutions

*For Site Selection & Market Analytics*

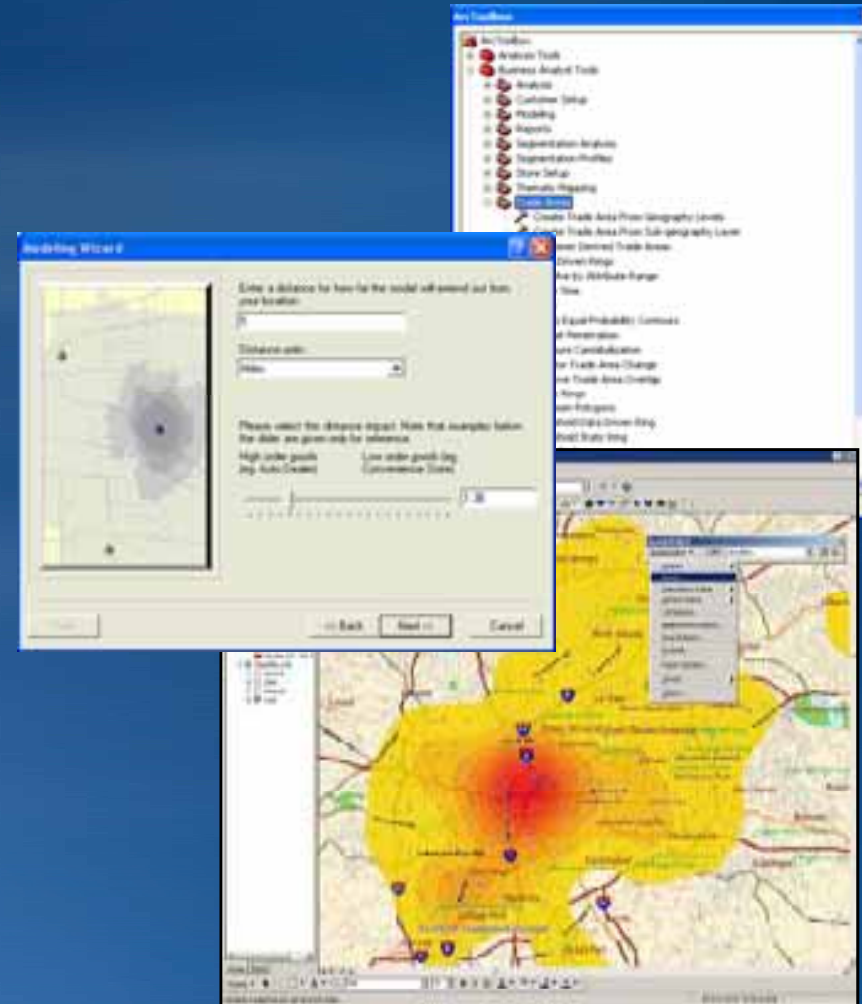


*...enabling better business decisions*



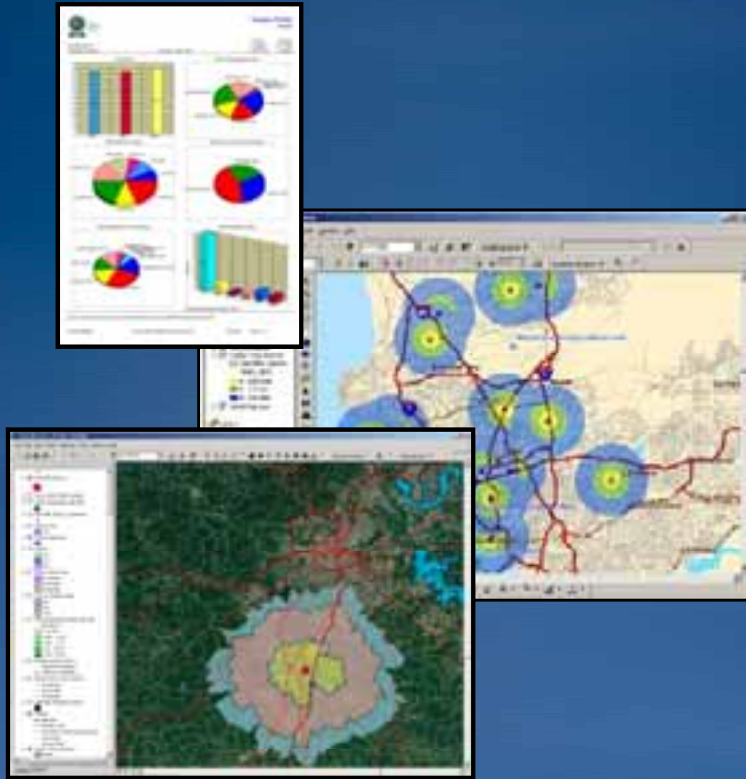
# What is Business Analyst?

- Extension to ArcGIS
- A Complete Business Solution
- Geomarketing Analysis
  - Customers and sites
  - Site Selection
  - Customer Analytics
  - Marketing applications
- Presentation Quality Maps
- Comprehensive Reports



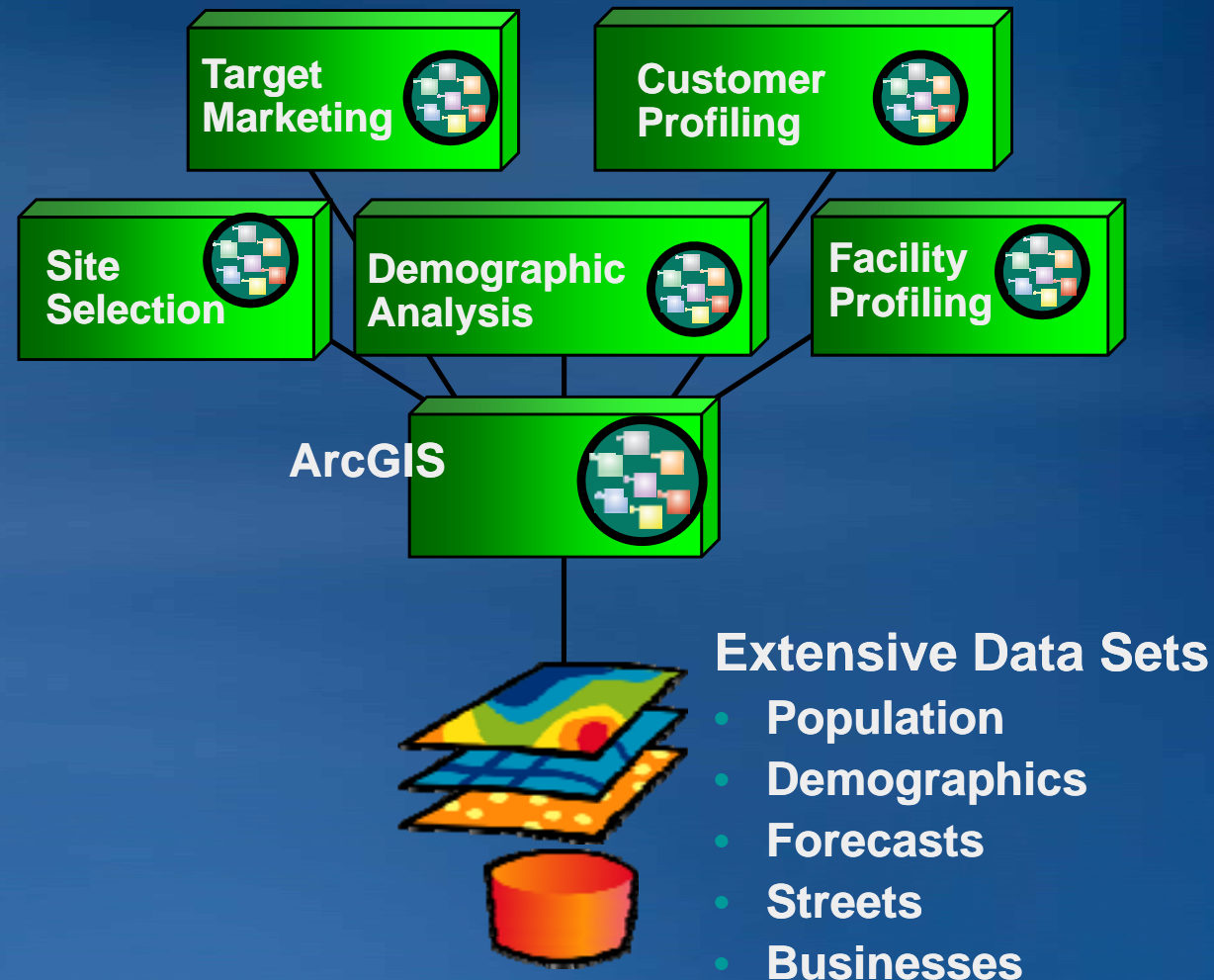
# Business Analyst Desktop

## A Complete Spatial Business Intelligence Solution



- Business Analyst Toolbar
  - Wizard Driven Analyses
- Data Included in Solution
  - Content Organized TOC
- Includes Network Analyst Extension

## ... A Standard Extension of ArcGIS



# ESRI Business Analyst Server

## What is Business Analyst Server

- A solution product for business analysis
  - Connection point for integrating GIS with enterprise business systems and workflows
- Includes base demographic data
- Integrates into any existing IT stack
- Suite of developer tools
  - Visual developer objects
  - SOAP
  - Workflow Framework
- Out-of-the-box web applications



# ESRI Business Analyst Server

## What is Business Analyst Server

- Analysis Center – launch page
- Business Analyst Tools – analysis application
- Fully functioning Workflow Templates
  - Customer analysis – who are my best customers and where can I find more just like them
  - Site evaluation – what is the optimal location for my facility
  - Market planning – which areas should be targeted



# Business Data

*Building a Complete Picture...*

## Customers

- Demographics
- Census
- Segmentation
- Consumer Expenditures

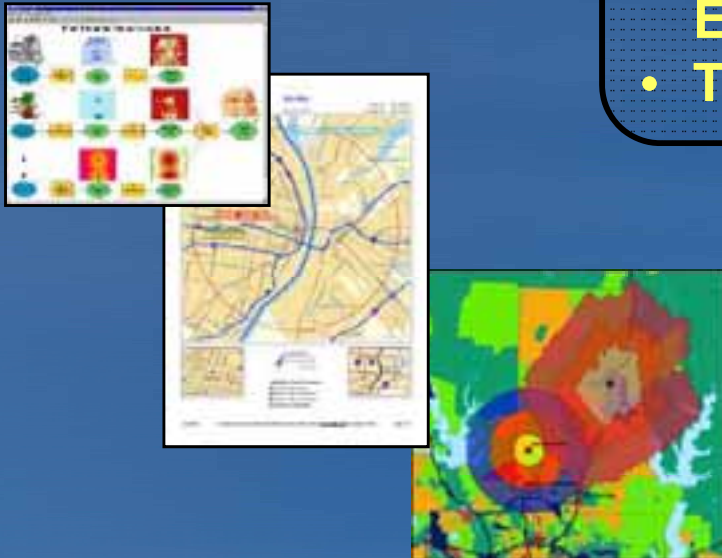
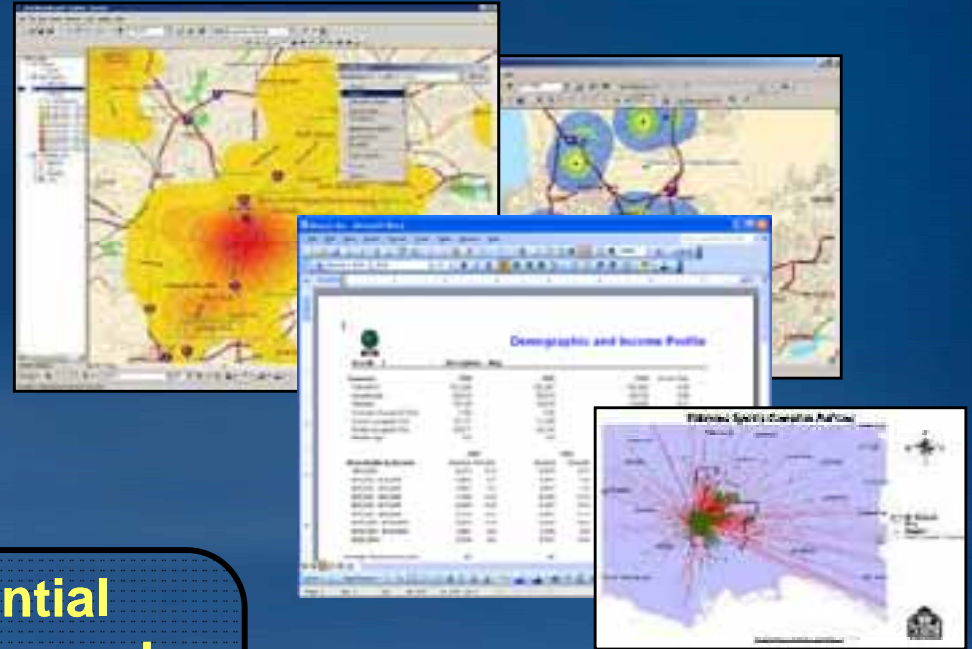
## Markets

- Market Potential
- Supply & Demand
- Consumer Expenditures
- Traffic

## Competition

- Business Listings
- Business Summary
- Major Malls
- Bank Branch

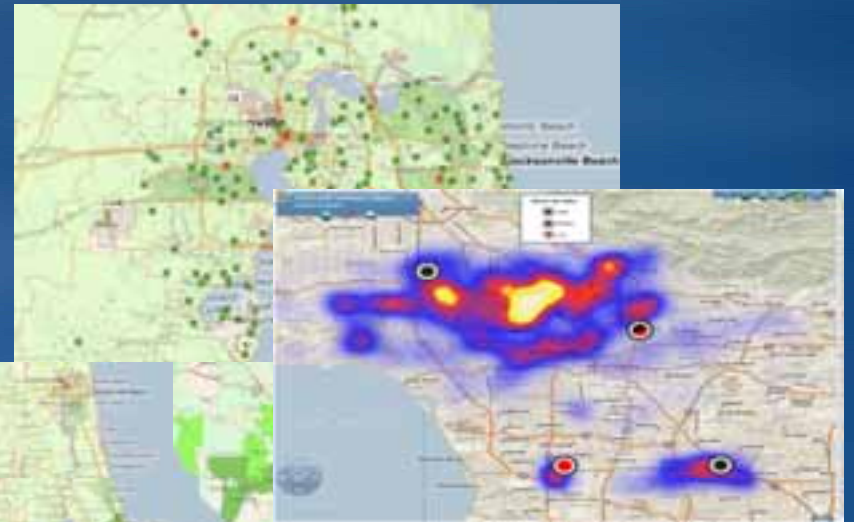
*...of your marketplace*



# ESRI MapIt™

Provides Insight By Letting You:

- Integrate datasets in a visual way
- Functions To:
  - Geocode
  - Thematic Map
  - Drive Time, Aggregate data
- SQL Server Based with Silverlight client
- Leverages Online



**QUIZ Time...**

# Product Scenario #1

- The Sooner Energy Company has 6 GIS analysts and 2 GIS managers. They need to start incorporating 3D analysis and terrains into their work. Right now, everyone keeps their own data on their own computers. The rest of the company (~100 employees) could benefit from the opportunity to view and perform simple spatial analysis.
- What should they do?



# Product Scenario #1 – possible solution

- 2 ArcInfo licenses for GIS managers
- 6 concurrent ArcView licenses for GIS analysts
- Concurrent 3D Analyst extension (how many?)
- ArcGIS Server Standard for Workgroups
  - 10 user connection limit for database
  - Internally accessible web mapping site

## Product Scenario #2

- A medium-sized city would like to implement ArcGIS for their several departments: Planning, Water, DOT, etc...
- They have been using GIS (mostly Workstation) for 20 years and want to look into the newer products.
- Their needs:
  - ~ 20 employees need access to the GIS software for editing, analysis and mapping
  - Reduce redundant data by using a centralized database
  - Dozens of non-GIS employees city-wide would benefit from GIS-related web applications to perform geocoding and routing analyses for tasks such as reading meters and querying city data
  - They'd like the public to be able to view and browse certain datasets online

## Product Scenario #2 Possible solution

- **Desktop mapping, editing, and analysis needs for 20 people**

### ***ArcGIS Desktop***

- ArcEditor or ArcInfo for editing in the central database
- ArcView could be used for basic mapping
- A combination of license levels would be recommended

- A centralized database that everyone can access
  - Multiuser editing, backup, security
- GIS web application for the public to search for city information based on home address (311 system)
- GIS web applications for employees (routing, analysis etc...)

### ***ArcGIS Server***

***(Advanced with Network Extension)***

- A software developer and/or a database administrator would be handy
- Users of the web applications would need just a web browser and little or no GIS experience

## Product Scenario #3:

- **An agency produces a standard set of maps and needs to improve their efficiency and repetitiveness of their workflow**



## Product Scenario #3: Possible Solution

- **An agency produces a standard set of maps and needs to improve their efficiency and repetitiveness of their workflow**
- **Look into using PLTS to automate the production and JTX to manage the workflows.**

# ESRI Products...

# Arc<Insert Name Here>

- 
- ArcInfo
  - ArcEditor
  - ArcView
  - ArcReader
  - ArcGIS Explorer
  - ArcGIS Engine
  - EDN
  - ArcGIS Spatial Analyst
  - ArcGIS 3D Analyst
  - ArcGIS Image Server
  - ArcGIS Data Interoperability
  - ArcGIS Desktop
  - ArcGIS Maplex for Labeling
  - ArcScan for Digitization Extension
  - Geodatabase Administration Extension
  - ArcGIS Server Advanced Enterprise

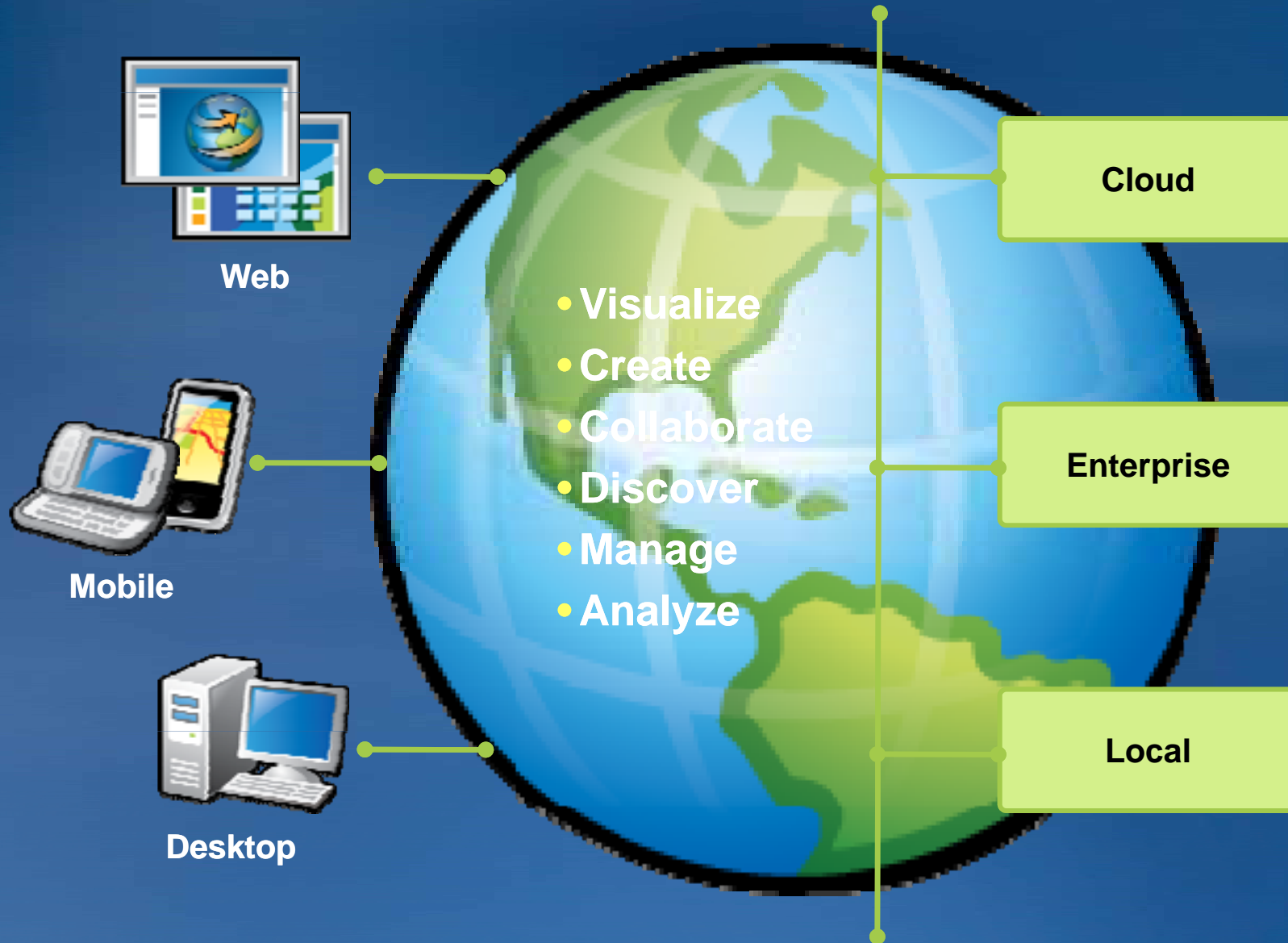
# Arc what?

- Job Tracking extension
- Data Reviewer
- MPS Atlas
- Business Analyst
- Arc Logistics

- 
- # What?
- Job Tracking extension
  - Data Reviewer
  - MPS Atlas
  - Business Analyst
  - ArcLogistics
  - ArcLogistics Navigator
  - ArcGIS Online

# ArcGIS

*A Simple & Pervasive System for Using Maps & Geographic Information*





Questions?

Thank you for your time today...