GIS

The Geographic Approach for the Nation

ESRI Federal User Conference

Washington, D.C. • February 17–19, 2010

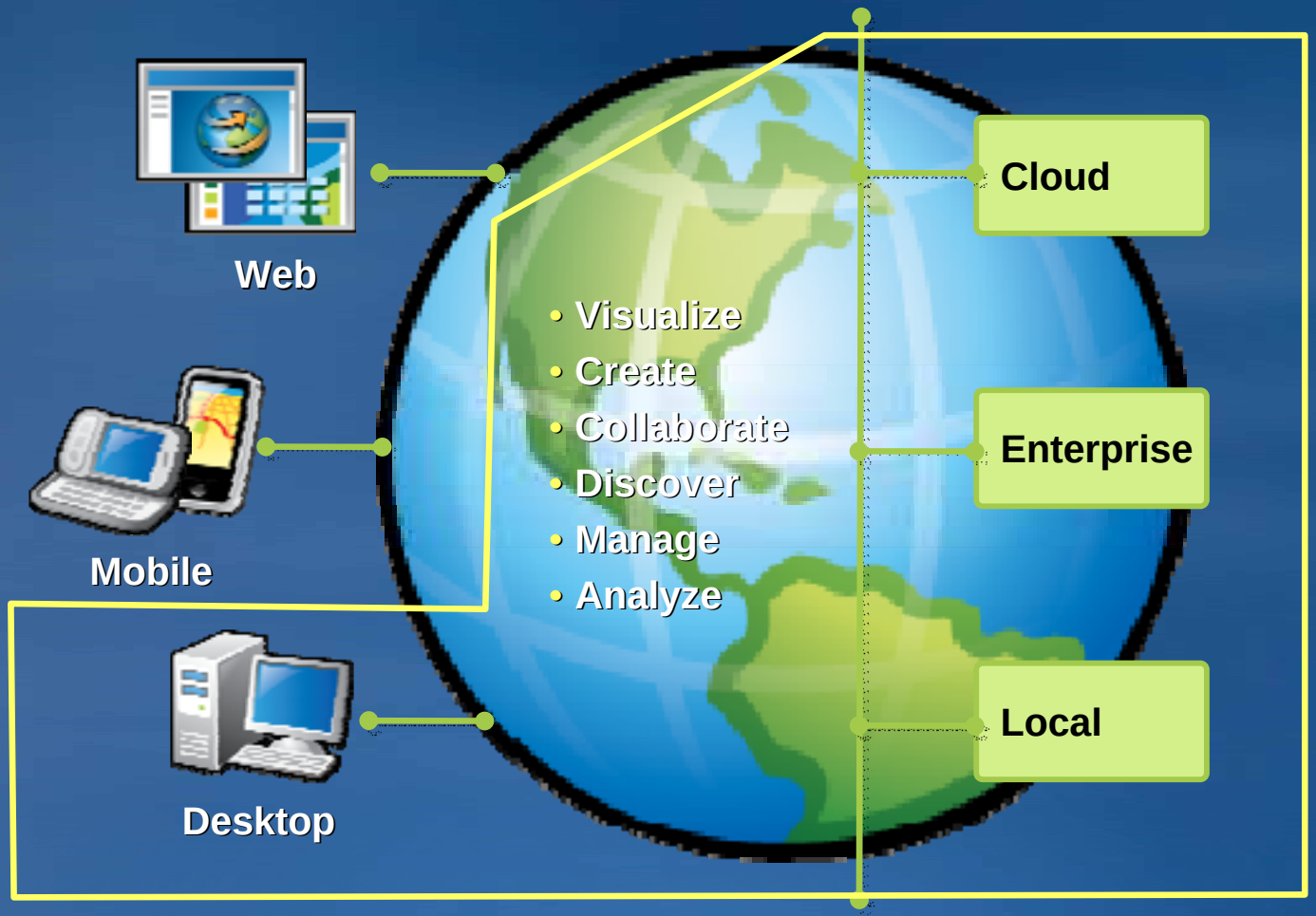
What's Coming in ArcGIS 10 Desktop

David Watkins
dwatkins@esri.com
Charmel Menzel
cmenzel@esri.com

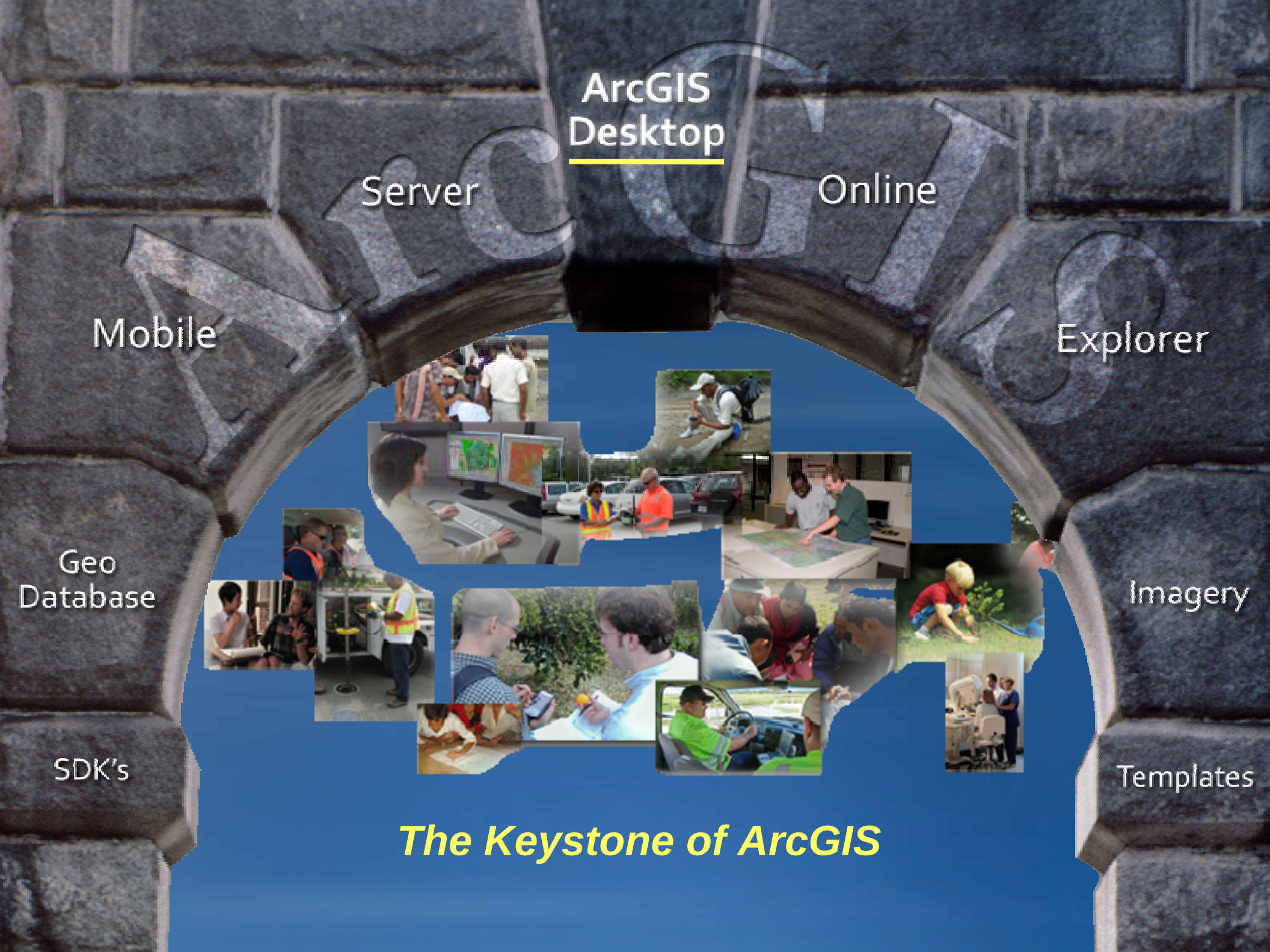
ArcGIS 10

A Simple & Pervasive System for Using Maps & Geographic Information

Easier, More Powerful & Everywhere



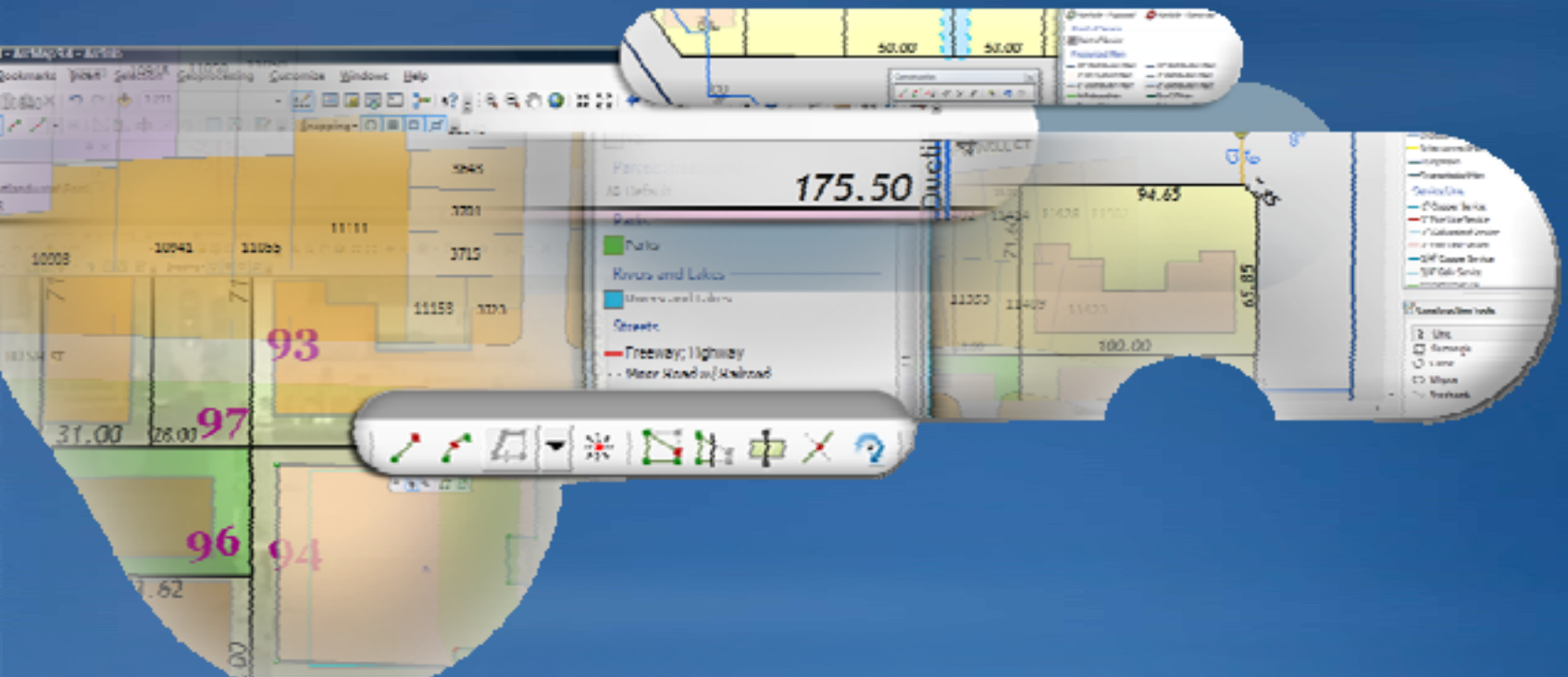
Making GIS Available to Everyone


ArcGIS
Desktop
Server
Online
Mobile
Explorer
Geo
Database
Imagery
SDK's
Templates
The Keystone of ArcGIS

The Keystone
ArcGIS
Desktop
10
Get your work done faster
Save time on map production
Easier to manage and create data
Better Analysis and Modeling
New ways to share

Greater Efficiency & Productivity Demonstration

Charmel Menzel



ArcGIS 10 Schedule

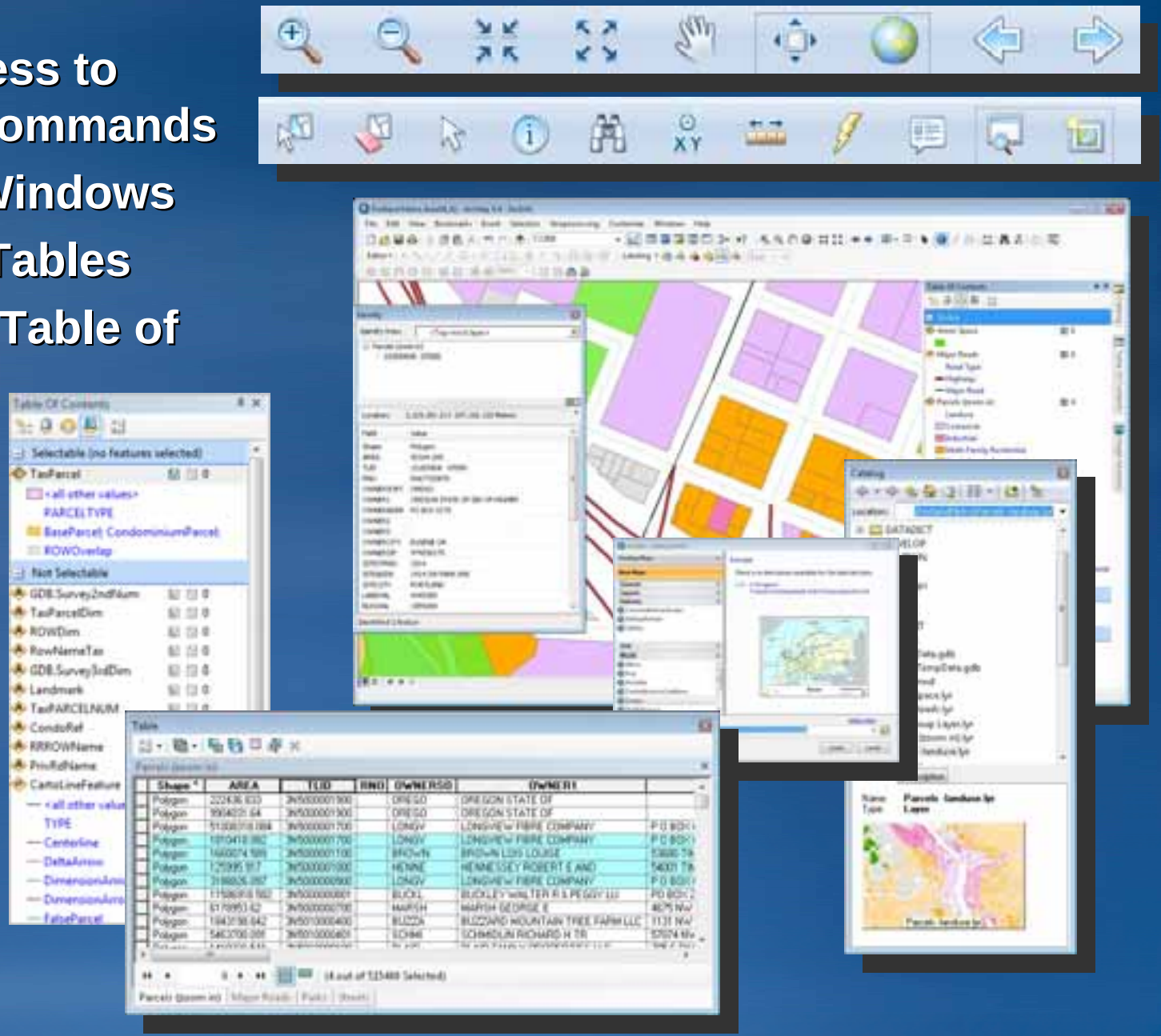
- Beta 1 Available October 2009
- Beta 2 January 2010
  (Jan 28th for beta download)
- Pre-Release March 2010
- Final Release June/July 2010

Major Release for Professional GIS

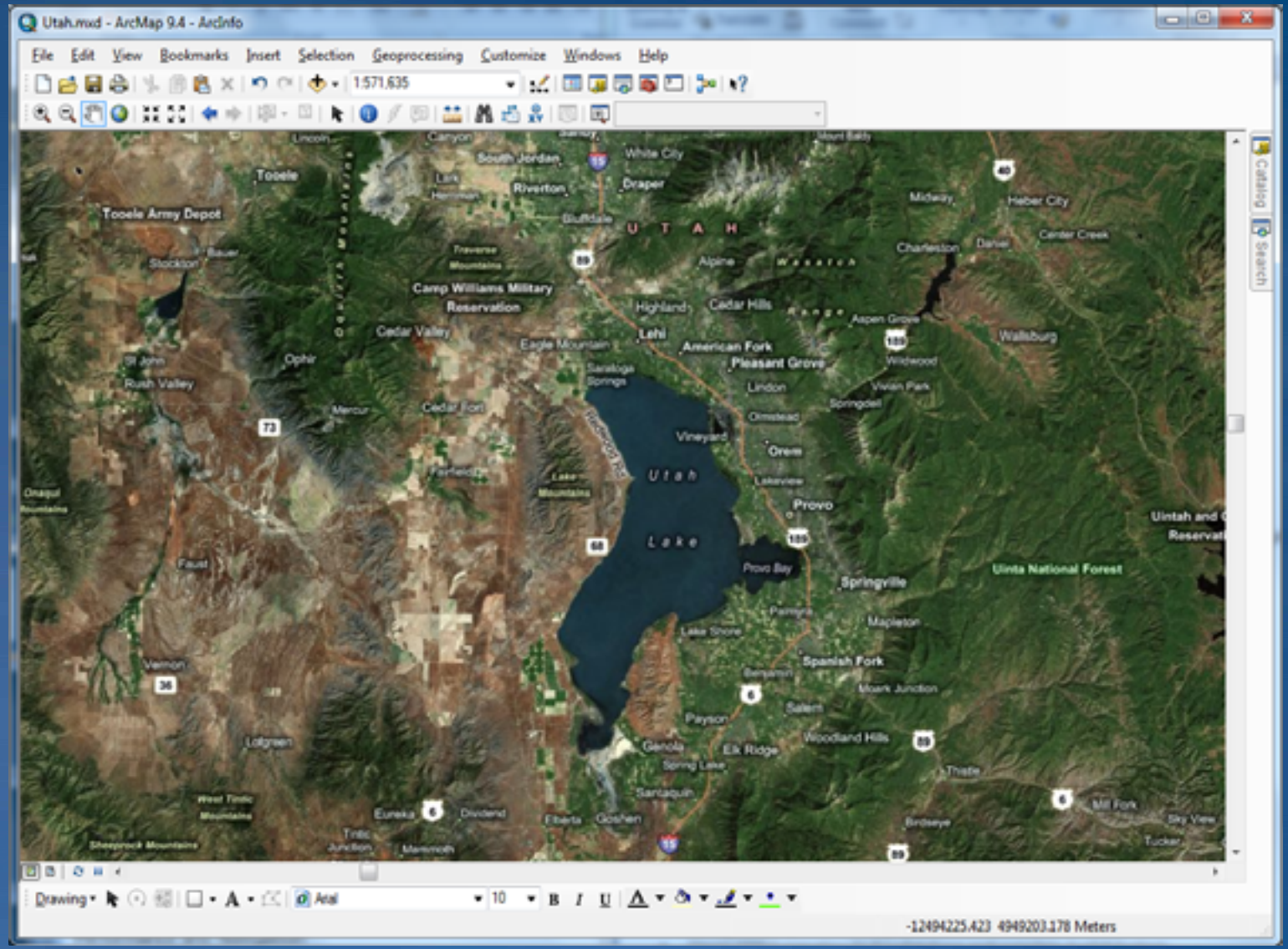
- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

Updated User Interface

- Quick access to common commands
- Dynamic Windows
- Dockable Tables
- Enhanced Table of Contents



Being more productive

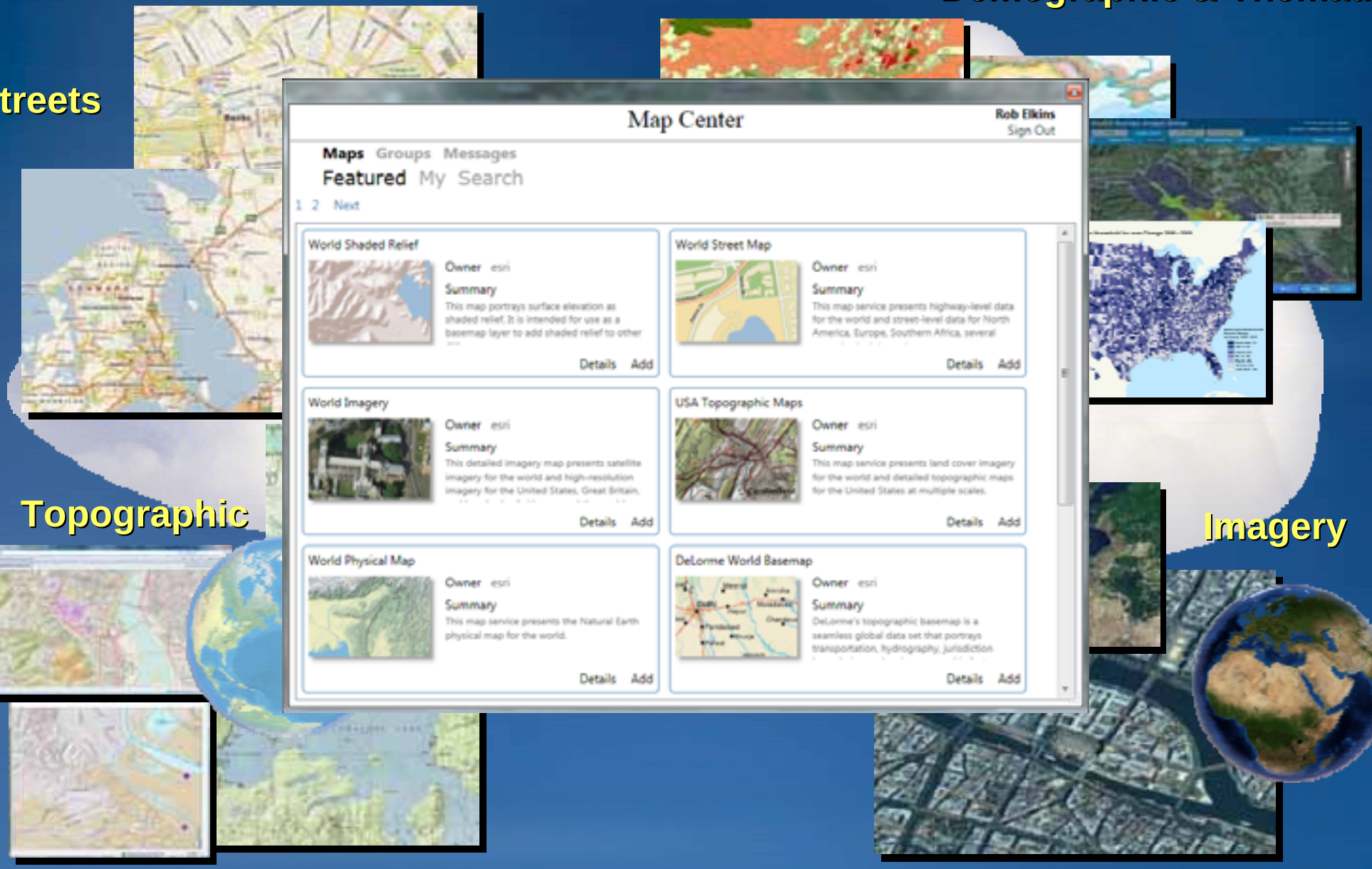


It’s all about the Map

Get Started Immediately with Ready-to-Use Maps

Demographic & Thematic

Streets



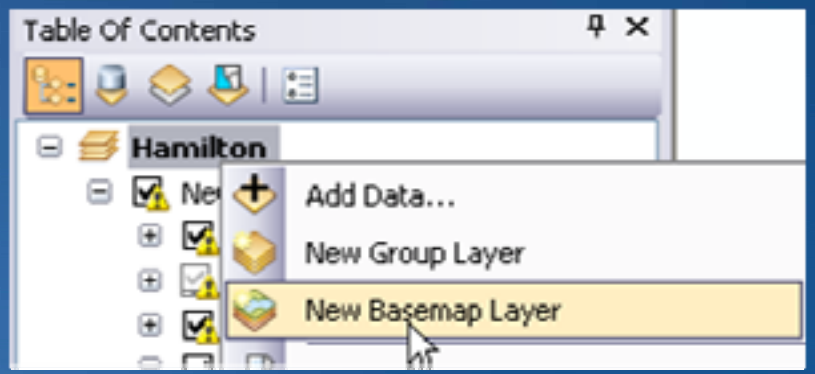
Topographic

Imagery

Better Display

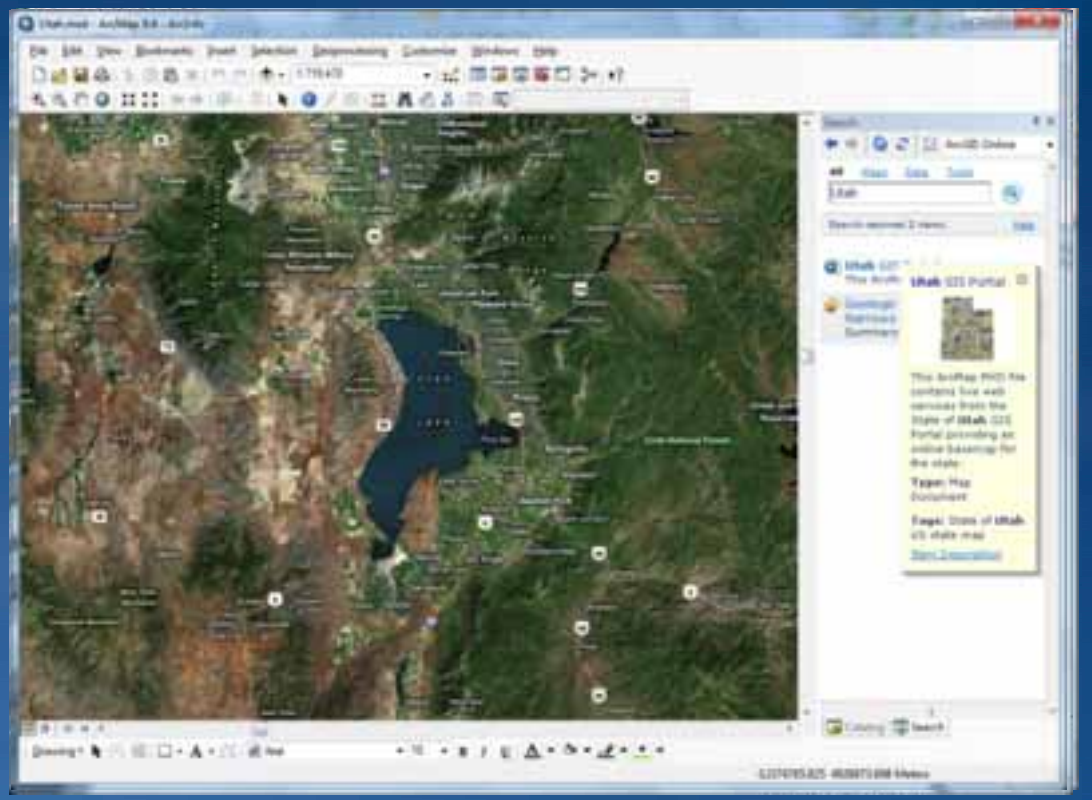
- Fast Display
  - New group layer called Basemap
  - Draws continuously during navigation
  - Uses high performance drawing engine

- Easy to create
  - Drag and drop or copy and paste
  - A data frame can have more than one basemap
  - At any position in the table of contents



Quick Access and Search

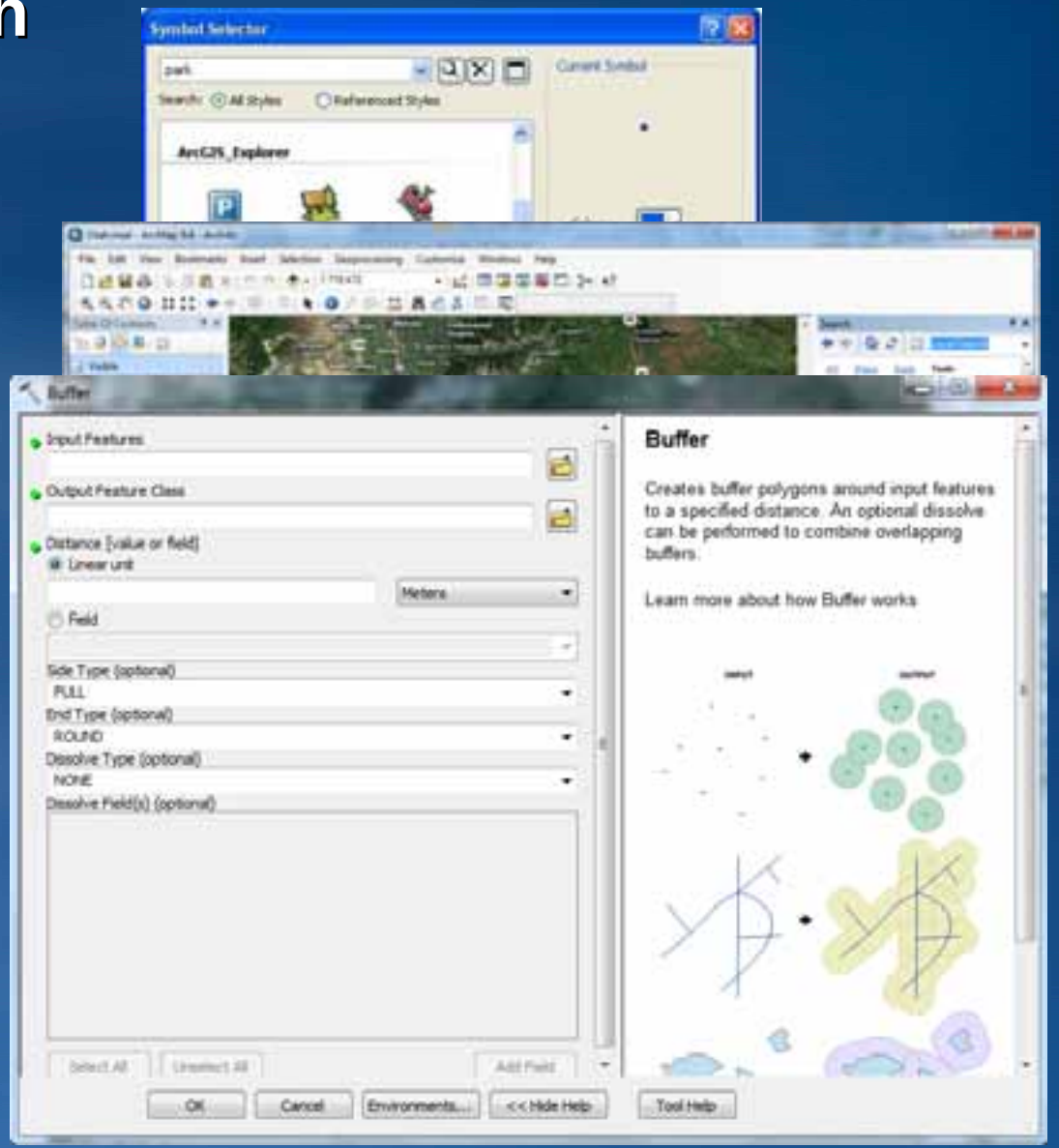
- **Catalog in ArcMap**
  - Data Management
  - Project Organization
- **Search**
  - Data, Layers, Maps
  - Quick Preview
  - Drag and Drop results



Local, Enterprise and Online Search

Quick and Easy Search

- **Find Symbols**
  - Filters
  - Symbol names and tags
  - Common search strings
- **Find Tools**
  - Auto complete
  - Preview Tool
  - Execute

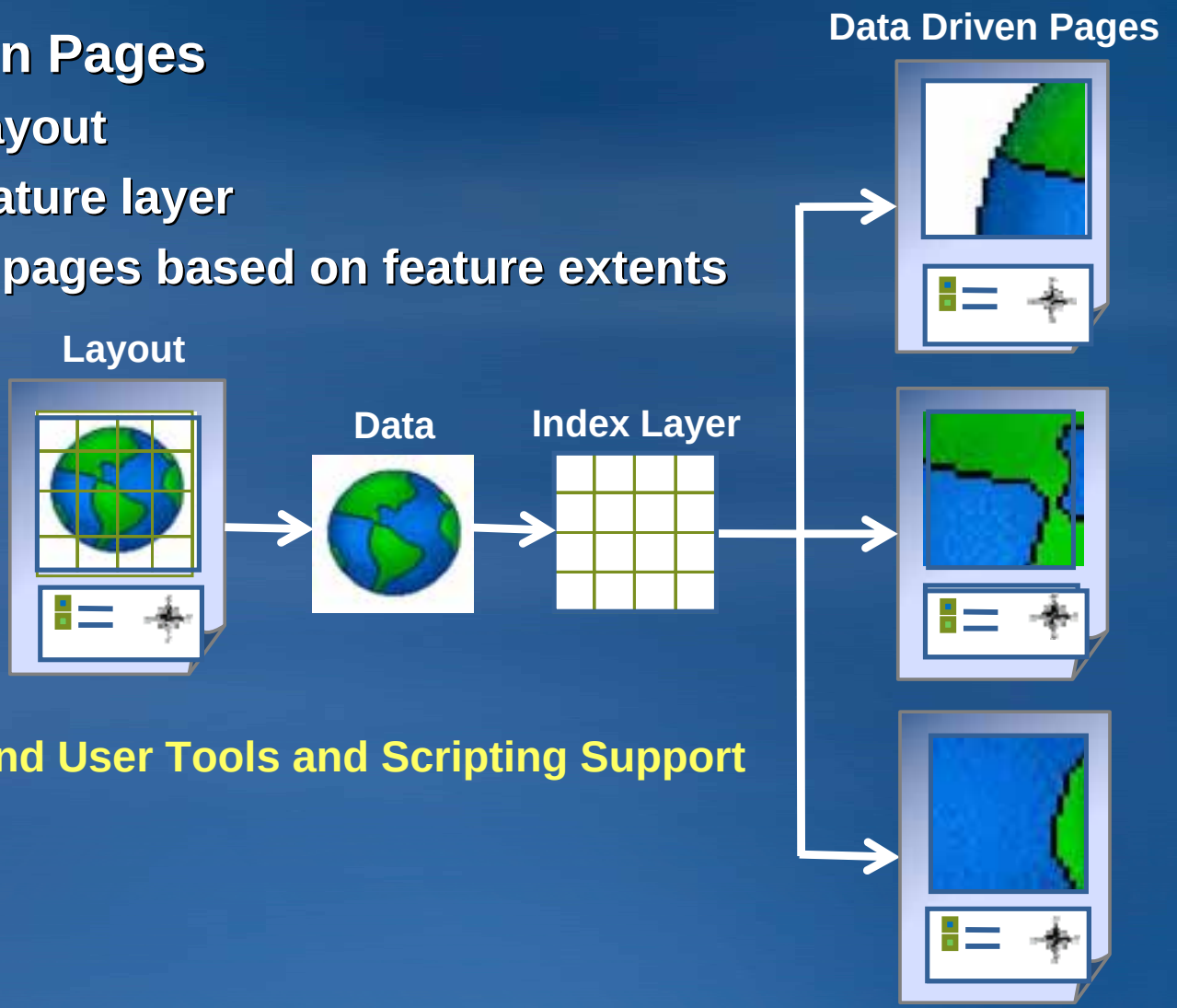


Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

Create Map Books and Atlases

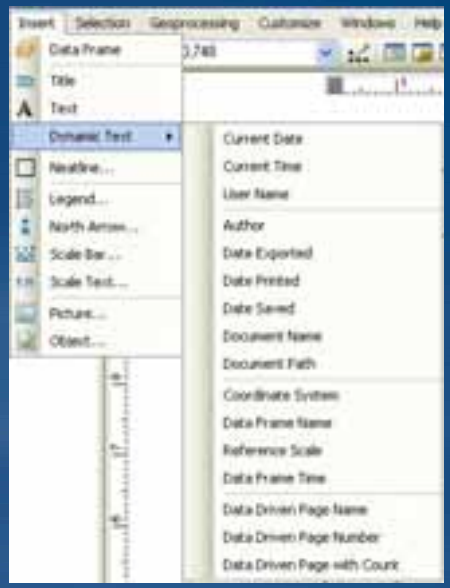
- Part of ArGIS
- Data Driven Pages
  - Single layout
  - Index feature layer
  - Multiple pages based on feature extents

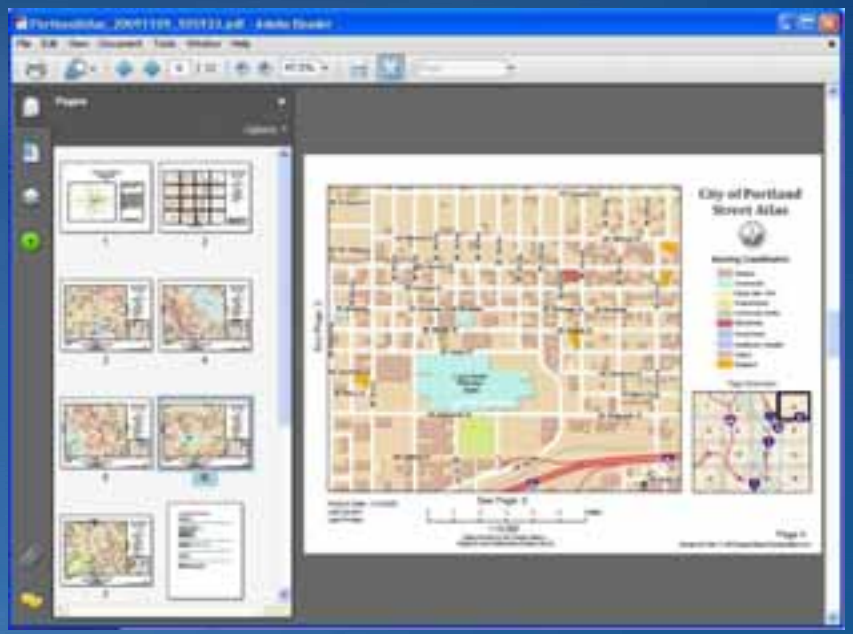


End User Tools and Scripting Support

Create Map Books and Atlases

- Dynamic Text
- Dynamic Locator Maps
  - New extent options
  - Extent Indicators
- Highlight pages
  - Exclude layers in Clip to shape
- Multi-page PDF export

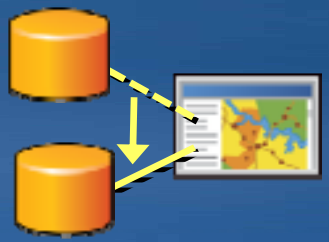




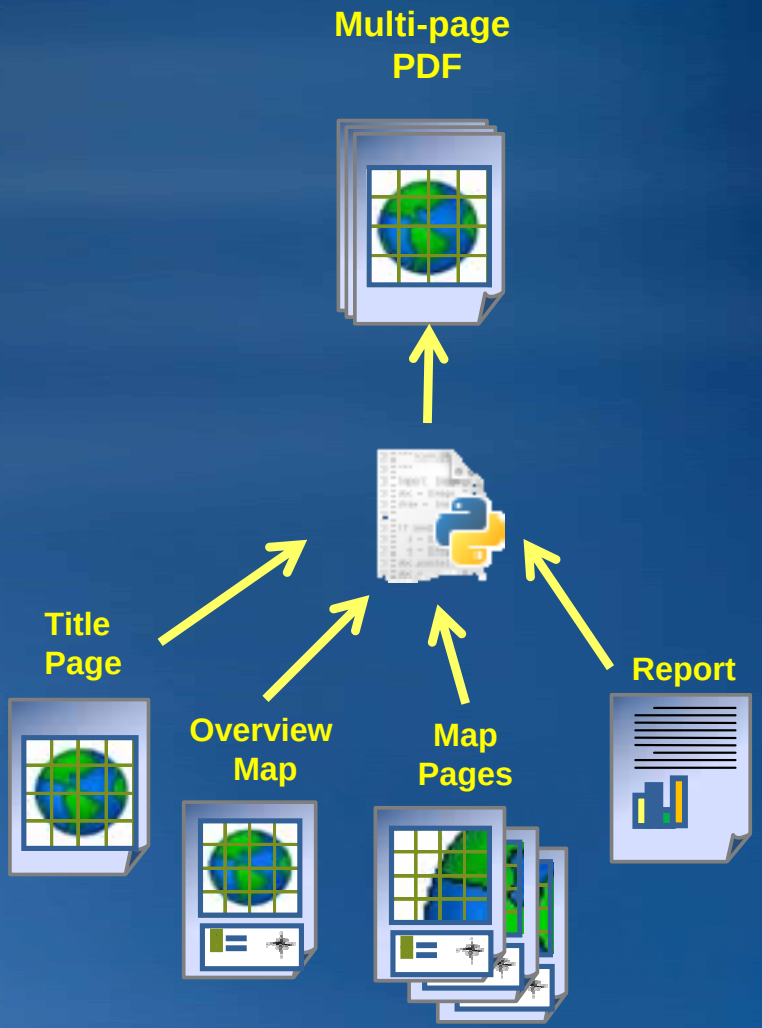
Automate Mapping Workflows

- Simple Python scripting (arcpy.mapping)
- Manage large numbers of map, layers and datasets
- Save time doing repeatable task
- Expose as a Geoprocessing Services

Updating Symbology



Changing Data Source



Map Automation Demonstration

Author High Quality Maps

- ArcMap makes great maps for print and the web
  - Improvements in Labeling, Representations and Templates
- New Tools for generating multi-scale maps
  - Focus on transportation and buildings
  - Reduce complexity and resolve conflicts

1:4k

1:9k

1:18k

Cartographic Generalization

Reduce Feature Count

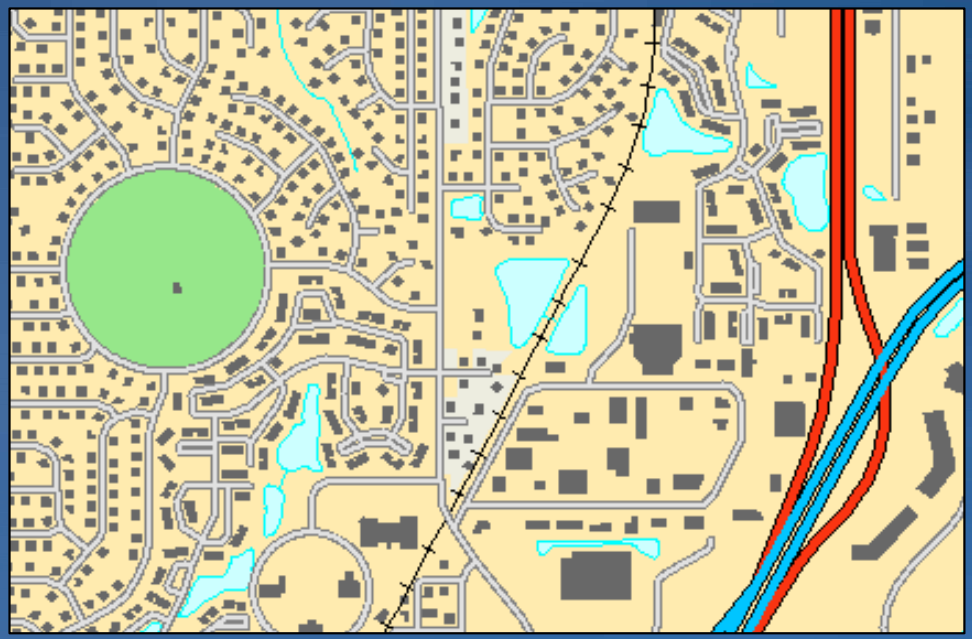
- Thin Road Network

Reduce Complexity

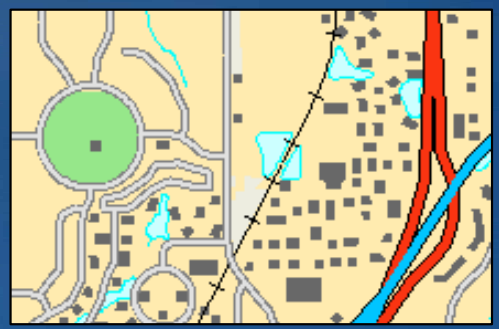
- Merge Divided Roads

Resolve Conflicts

- Resolve Road Conflicts
- Propagate Displacement
- Resolve Building Conflicts



1:9 000



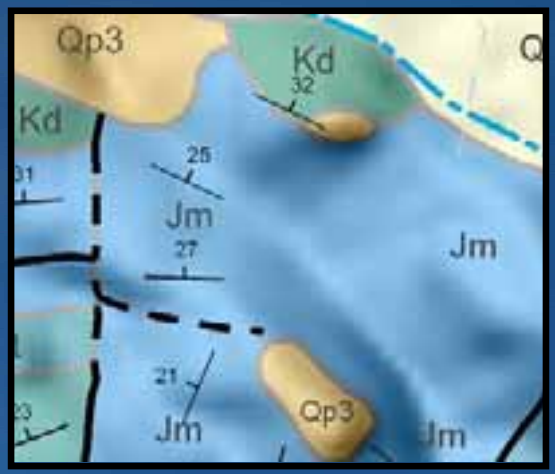
1:18 000

Maplex Labeling Enhancements

- Retain label properties when opening a map without Maplex
- Maplex labels draw in optimized map services

Single Sided Boundaries

Overflow Polygon Holes

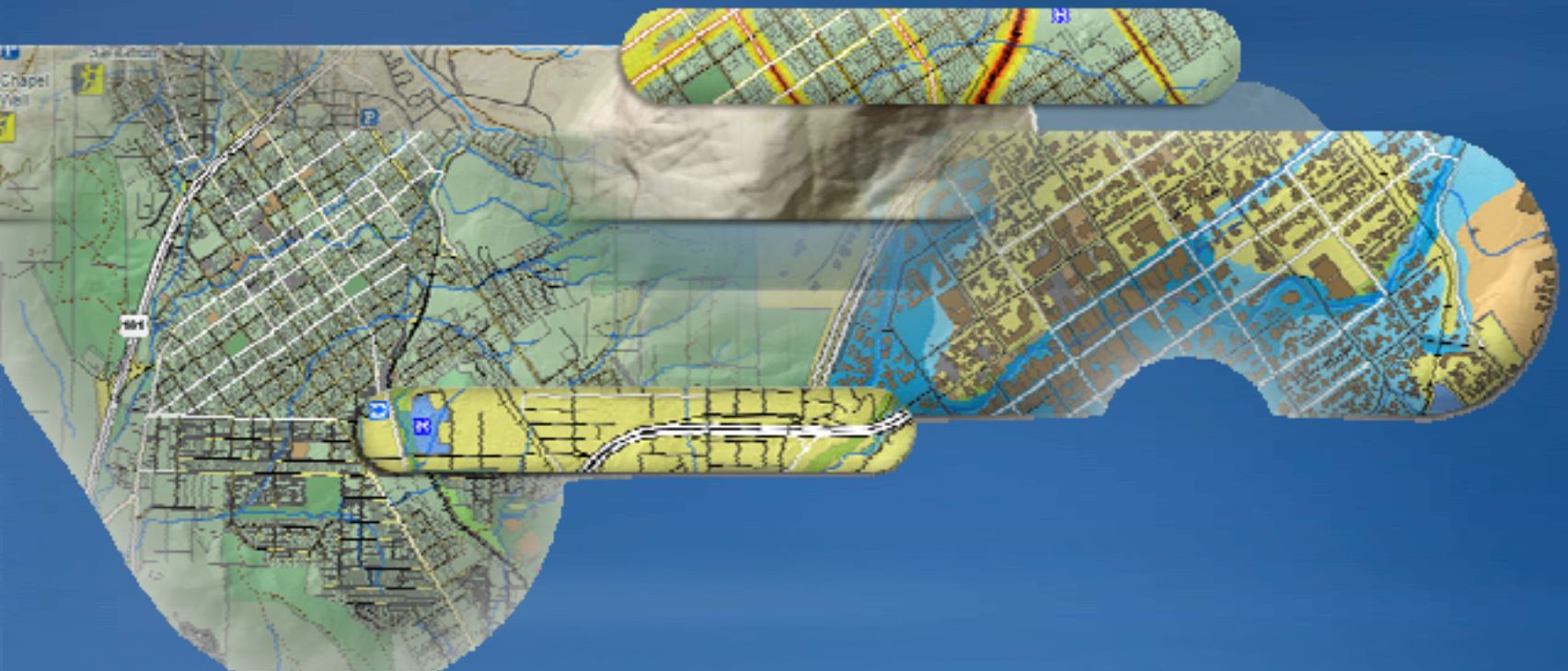


Repeat Polygon Labels

Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- New ways to share
- Easy customization and deployment
- ArcGIS community

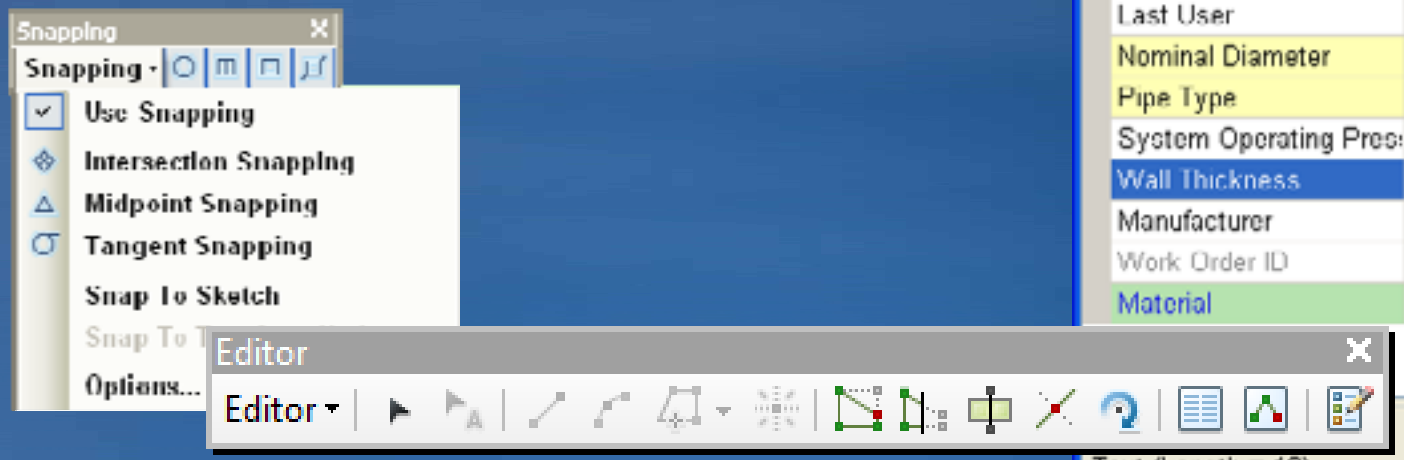
Simple & Streamlined Editing Demonstration

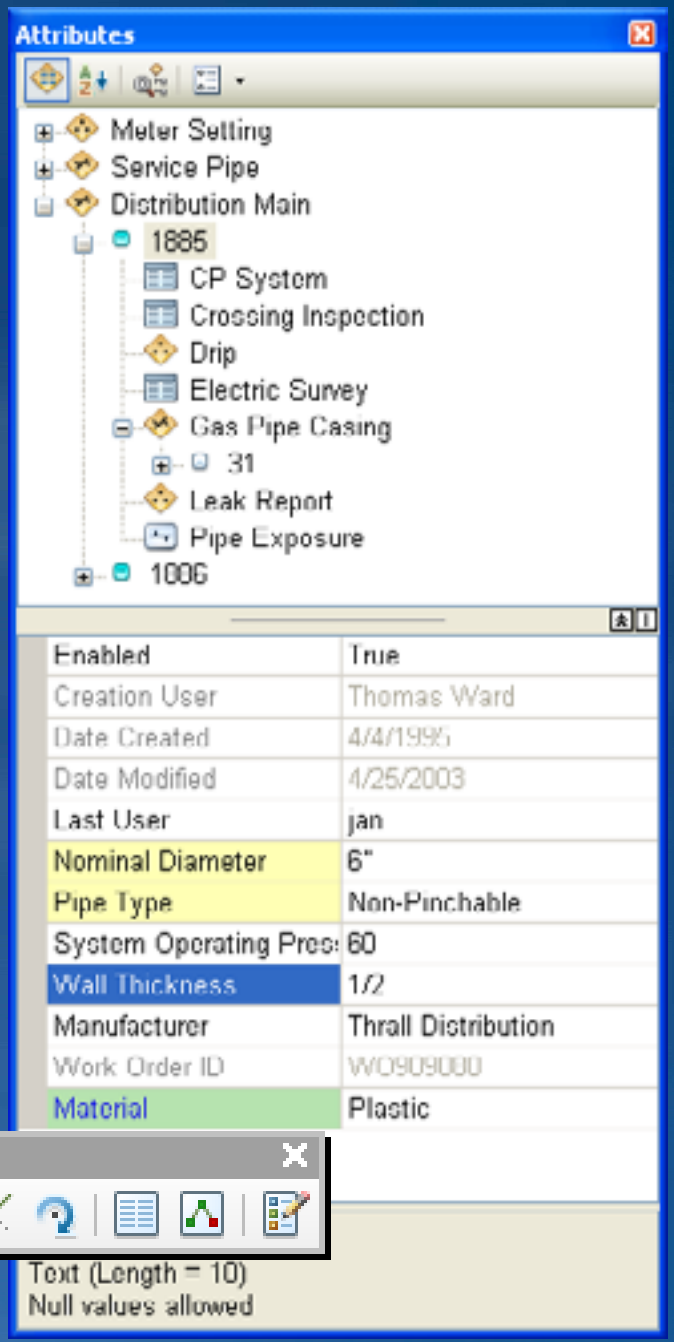


Editing Experience

A Simple & More Intuitive Approach

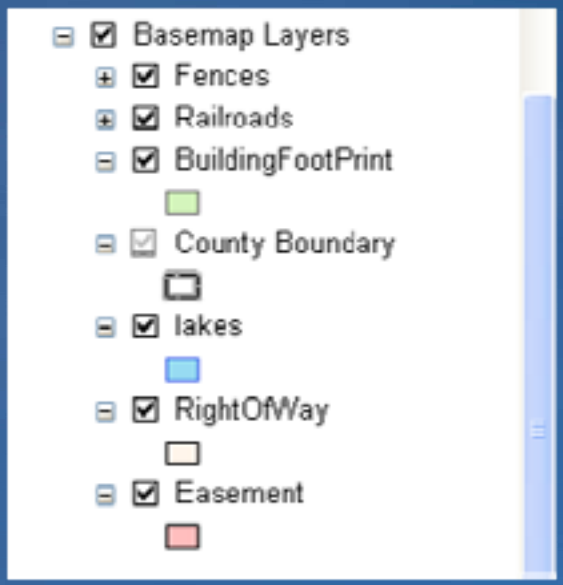
- Layer-based editing
- Efficient feature construction
- Simple dataset creation (Packing)
- Simplified snapping environment
- Productivity improvements
- Improved attribute management

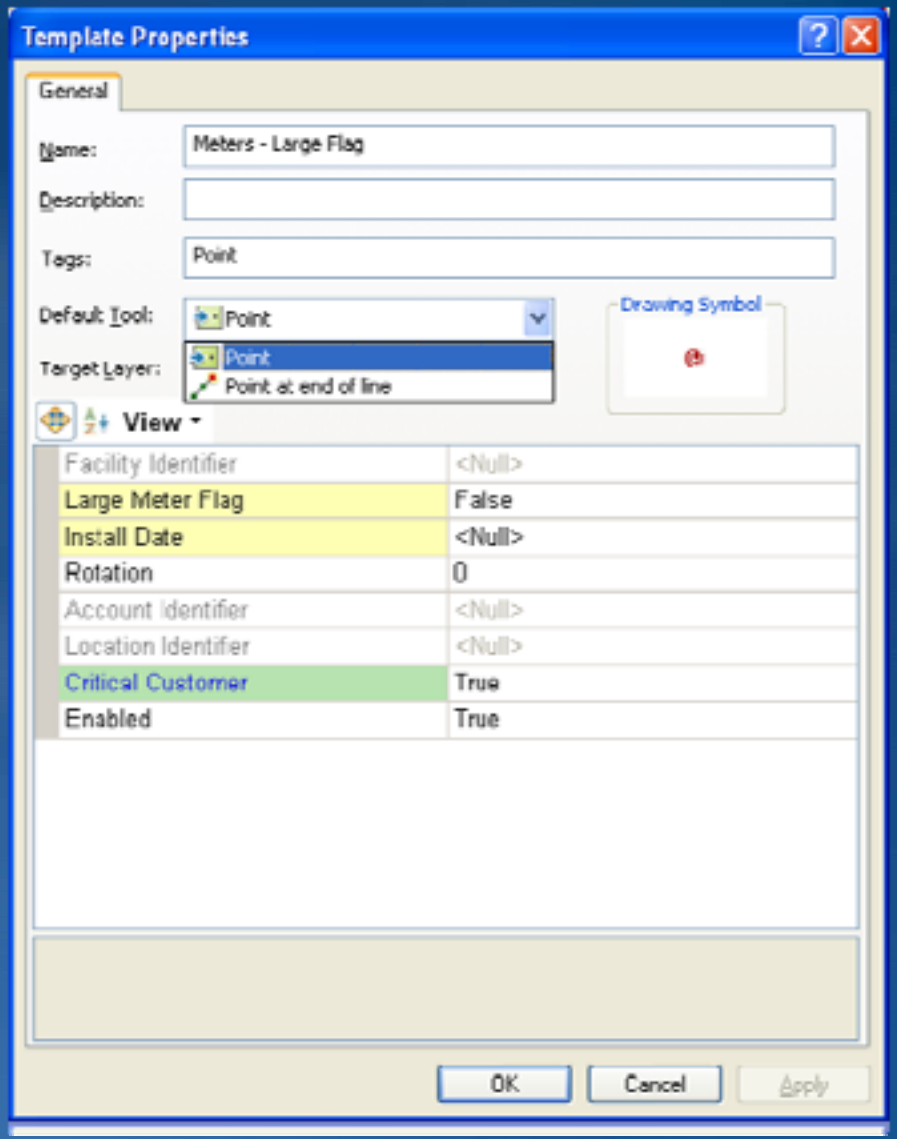




Authoring Maps for Editing

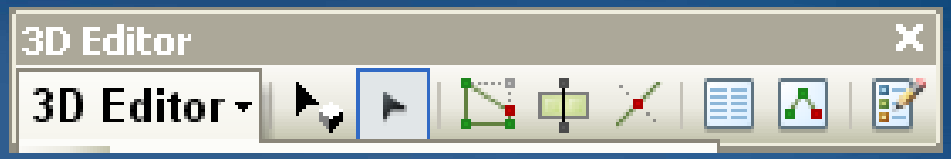
- Author map layers
  - Basemaps
  - Set Field properties
- Author feature templates

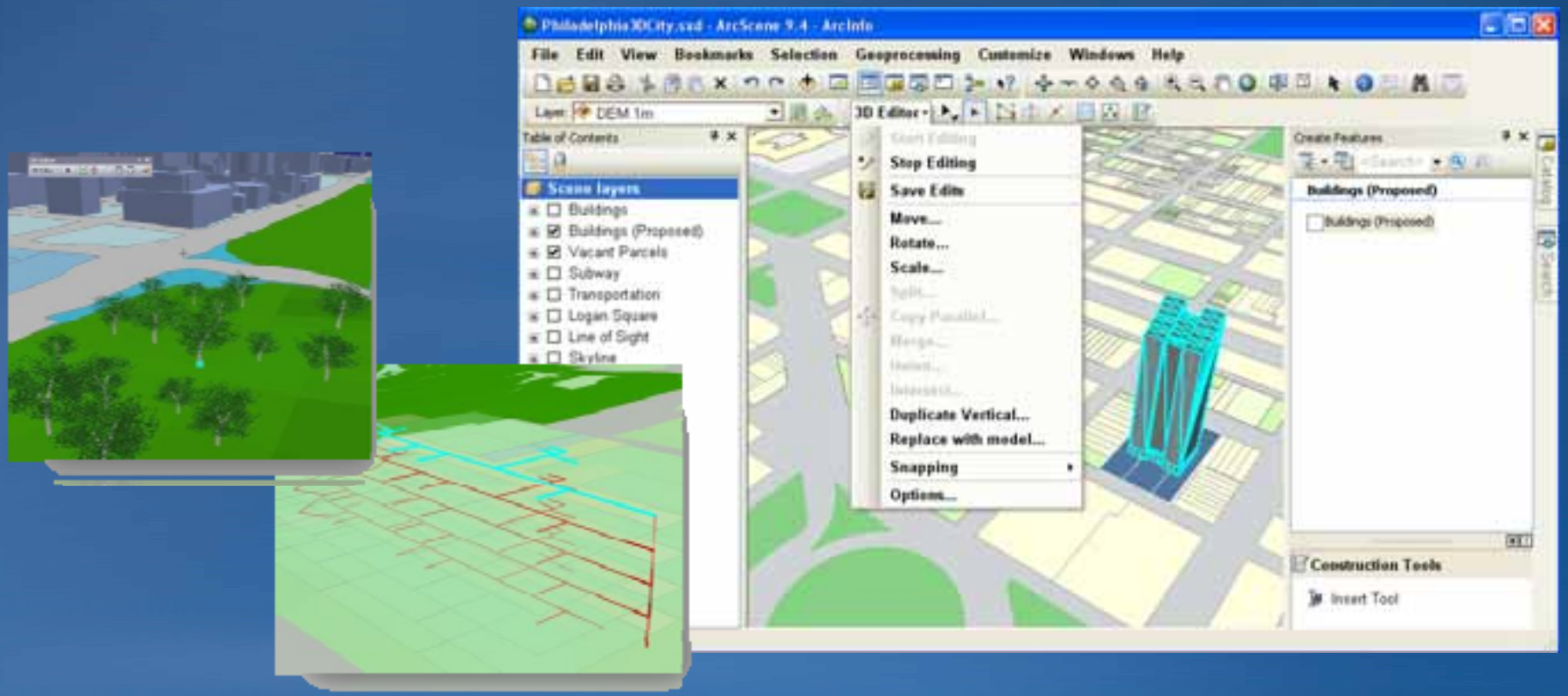




Editing in 3D

- Same editing experience as with 2D features
  - Define what you want to add
  - Efficient attribute update
- 3D-specific tools
  - Model placement
  - Vertical line support





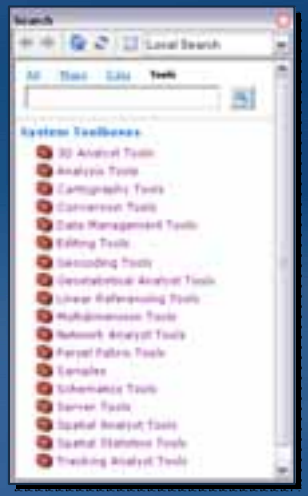
Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

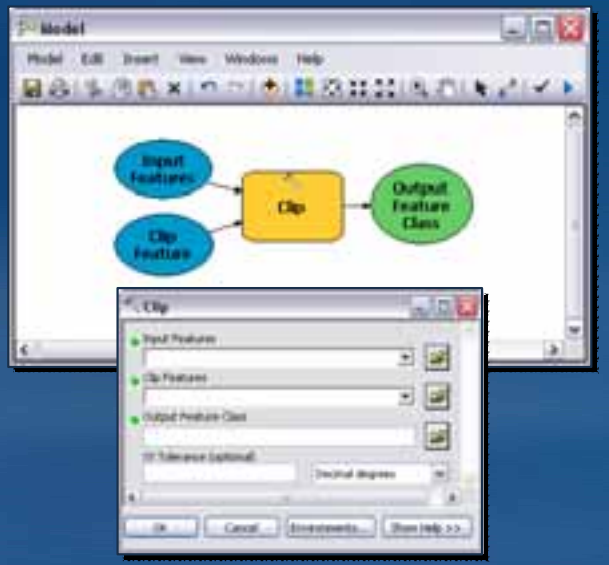
Geoprocessing Framework

Commonly Used Tools and Options

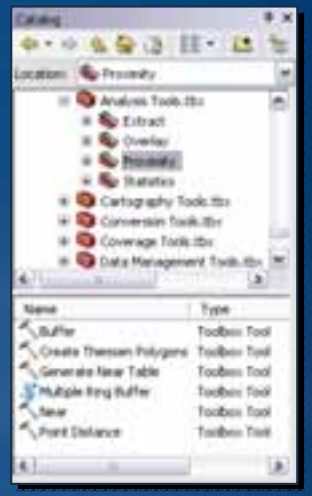
Finding Tools and Data



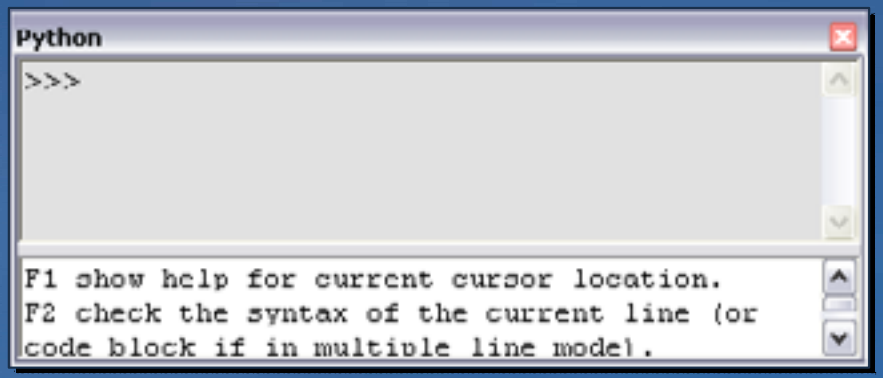
Using and Building Tools



Organizing Tools and Data



Scripting with Python



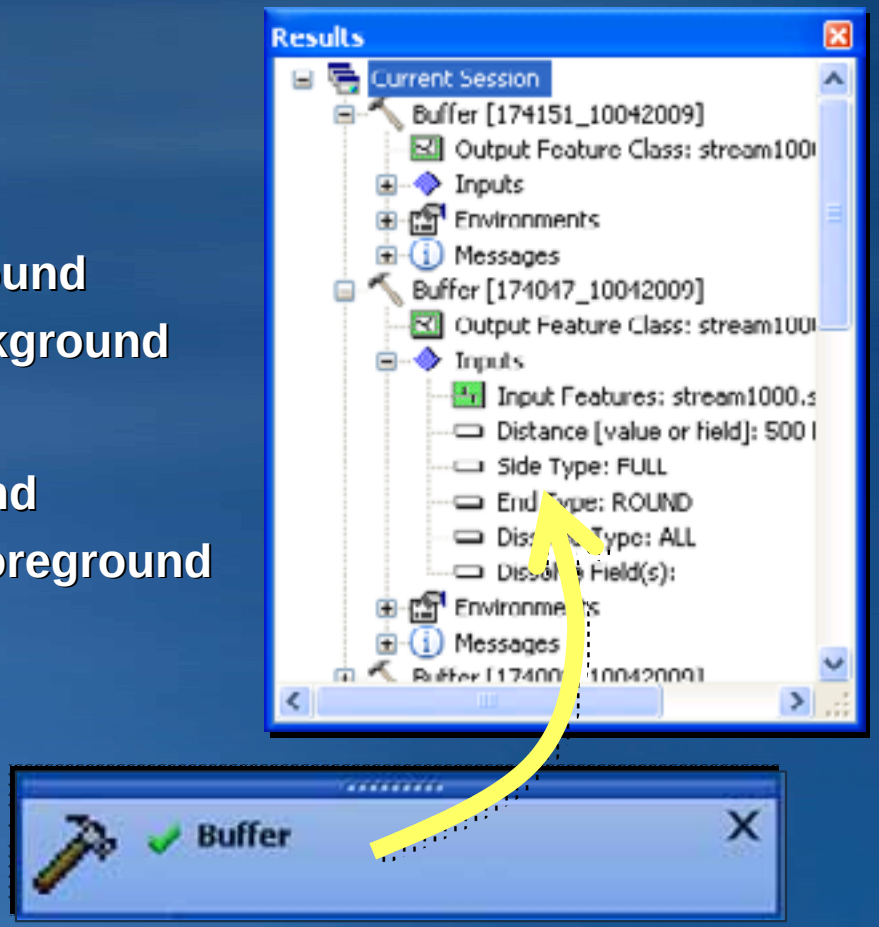
Set Geoprocessing Options

Setting Environments

Background Geoprocessing

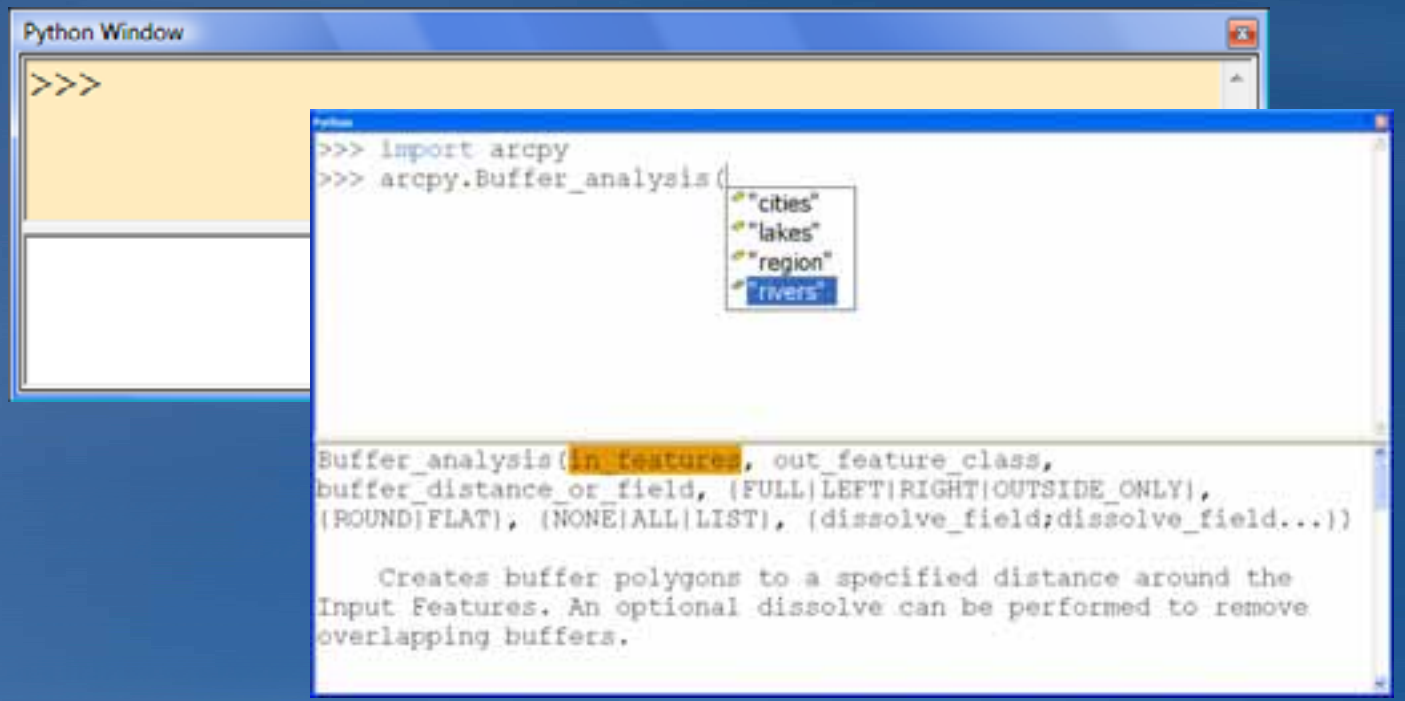
Keep the application interactive while running tools

- **Execution**
  - Allows queuing of multiple tools
  - Progress and completion reported
  - Geoprocessing Options
- **Background**
  - Model tools can run in the background
  - Python window can run in the background
- **Foreground**
  - ModelBuilder runs in the foreground
  - During an edit session, all run in foreground



Python in ArcGIS Desktop

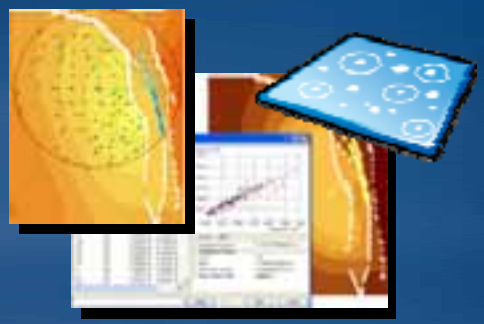
- New Python Window to replace the command line; interactive, multiline
- New support of map production and automation
- Spatial Analyst Map Algebra in Python
- Geostatistical Analyst functions in Python



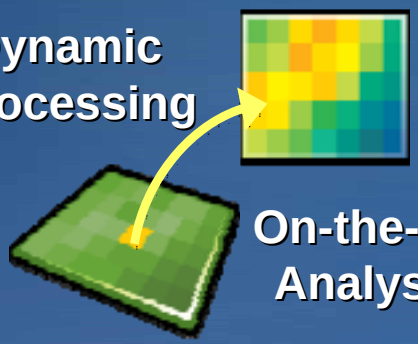
Advancing Geographic Analysis

- The power of ArcGIS
- 130+ New Geoprocessing Tools
  - 750+ Tools in ArcGIS

Ecological Sampling

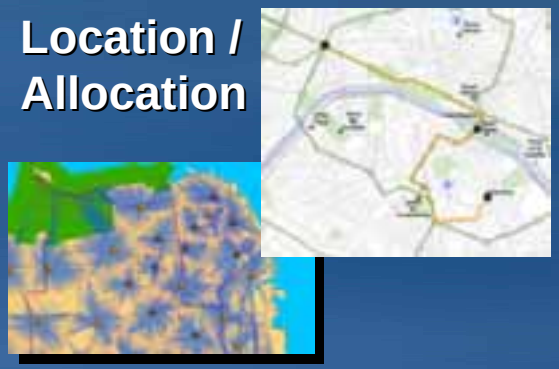


Dynamic Processing

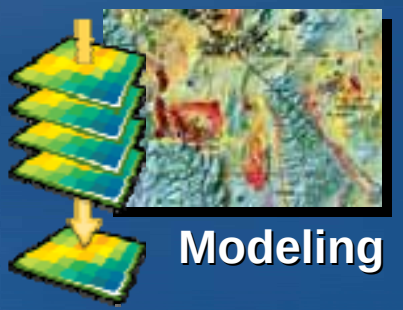


On-the-Fly Analysis

Location / Allocation

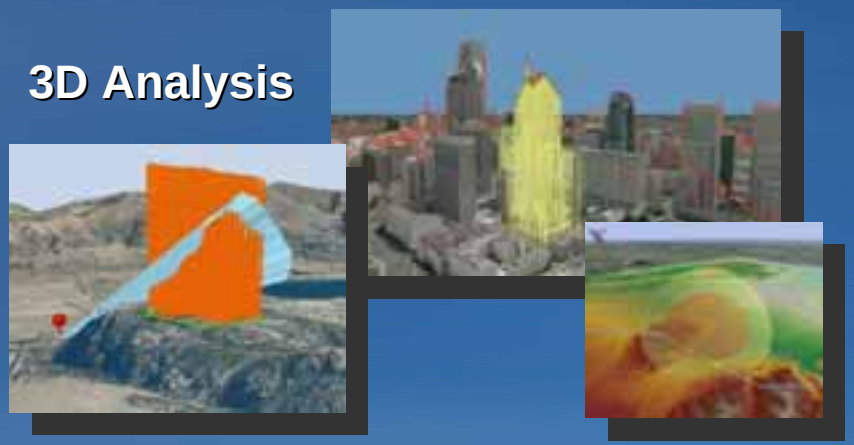


Fuzzy Overlay



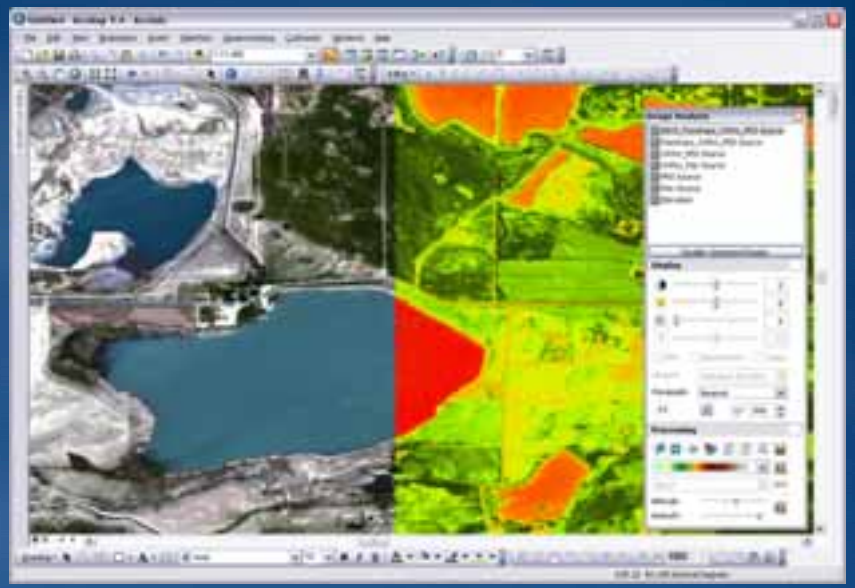
Modeling

3D Analysis



Imagery in ArcMap

- Fast and smooth navigation
- Large images and more formats supported
- Image Analyst Tools
  - Contrast, brightness, transparency, and Gamma sliders
  - Dynamic range adjustment
  - One click options to apply processing and analysis functions (NDVI, Difference,..)
  - Clipping, exporting, and mosaicking tools



ArcGIS Desktop the common platform for geospatial imagery

Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

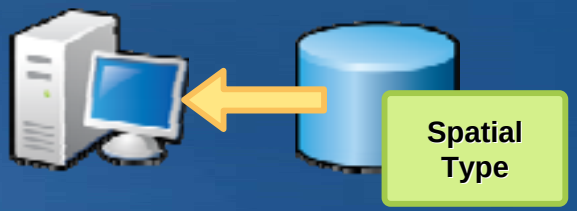
Improved Visualization

Fast Display

Better Tables/ Reports/Graphs

Time Visualization

Attribute Tables



Direct Access (SQL Query Layer)

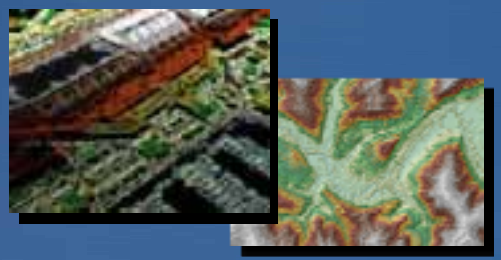
ArcGIS 10 - A Complete 3D GIS

Providing Powerful Data Management, Analysis & Visualization

3D Editing

Fast Visualization

3D Analysis



Terrain Editing

Video Integration

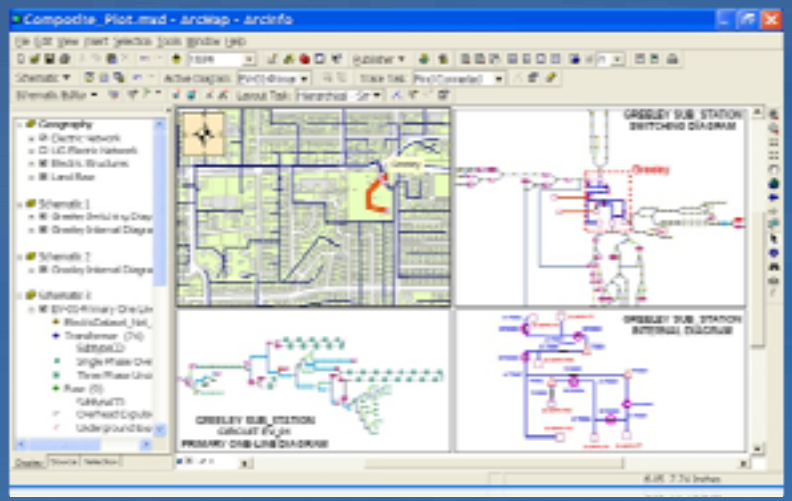
Virtual Cities

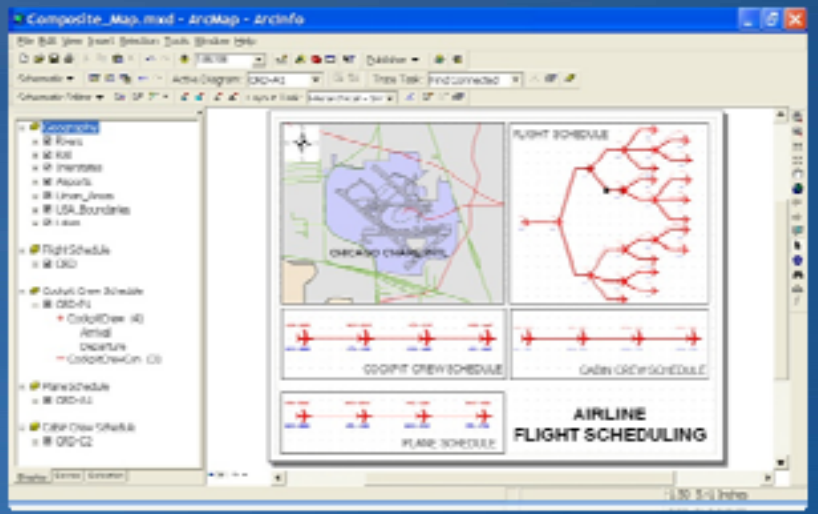
3D Models

. . . Removing Limitations & Dramatically Improving Performance

ArcGIS Schematics

- Schematic layers just another map layer
- Diagrams are now a set of features displayed as layers
  - Simplify and enhance both configuration and usability
    - Standard labeling and symbology
    - Simple configuration
- Enhance diagram management and sharing





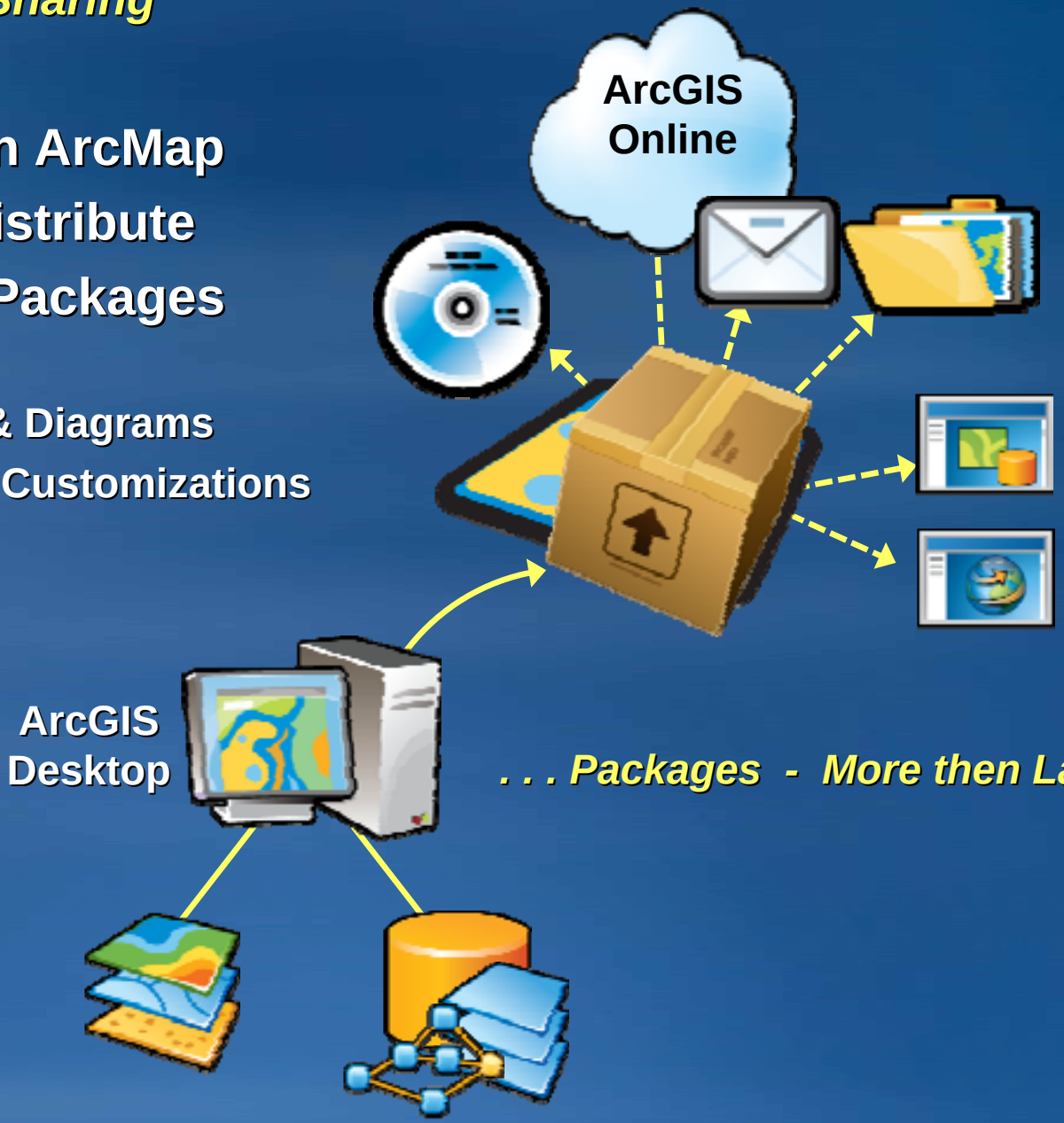
Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

Sharing Your Work - *Packages*

A New Method for Sharing

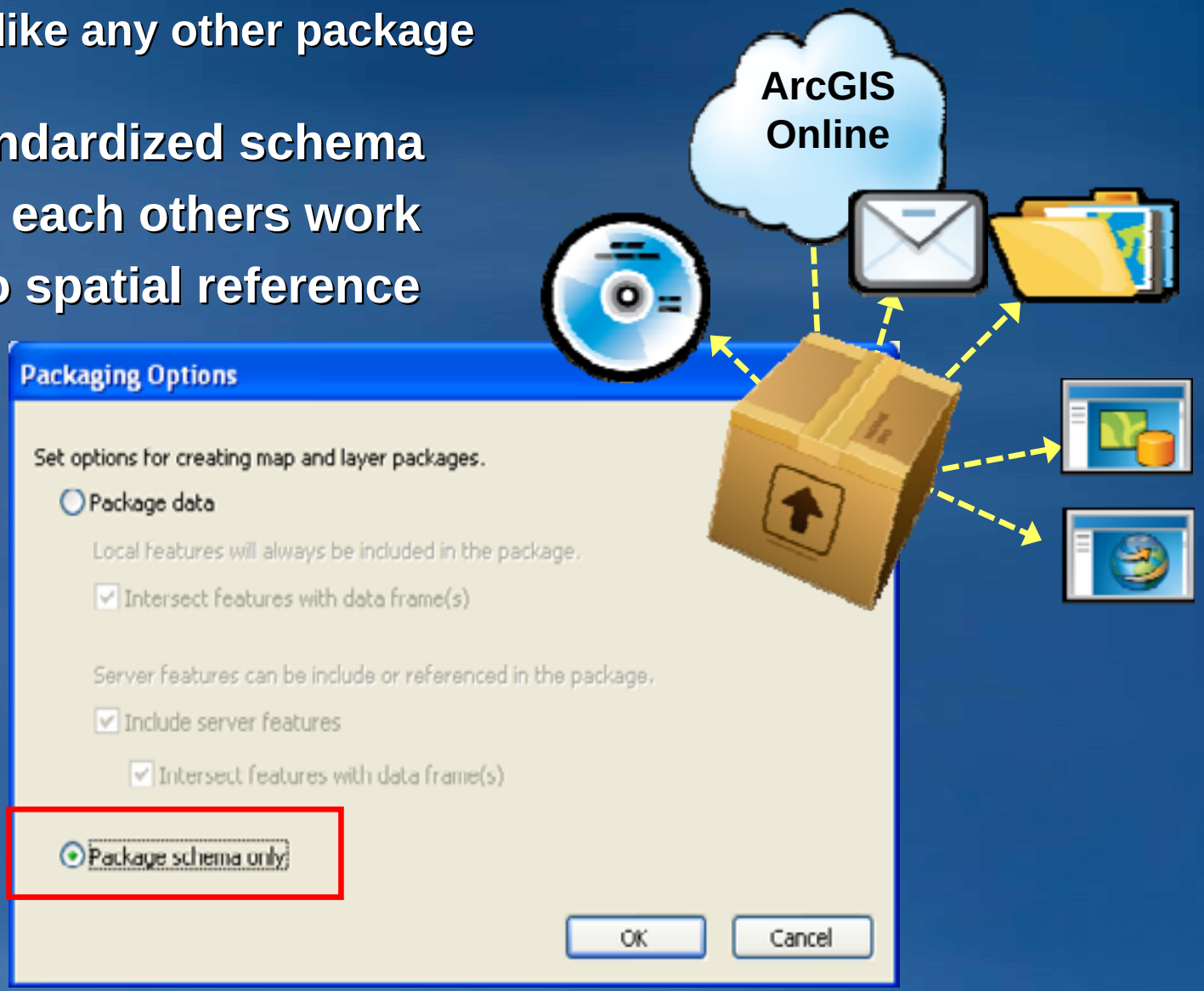
- Easy to create in ArcMap
- Many ways to distribute
- Share Maps as Packages
  - Layers & Data
  - Maps, Globes & Diagrams
  - Tools, Models, Customizations



. . . Packages - More then Layers

Sharing Editing Templates

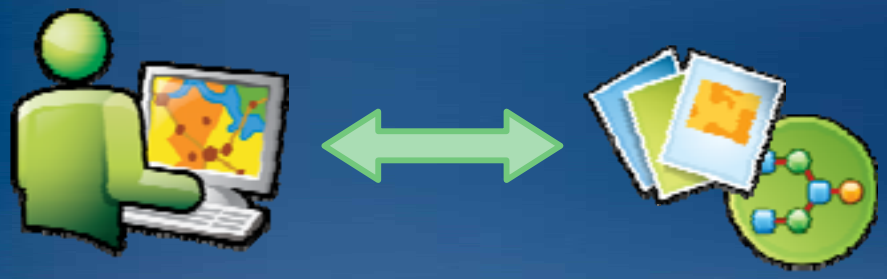
- Save Package schema only
  - Deploy like any other package
- Share standardized schema
- Leverage each others work
- Not tied to spatial reference



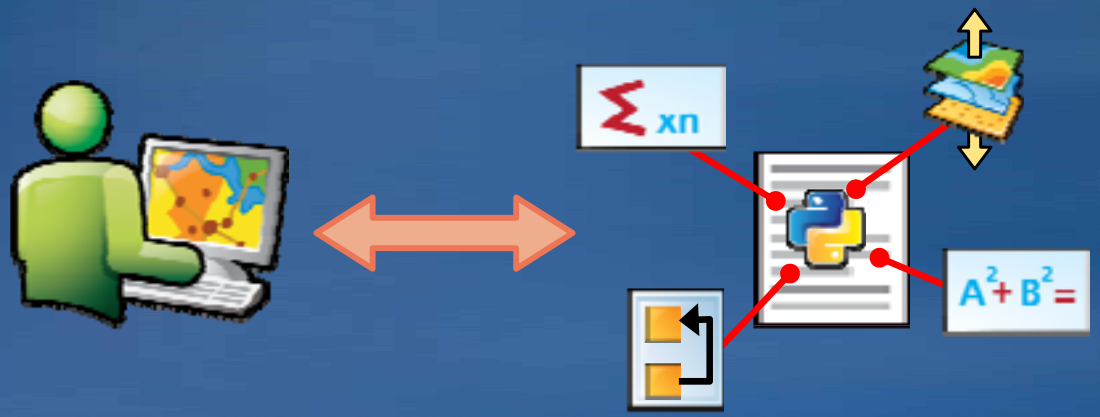
Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

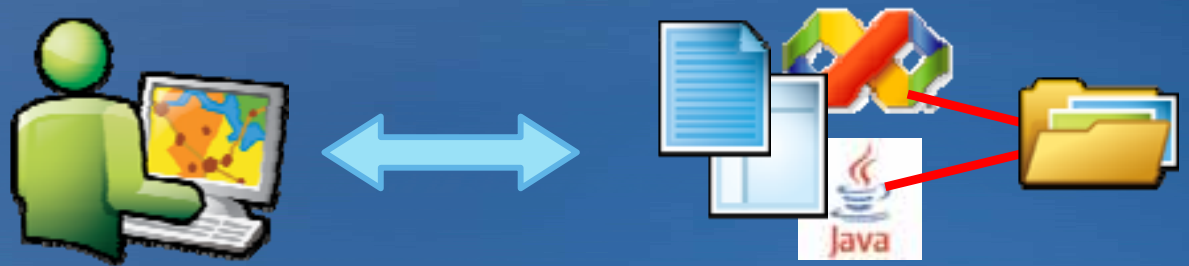
ArcGIS 10 Desktop Developer



Custom User Interface
No Code



Python Scripting for automation and scientific task



.NET or Java Add-Ins
Simple to build and share

Software Development Kits (SDK)

- Visual Basic for Applications (VBA)
  - Separate install and authorization
  - Last release
- ArcObjects .NET SDK
  - Help, Resources and Samples
  - Visual Studio 2008 and 2010* (VB.Net and C#)
  - Desktop, Engine, Server
- ArcObjects Java SDK
  - Help, Resources and Samples
  - Eclipse
  - Desktop, Engine, Server

Deployment

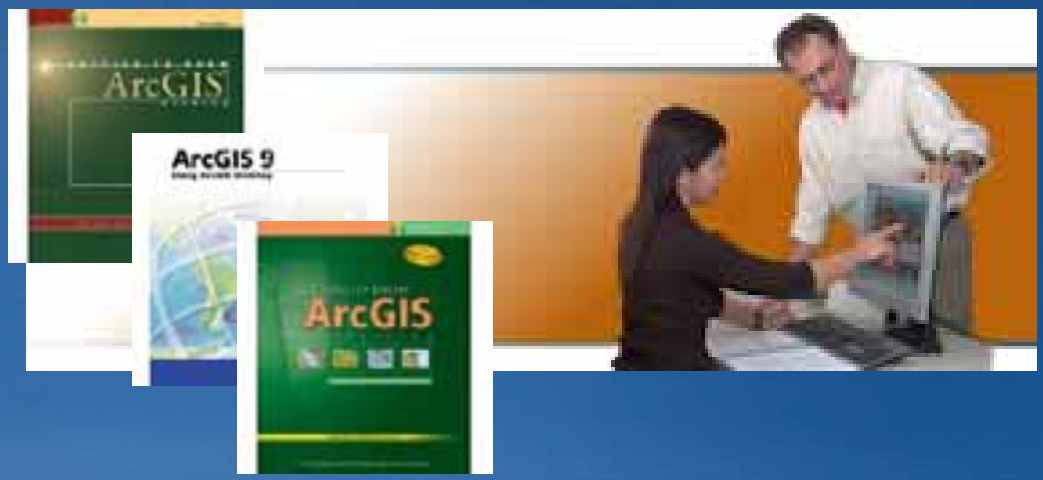
- One Desktop Install program
  - License controls the product level
- Improved Setups
  - Desktop typically installs 40% faster
  - Service Packs can be uninstalled
  - Service Packs for individual products can be installed in isolation from each other
- Licensing and Copy Protection
  - No hardware key
  - New Administration tools
  - License Borrowing

Major Release for Professional GIS

- Get your work done faster
- Save time on map production
- Simple and streamlined editing
- Better analysis and modeling
- Visualization and 3D
- New ways to share
- Easy customization and deployment
- ArcGIS community

ArcGIS Community

- Resources
- Training
- Books
- Partners



The Keystone
ArcGIS
Desktop
10
Get your work done faster
Save time on map production
Easier to manage and create data
Better Analysis and Modeling
New ways to share

Thank you for your time