

# CONNECT



# SHARE



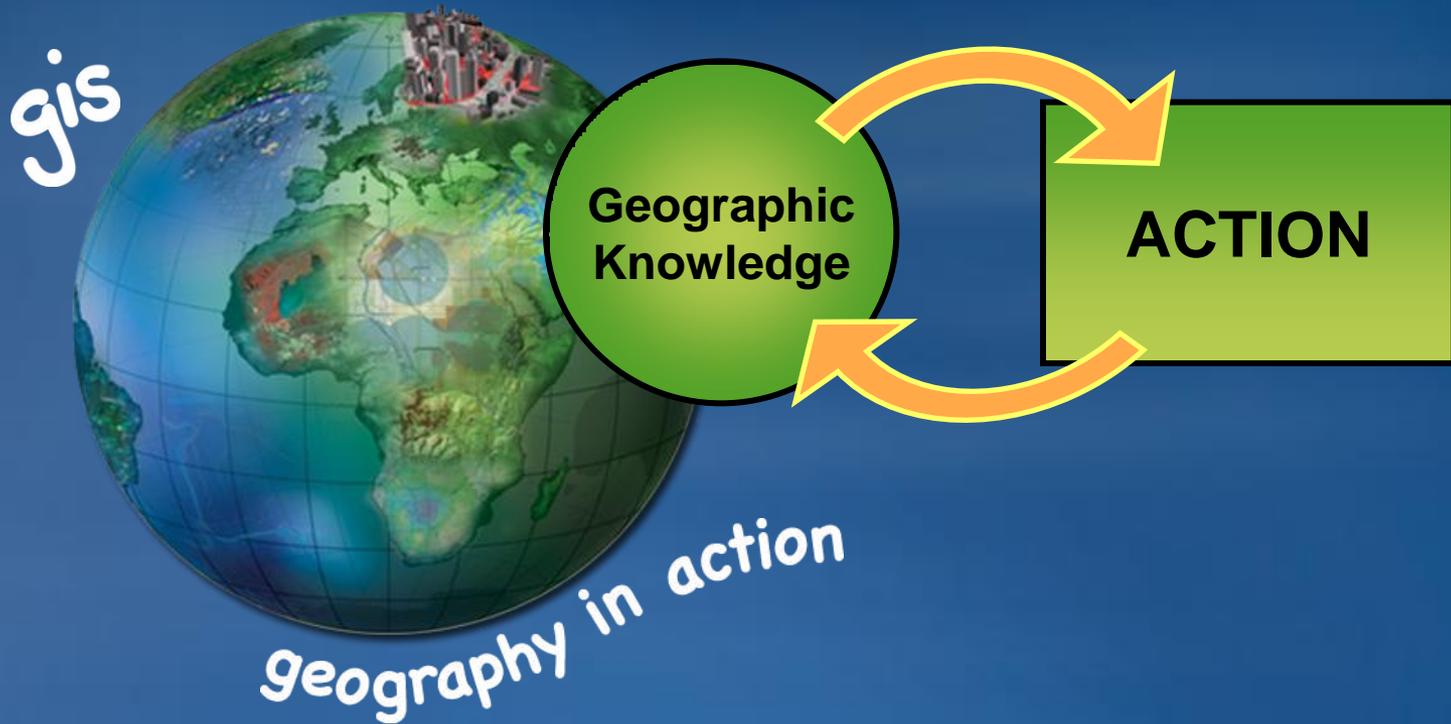
# WELCOME

*2009 Spring NEARC*

This Meeting is All About **Learning . . .**  
**. . . Connecting, Sharing and Having Fun**

**. . . and Making Your Organization Successful**

# VISION



*A Platform for Putting Geography into Action . . .*

# GIS is Beginning to Change Many Things...

## How We Reason . . .

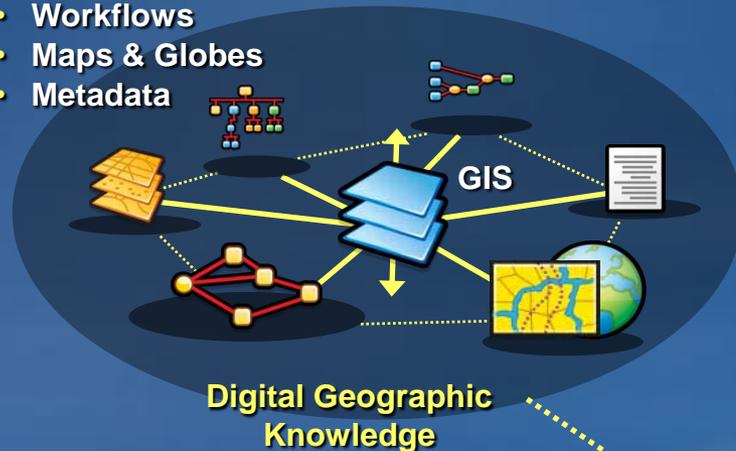
- Patterns
- Processes
- Relationships
- Implications



## Spatially Integrated Thinking

## How We Abstract Our World . . .

- Data & Data Models
- Models
- Workflows
- Maps & Globes
- Metadata



## Digital Geographic Knowledge

## How We Organize & Communicate . . .

- Collaboration
- Place Based Approaches
- Integrated Teams



## Shared Geographic Knowledge

*. . . Providing a New Approach*

# ArcGIS – Supporting a Vision

## Stimulus Tracking, Reporting, and Performance Monitoring



...informing decision makers and the public

# OUR WORK



*... For Authoring, Serving & Using Geographic Knowledge*

# ArcGIS Road Map 9.3.1

## *Simplifying & Streamlining ArcGIS*

- Data Sharing
- Extended Java Development
- Improved Server
- Web Map API's
- Expanded ArcGIS Online
- Microsoft Integration
- ArcGIS Explorer 900
- Changes in Licensing



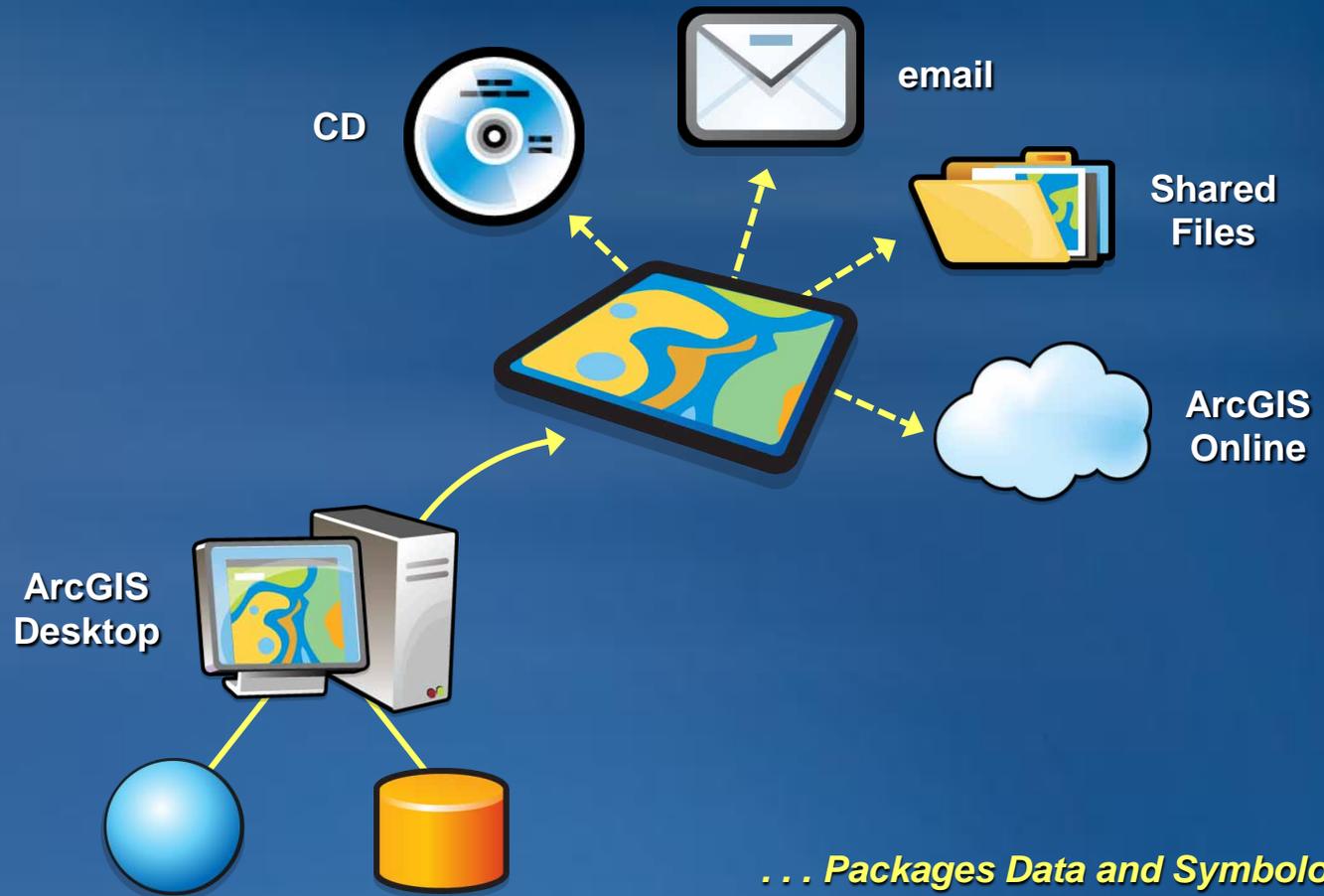
*...already shipping*

# Sharing Your Work – *Layer Packages*

## *A New Method for Sharing ArcGIS Data*

- Easily Created
- Multiple Dissemination Methods
- Directly Usable

Encapsulates Your Data and Cartography



*... Packages Data and Symbology*

# The Foundation of ArcGIS Is the Geodatabase

## Organizing & Managing Geospatial Data

### 3D Data Types Enhancements

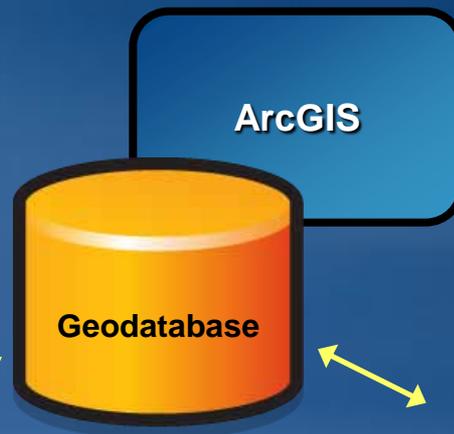
ArcSDE 64 bit support

SQL Server 2008

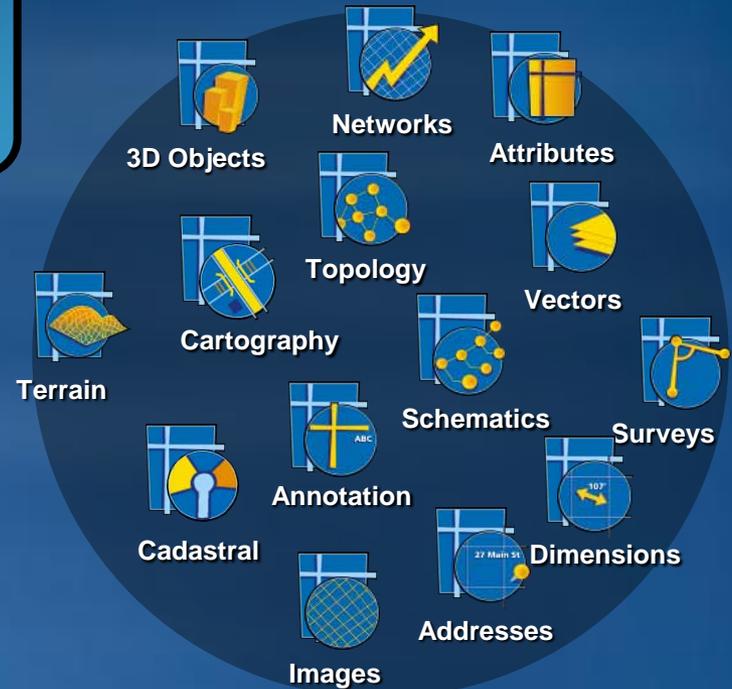
- Any DBMS
- Files



Scalable Storage Environments



### Comprehensive Information Model (Any Type of Data)



... Essential for Leveraging the Full Capabilities of ArcGIS

# Integration of Imagery and GIS

*Two Sides to the Coin*

What does Imagery bring?



**GIS**

**Imagery**

Contextual Relationships  
Spatial Analysis  
Visual Integration



Timely, Rich Information  
Measurements  
Authoritative Source



What does GIS bring?

# Imagery Management

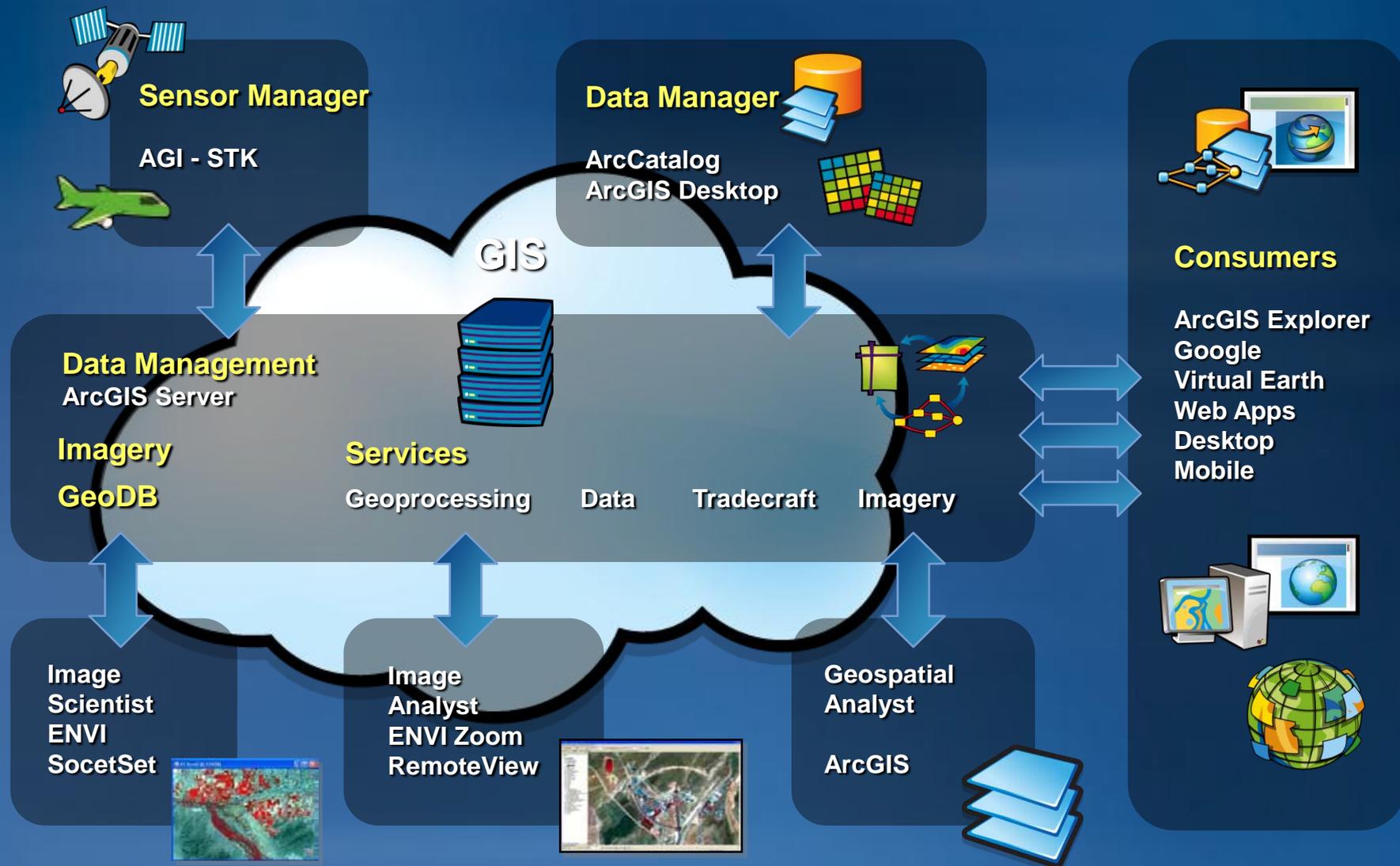
## *What You Are Asking For*

- Scalable, Fast Back End Technology
- Modern Imagery Workflows
- Intuitive, Powerful Search
- Current Sensors – Timely Information
- Embodies SOA Design
- Serving Imagery To Any Application
- Serving Imagery Immediately



# Imagery Exploitation

*Supporting the Geospatial Professional*



# ArcGIS 9.3 Development with Java

- **Java developers can**
  - **Build desktop application with ArcGIS Engine**
  - **Create server solutions with ArcGIS Server**
- **But they can't use Java to**
  - **Change or enhance the behavior of ArcObjects**
  - **Create their own ArcObjects**
  - **Extend ArcGIS Server**
- **Java can talk to ArcObjects, but ArcObjects cannot talk back to Java**

# Improved Java Support

- Custom Tools and Commands in ArcMap or Engine
- Custom layers and new renderers
- New Geoprocessing Tools
- Modify the behavior of ArcObjects
- Extend the Geodatabase / New data sources
- ArcGIS Server Object Extensions

**Enhanced ArcObjects support for Java developers**

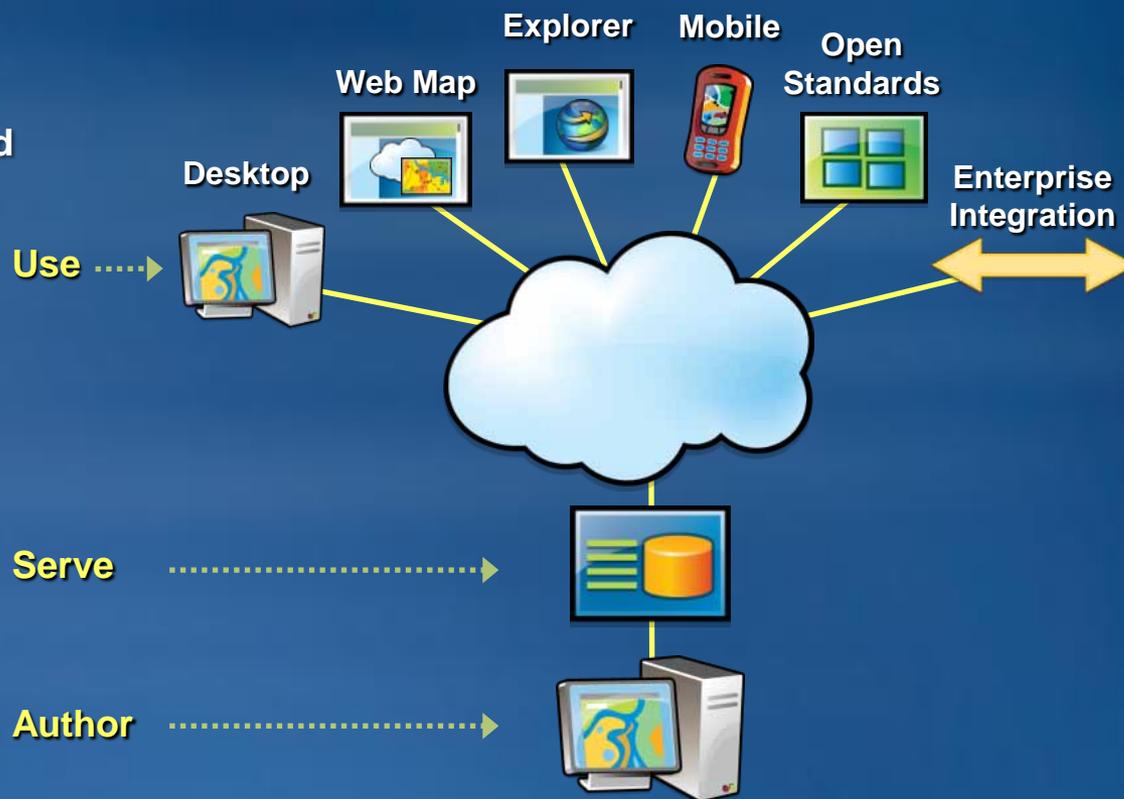
# Benefits

- **Resources**
  - A pure Java development and deployment experience
  - Eclipse integrated wizards and utilities
- **Performance**
  - Fast and seamless ArcGIS extensions developed in Java
- **Platform Support**
  - Equivalent development and deployment support for Windows/Linux/Solaris

**Java is now a first-class programming language for ArcGIS**

# ArcGIS SERVER

- Fast Mapping
- New ADF Licensing
- Editing in Standard
- Analytic Extensions in Advanced



*Technology Platform for Web GIS...*

# ArcGIS Server Advancements

*Improving Quality, Performance & Scalability*

### Improved Web Map & ADF



- Printing
- Map Navigation
- Map Tips

### Better Caching



### Mobile App



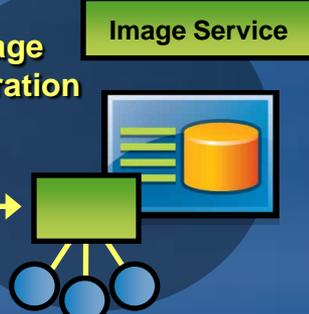
### More DBMS's

- SQL Server 2008
- PostgreSQL
- DB2 ZOS



### Image Integration

Dynamic Processing

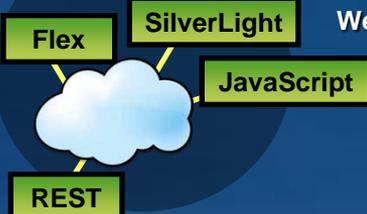


### Security & Logging



### Rich Internet Applications

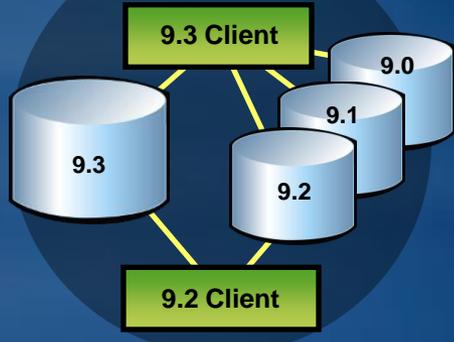
Web 2.0



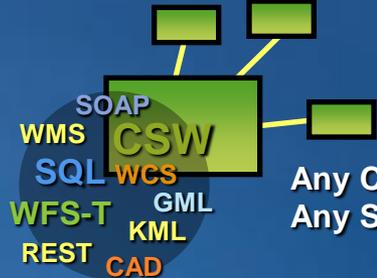
### Metadata Services



### Backwards Compatibility



### Open Standards Support



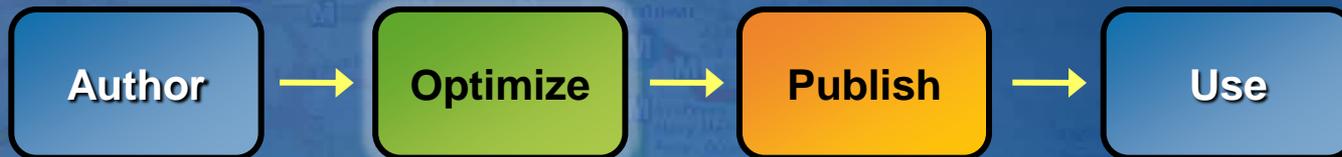
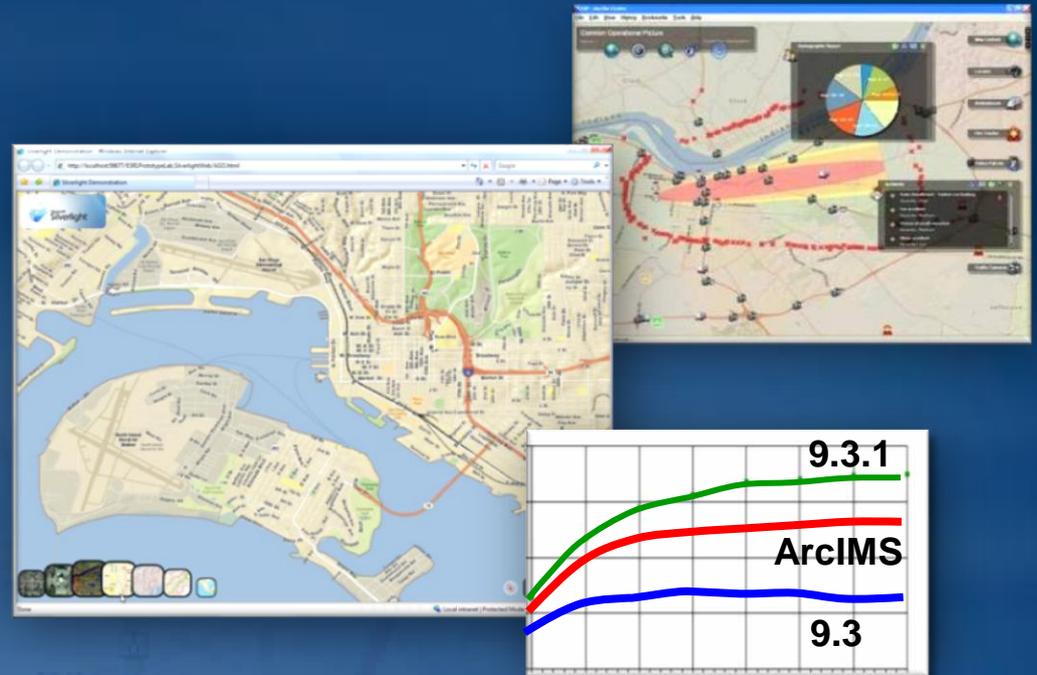
Any Client/  
Any System

*... Strengthening Enterprise Readiness*

## 9.3.1 Server is Very Fast

*Faster & More Scalable Than ArcIMS*

- Fast Dynamic Maps
- High Quality Output
- Optimization Tools



*... And Much Better Mapping*

# Optimization Toolbar

- Analyze your Desktop map documents (mxd)
  - Suggest changes to improve performance of ArcMap
- Publish optimized format for use in Server (msd)

The screenshot shows the ArcMap interface with the 'Map Optimization' dialog box open. The 'Target' dropdown is set to 'ArcGIS Server', and a menu is open showing 'ArcGIS Server' and 'Map Document' options. Below it, the 'Prepare' dialog box is open, displaying a list of 4 errors and 58 warnings. The 'Status' is 'Complete' and there are 1/70 items listed.

Code	Severity	Description	Name	Type	Data Frame
00001	High	Map has no layers	Inset	Map	Inset
00002	High	Map has no spatial reference	Inset	Map	Inset
00005	High	Layer type is not supported	LandbaseFabric_Topology	Layer	Utilities
00006	High	Layer's renderer is not supported	Counties_US	Layer	Utilities
10001	High	Layer data source's projection [GCS_North_American_19...	Counties_US	Layer	Utilities
10001	High	Layer data source's projection [GCS_North_American_19...	Counties_US	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside39_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside41_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside42_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside43_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside44_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside34_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside32_30.sid	Layer	Utilities
10001	High	Layer data source's projection [NAD83 / California zone 6...	Riverside33_30.sid	Layer	Utilities

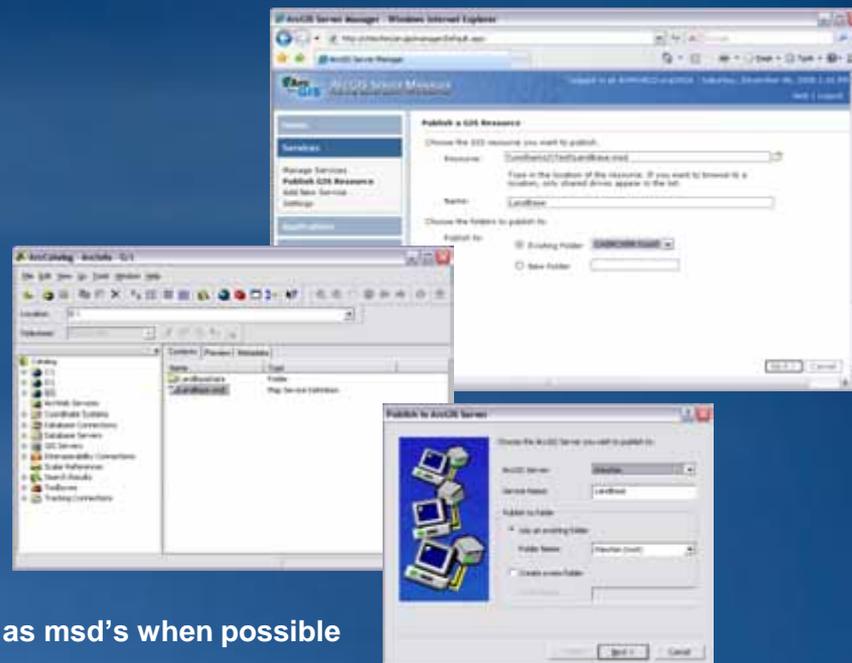
# Optimization Toolbar

## Typical 'Errors', 'Warnings' and 'Messages'

- Typical 'Errors'
  - Unsupported Data Types
    - CAD
    - Coverage
    - WMS, WFS, etc
    - Cartographic Representations
    - etc
- Typical 'Warnings'
  - Layer is being projected on the fly
  - Missing spatial index
  - Join set on non-indexed fields
  - Other specific performance issues
    - Specific raster data type
    - Non-optimized symbol level drawing
- Typical 'Messages'
  - Layer data types is not supported
  - No scale dependencies set
  - Notification of possible symbol appearance differences
  - Layer renderer is not supported

# Publishing

- **Author** in ArcMap, **Analyze** with optimization toolbar, **Publish** mxd as **msd**\*
- Capabilities not supported from optimized map services:
  - WFS, WCS
  - Mobile Data Access
  - Geodata Access
  - Page Layout
  - Geoprocessing
  - Network Analysis
  - ADF Feature Editing



\* ESRI recommends that ArcGIS Server services are published as msd's when possible



# ArcGIS 9.3.1: New Optimized Map Service

- **Provided Dynamic Map display and caching capabilities that are:**
  - Faster than ArcIMS
  - Integrated with ArcMap publishing
  - Provide high quality cartographic output
  - Easy to configure and tune
  - Consistent across: Windows/Solaris/Linux
- **To End Users: Map services are just faster**
- **To Administrators: Choices are:**
  - Standard Dynamic Map Service
  - Cached Map Service
  - Optimized Dynamic Map Service

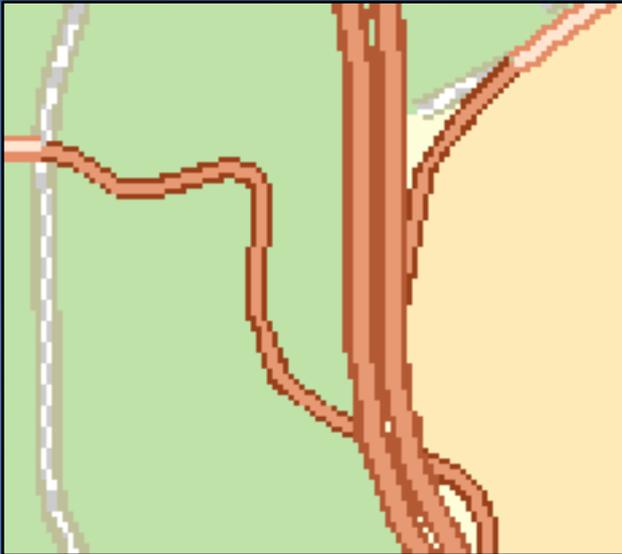


# High Quality Cartographic Output

- **Native anti-aliasing support**
  - Previously available with cached map services

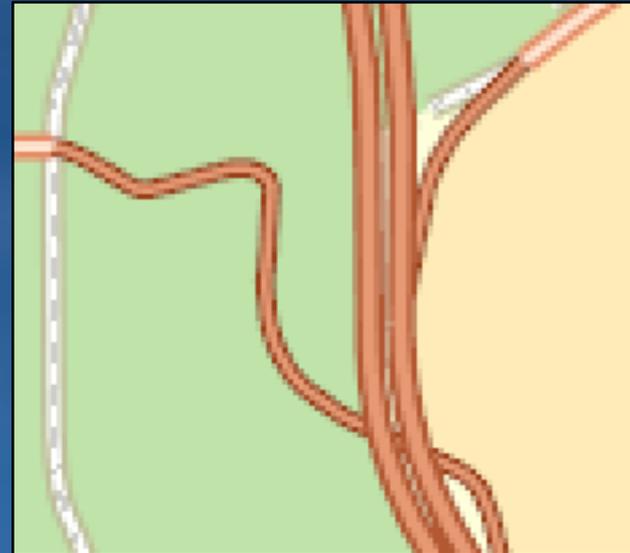
Basic Map Service

2x Zoom without Anti-Aliasing



Optimized Map Service

2x Zoom with Anti-Aliasing

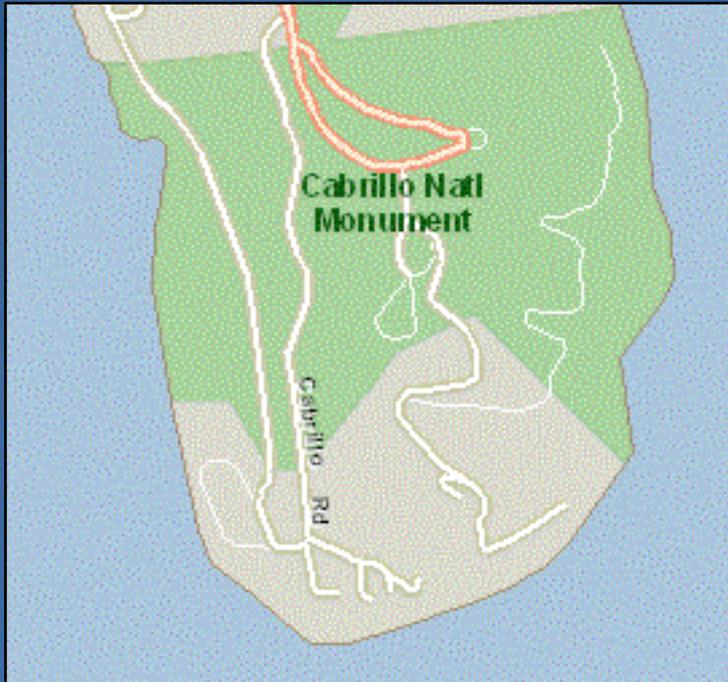


# High Quality Cartographic Output

- Adaptive Palette for 8 bit images
  - Better appearance and smaller file size

Basic Map Service

8 bit PNG



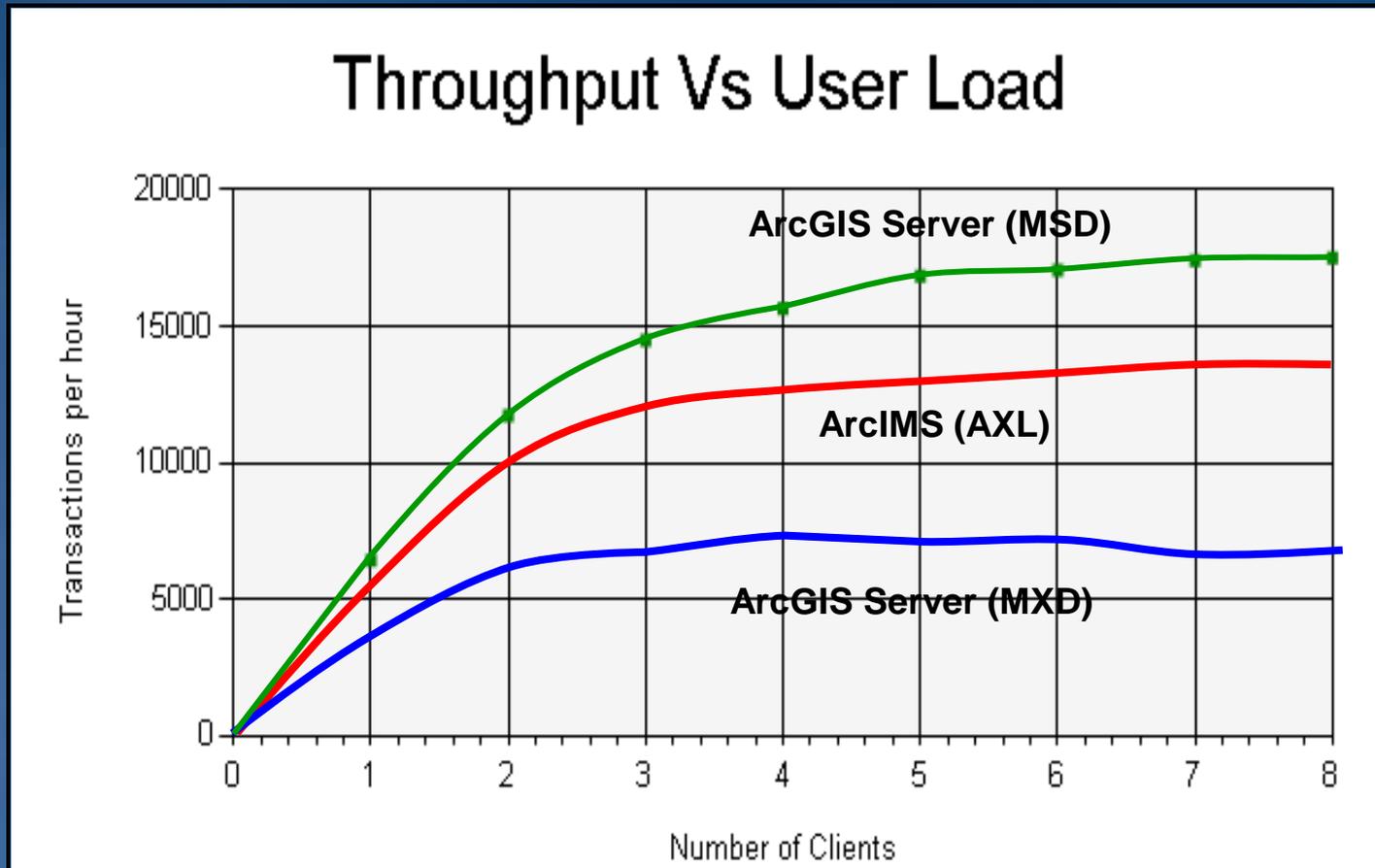
Optimized Map Service

8 bit PNG



# ArcGIS Server, Performance

## *Fast Rendering Engine (Preliminary Facts)*



Columbian Map at 1:1,950

Faster than ArcIMS across all supported platforms

# Impacts of Optimized Map Services

- **Dynamic Mapping**
  - Much Faster Map Display for Dynamic Map Services
  - Better cartography and performance than ArcIMS
- **Faster Cache Creation for Cached Map Services**
- **Tools to help users Tune MXDs for all uses**

# Creating Effective Web Maps

## Seminar Dates & Locations

June 2nd – Albany, NY

June 4th – Danvers, MA

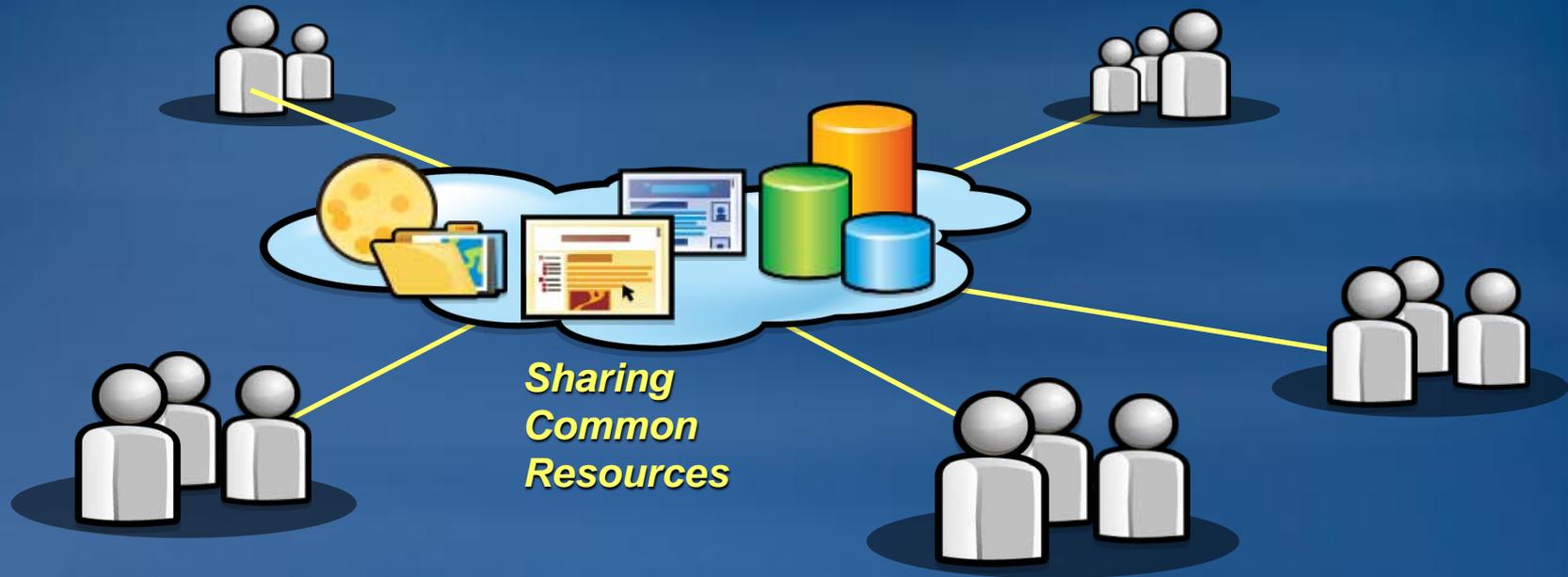
**Secondary Locations TBD**



ArcGIS Online

# Services

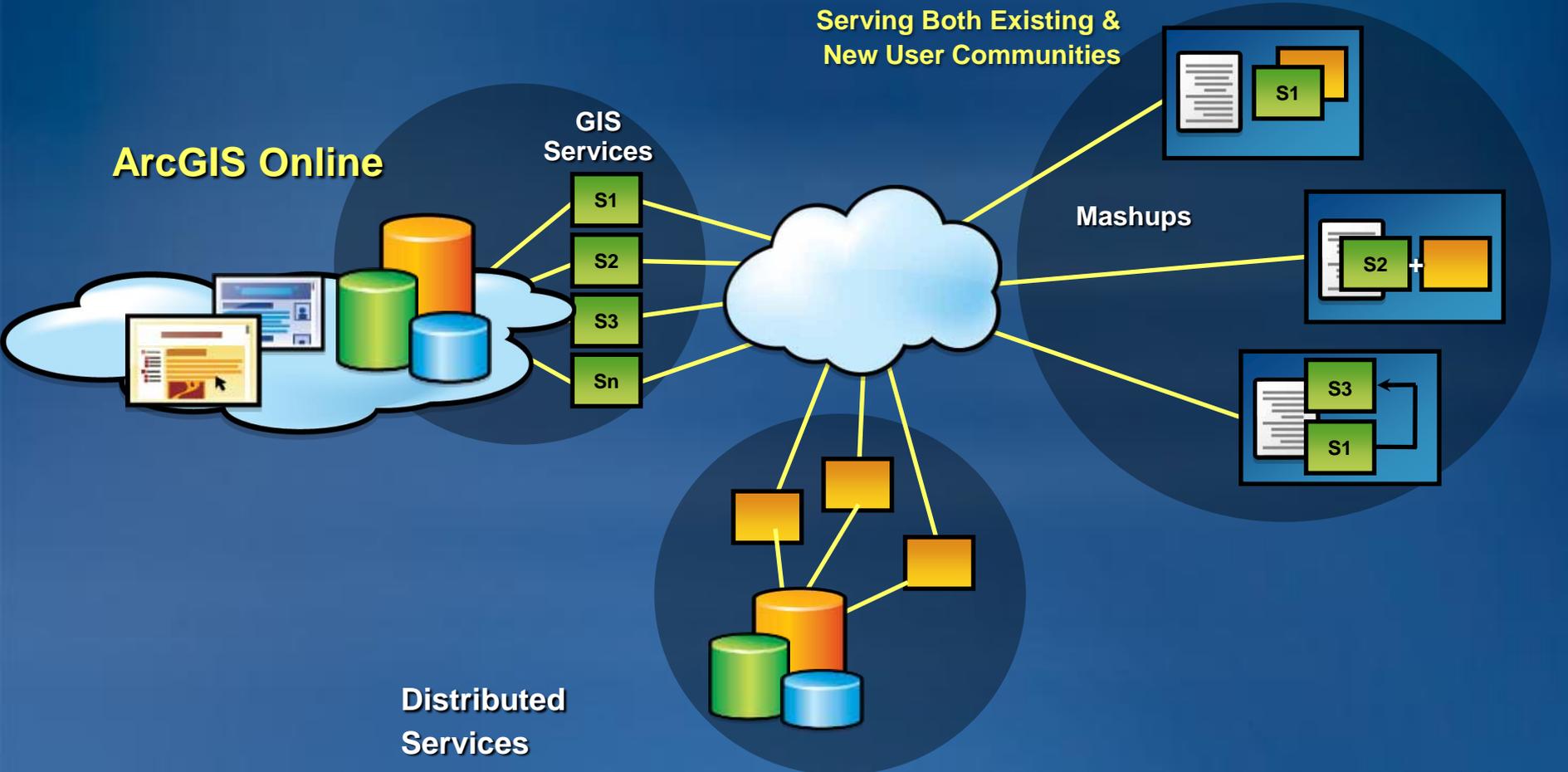
*Harnessing the Web . . .  
. . . And the Power of GIS*



*ArcGIS Online Is Just Beginning*

# ArcGIS Online Will Move Us Into a New Era

*Providing Advanced Geo-Services for the Enterprise & the Open Web*



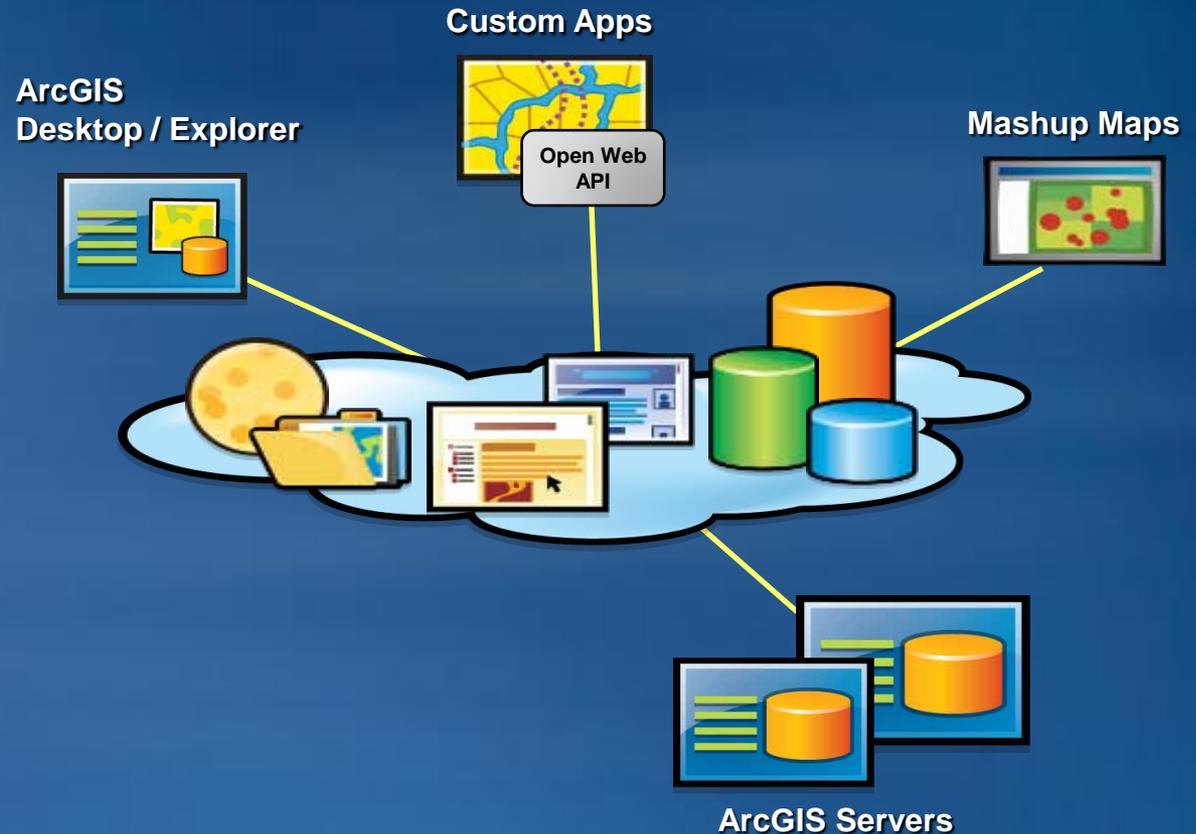
*Everyone Will Be Able to Access & Use GIS . . .  
. . . Integrating Authoritative GIS Data & Analysis*

# ArcGIS Online Is a Major Part of the ESRI Strategy

*Designed to Compliment Desktop & Server Platforms (Software + Services)*

## Many Services

- Resource Centers
- Content (Maps & Data)
- Data Sharing
- Catalog / Search
- Mashup Maps
- Open Web Map API's

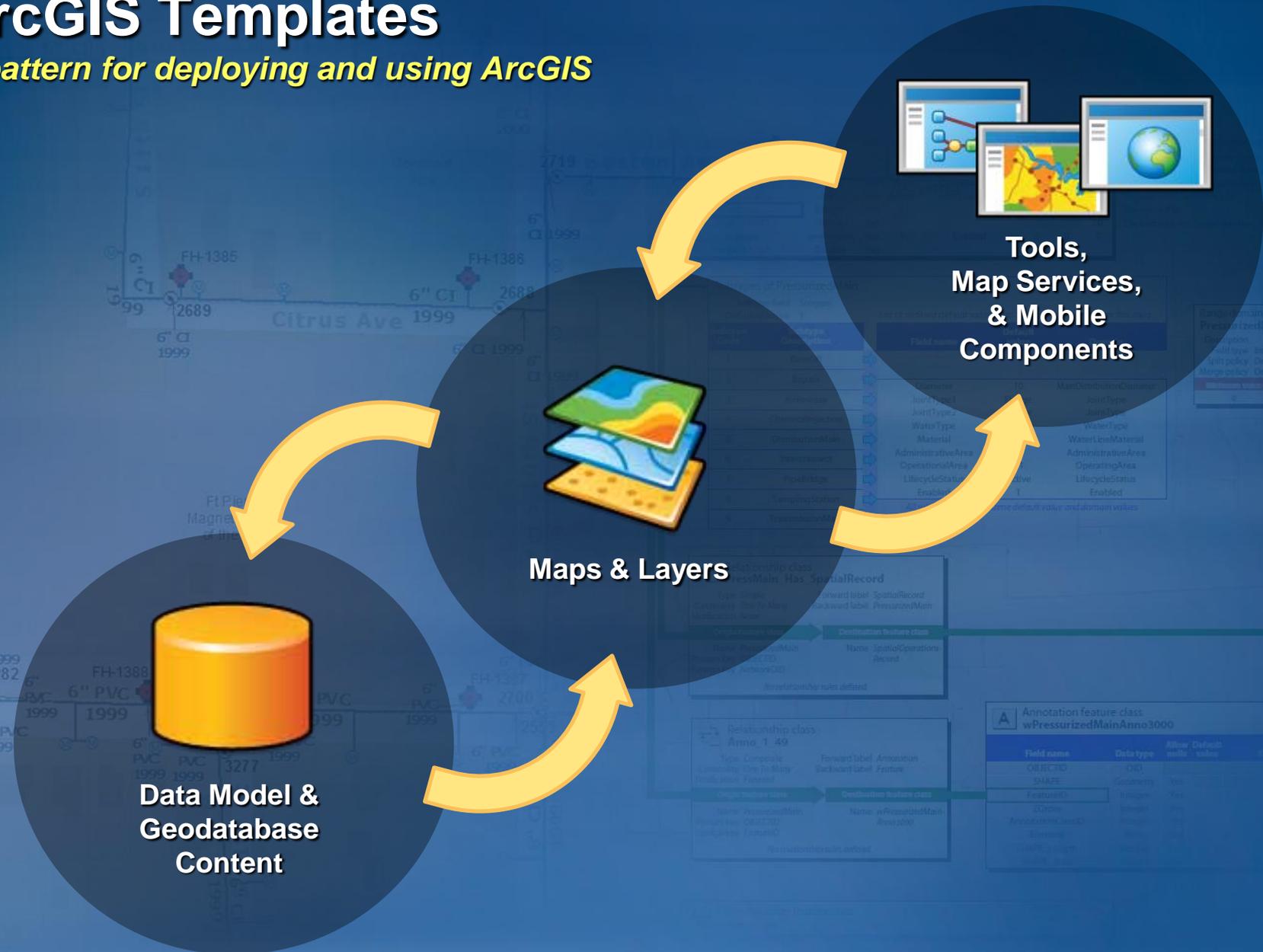


*... Powered by ArcGIS Server*



# ArcGIS Templates

*A pattern for deploying and using ArcGIS*



Relationship class: wPressurizedMain\_Max\_SpatialRecord

Field name	Data type	Allow nulls	Default value	Comments
OBJECTID	OID	NO		
SHAPE	Geometry	NO		
FeatureID	Integer	NO		
STATUS	Integer	NO		
AnnouncementDate	Integer	NO		
FeatureID	Integer	NO		
FeatureID	Integer	NO		

Relationship class: Anno\_1\_49

Field name	Data type	Allow nulls	Default value	Comments
OBJECTID	OID	NO		
SHAPE	Geometry	NO		
FeatureID	Integer	NO		
STATUS	Integer	NO		
AnnouncementDate	Integer	NO		
FeatureID	Integer	NO		
FeatureID	Integer	NO		

Relationship class: wPressurizedMain\_Anno3000

Field name	Data type	Allow nulls	Default value	Comments
OBJECTID	OID	NO		
SHAPE	Geometry	NO		
FeatureID	Integer	NO		
STATUS	Integer	NO		
AnnouncementDate	Integer	NO		
FeatureID	Integer	NO		
FeatureID	Integer	NO		

# Water Utility Templates



**“Asset Management”**  
Water Network Editor  
(ArcGIS Desktop)

Welcome to the Resource Center for Water Utilities Management

This website is for the ArcGIS water, wastewater, and stormwater utility community. It provides useful templates and best practice information enabling you to implement ArcGIS to manage your water utility information, perform your daily operations, and support your long term planning.

The Water Facilities Resource Center is the place for you to:

- Learn how to implement ArcGIS for managing water utilities
- Download and configure ArcGIS templates that can help you get started
- Communicate with:
  - Other Water utilities users like you
  - The ESRI Water Utilities team

# name	rating	# date added	product version	author	# downloads
atimg	4.5	Feb 13 2009	9.3	ArcGISTeamWater	295
Dashboard Template	4.5	Feb 13 2009	9.3	ArcGISTeamWater	311
Editing Template	4.5	Feb 13 2009	9.3	ArcGISTeamWater	185

**Resource Center**



**“Operations Dashboard”**  
Role-based Flex Viewer  
(ArcGIS Server)



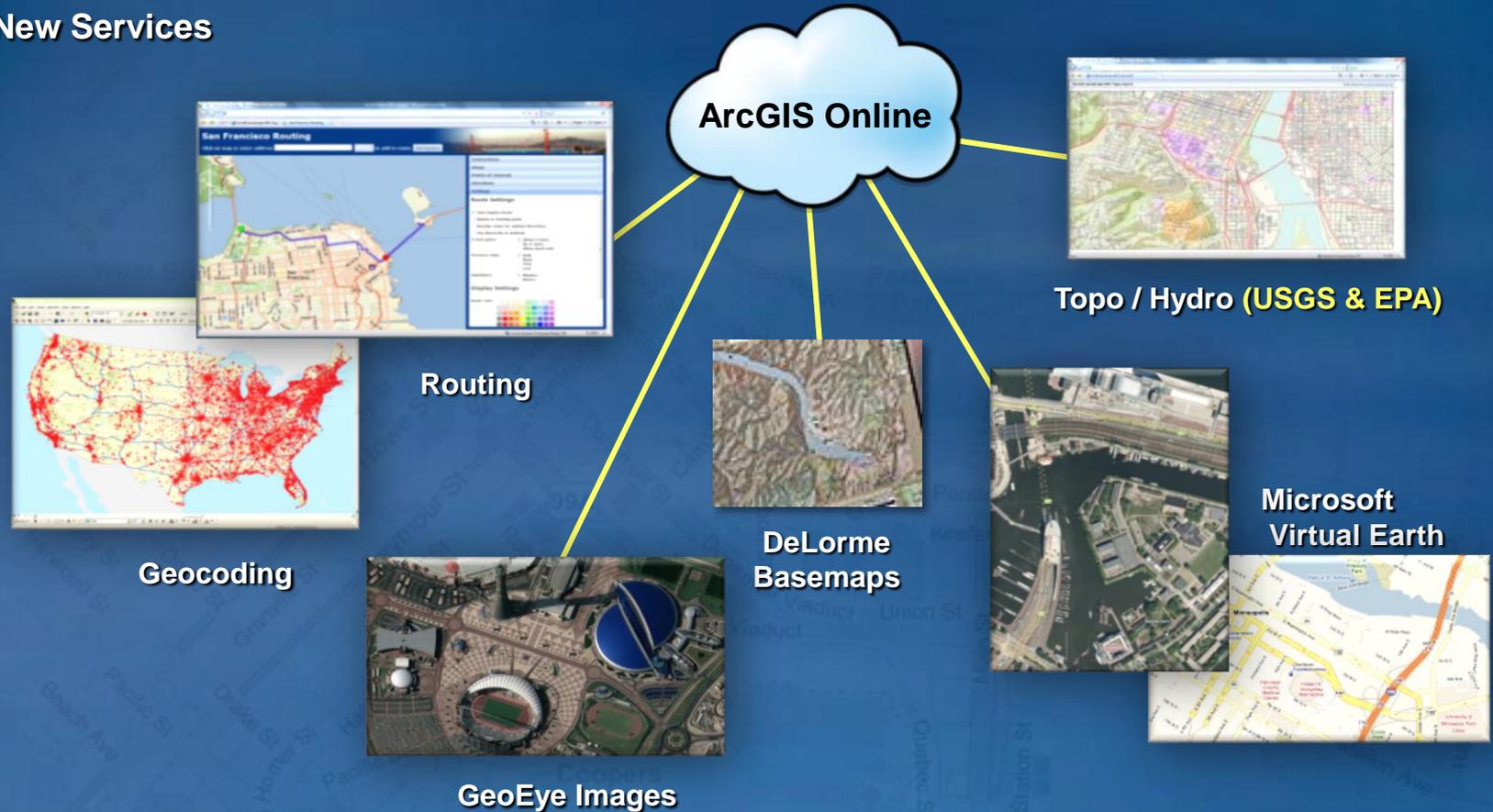
**“Mobile Map”**  
Tablet PC Mobile Map  
(ArcGIS Mobile)

**Useful examples configured for the water utility industry...**

# ArcGIS Online 9.3.1 – *Expanded Content & Services*

*Ready to Use Maps & Imagery Everywhere*

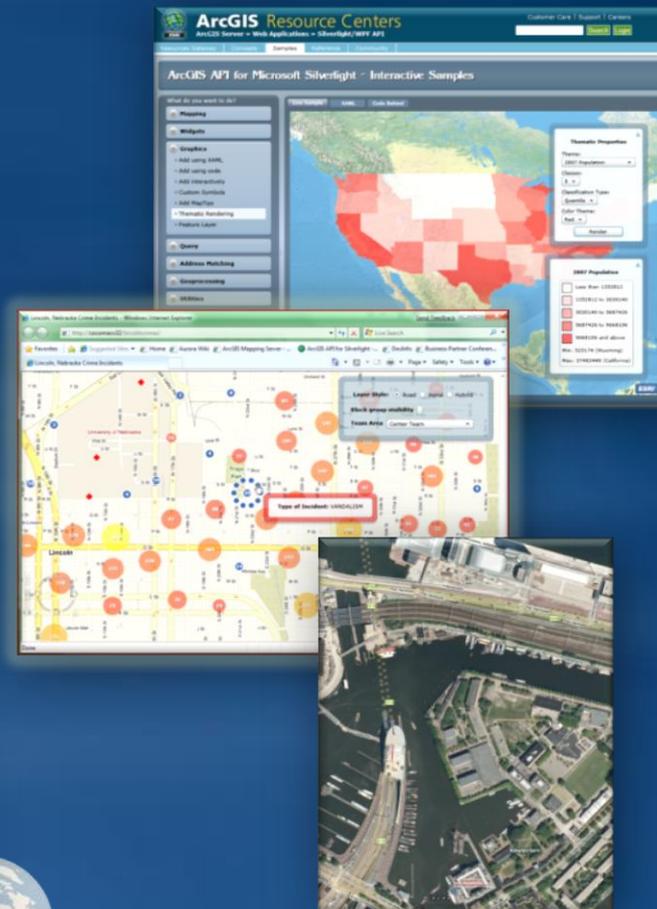
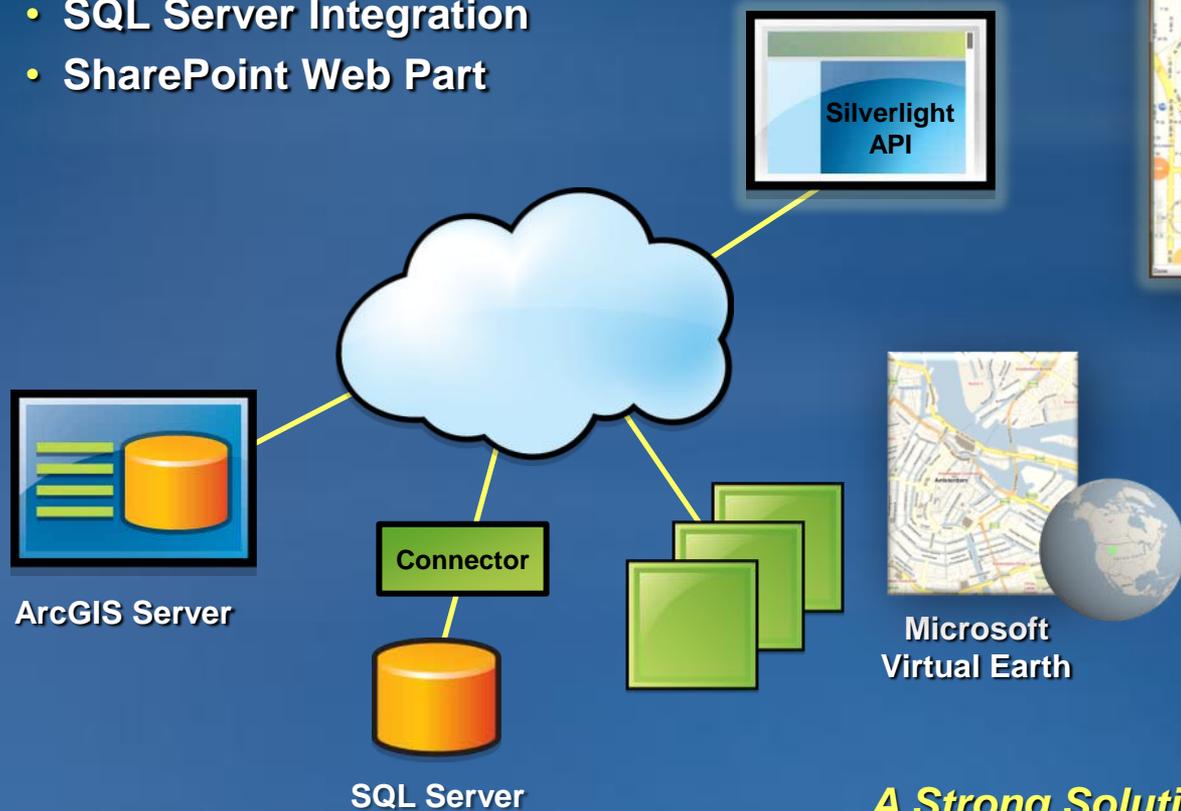
- More Content
- New Services



*Free & Subscription Based*

# Microsoft Collaboration

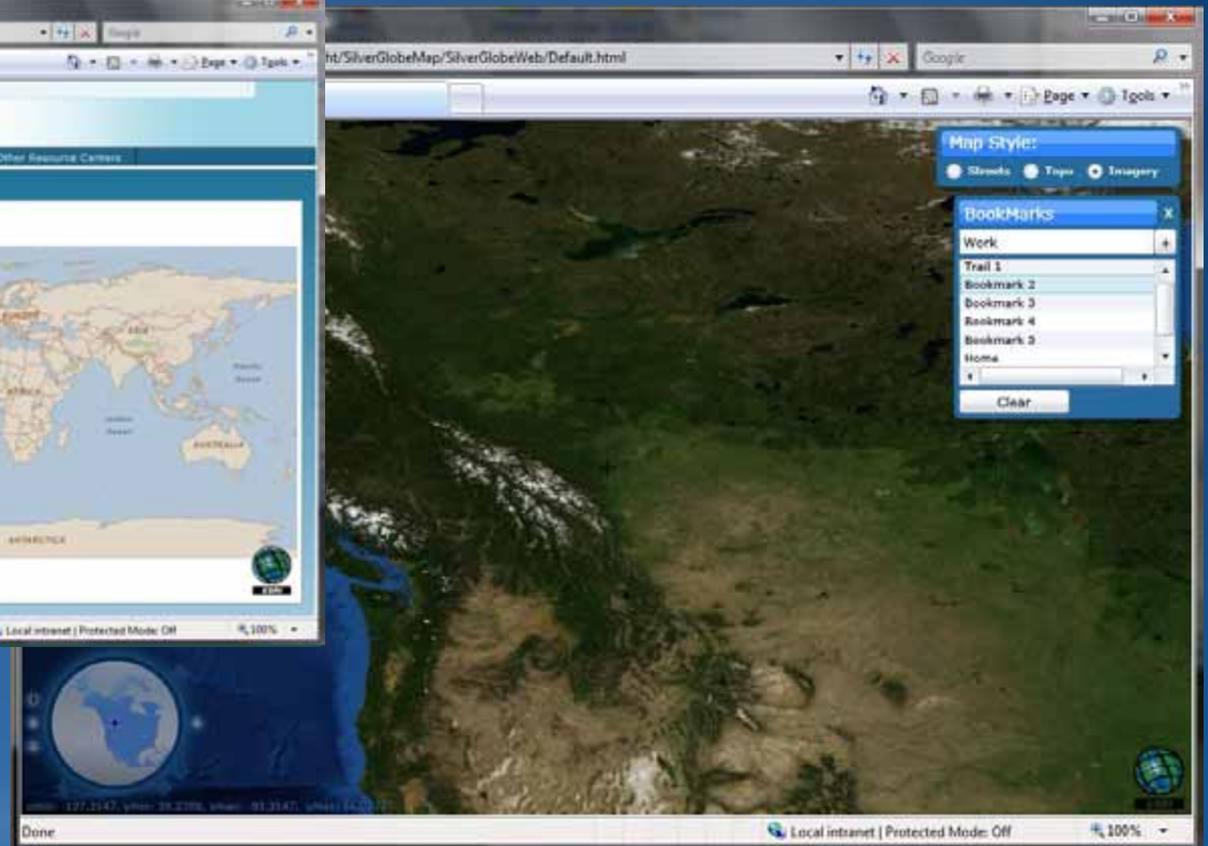
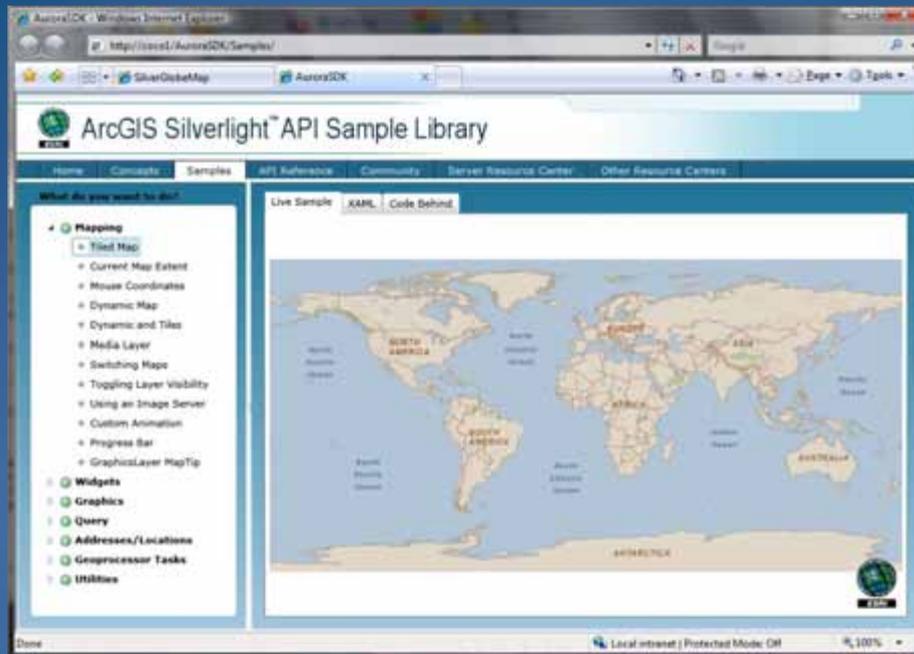
- **Silverlight API**
- Virtual Earth Content
- SQL Server Integration
- SharePoint Web Part



**... A Strong Solution for the Microsoft Platform**

# Sliverlight

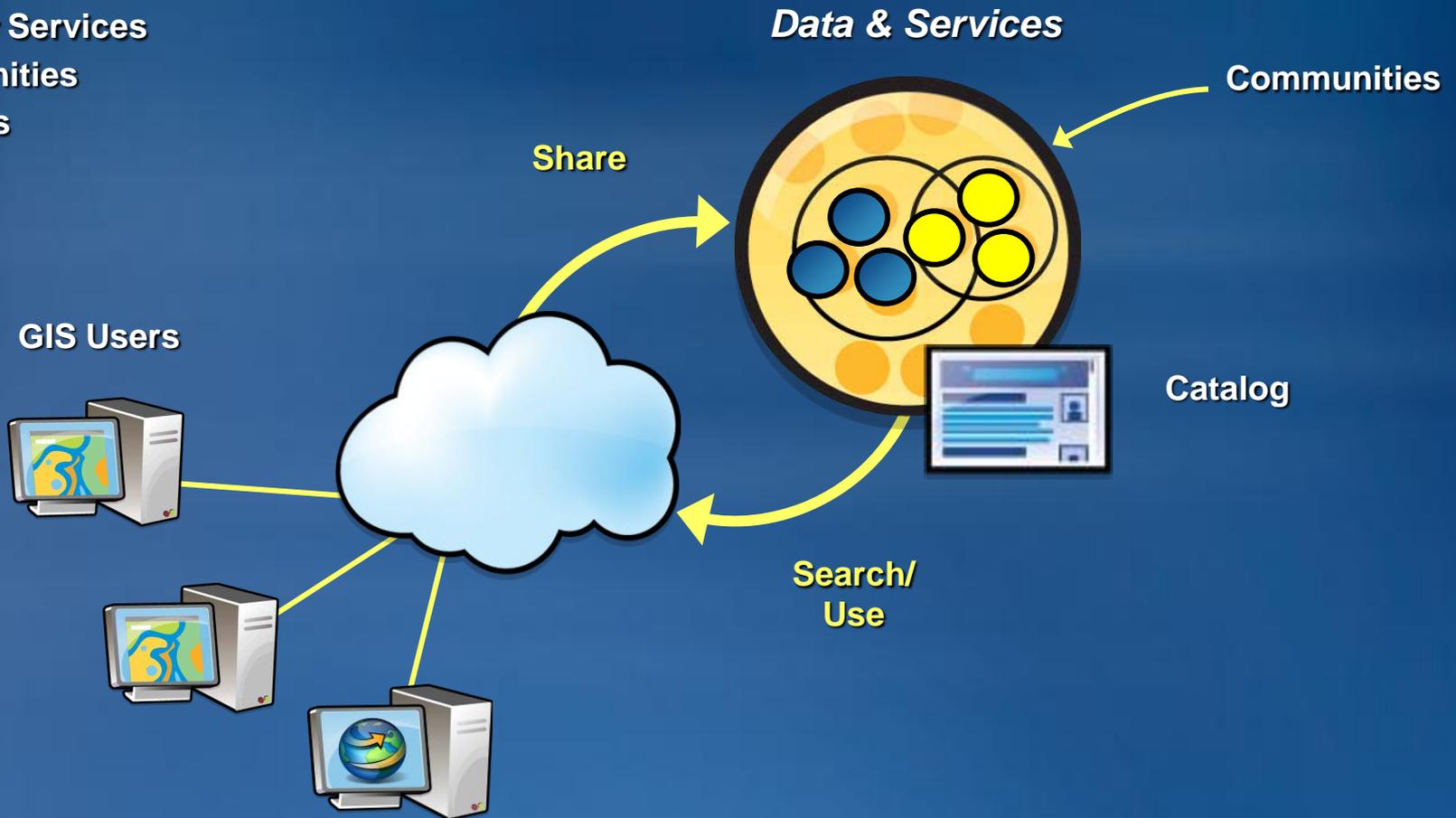
- Full Support for Silverlight
- Similar to Flex support



# ArcGIS Online 9.3.1 – *Sharing Your Work*

## *Layer Package & Services Sharing*

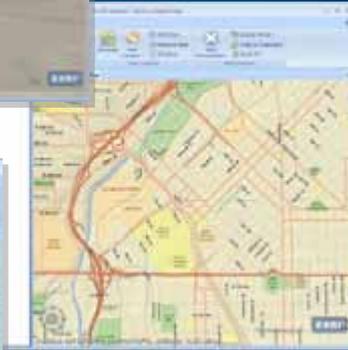
- Upload/Download Data
- Register Services
- Communities
- Mashups



# ArcGIS Explorer 900 – A Big Step

## Next Generation GeoBrowser

- New Intuitive Interface
- Integrated 2D/3D Display
- Basemap Gallery
- Presentations



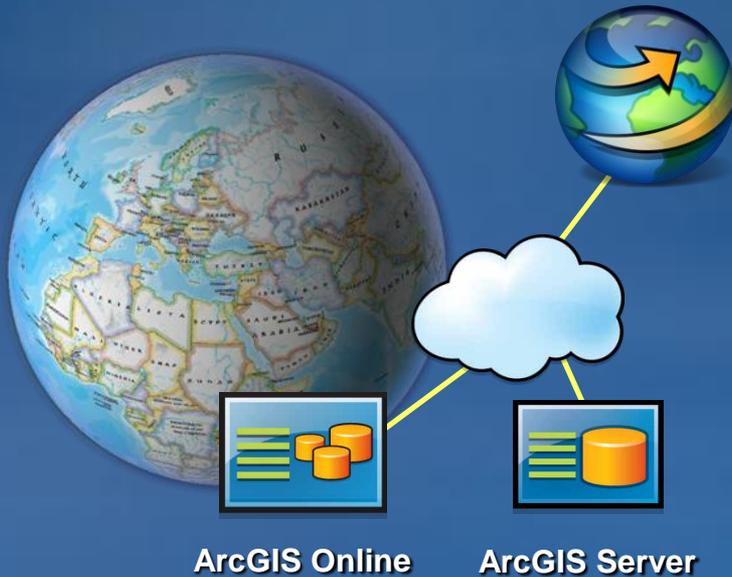
... GIS for Everyone

# ArcGIS Explorer Is Expanding GIS for Everyone

*Integrating, Visualizing & Analyzing Geographic Information*

- Fast
- Intuitive
- Web Centric

Accessing Maps,  
Models, Globe Services,  
& Layer Packages



*... Creating a New Community of Users*

# ArcGIS 9.3.1 Delivery

## *What to expect*

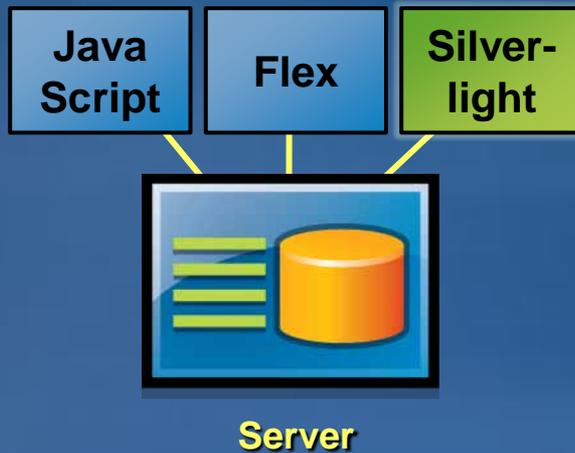
### ArcGIS 9.3.1 Desktop & Server is Shipping

- Existing users:
  - Receive 1 DVD with UPDATE from 9.3 to 9.3.1  
(No uninstall needed)
  - Full 9.3.1 media available upon request
- New Users:
  - Receive complete 9.3.1 package
  - License manager defaults to Dongle-less install
- Available on DVD's only, no CD's or download

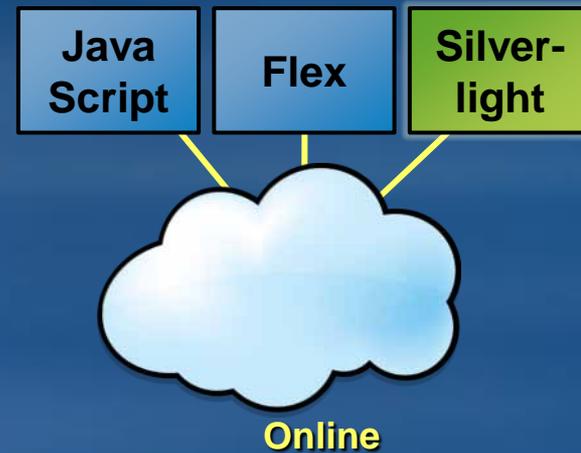
**ArcGIS Online 9.3.1 & Explorer 900 Scheduled For July Release**

## 9.3.1 Has Strong Web Mapping API's

### *Server & Online Licensing*



Included with Server

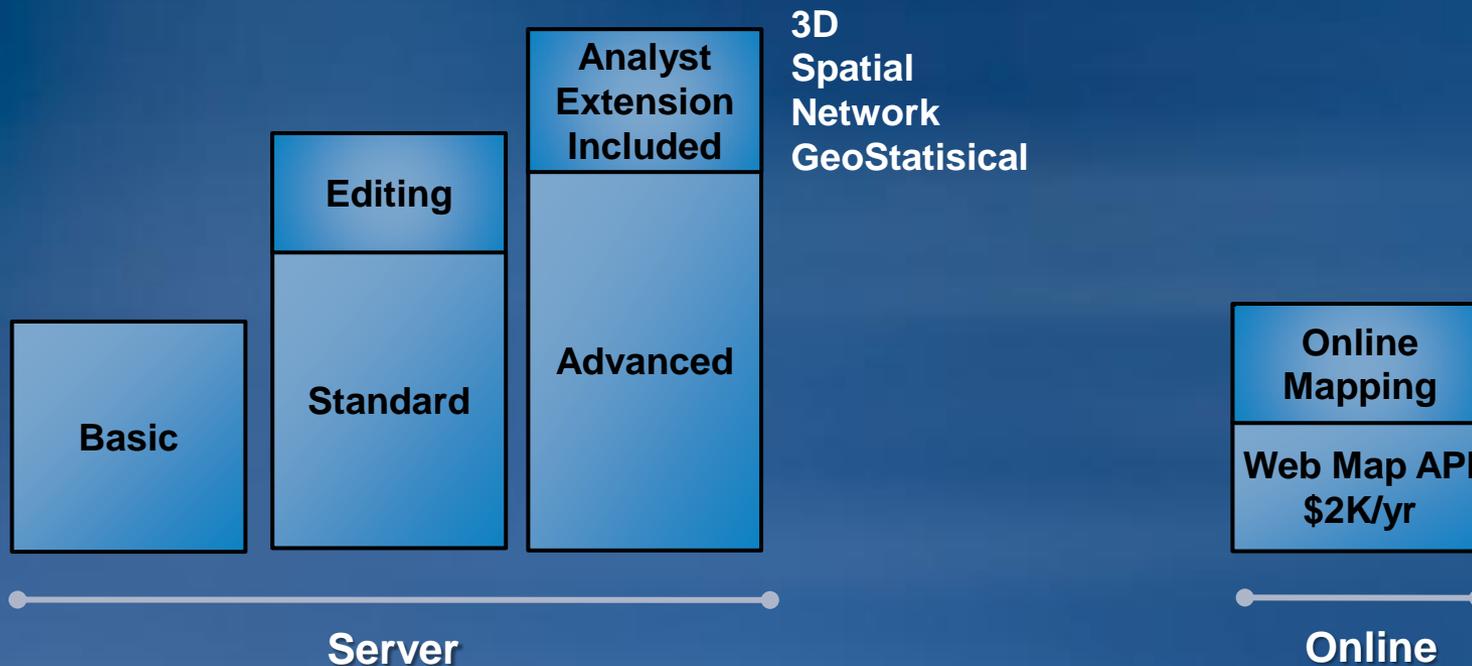


Annual Subscription

*... Providing Flexibility & Many Options for Internet Mapping*

# ArcGIS Server Strategy

*Scalable Solutions for Web GIS*

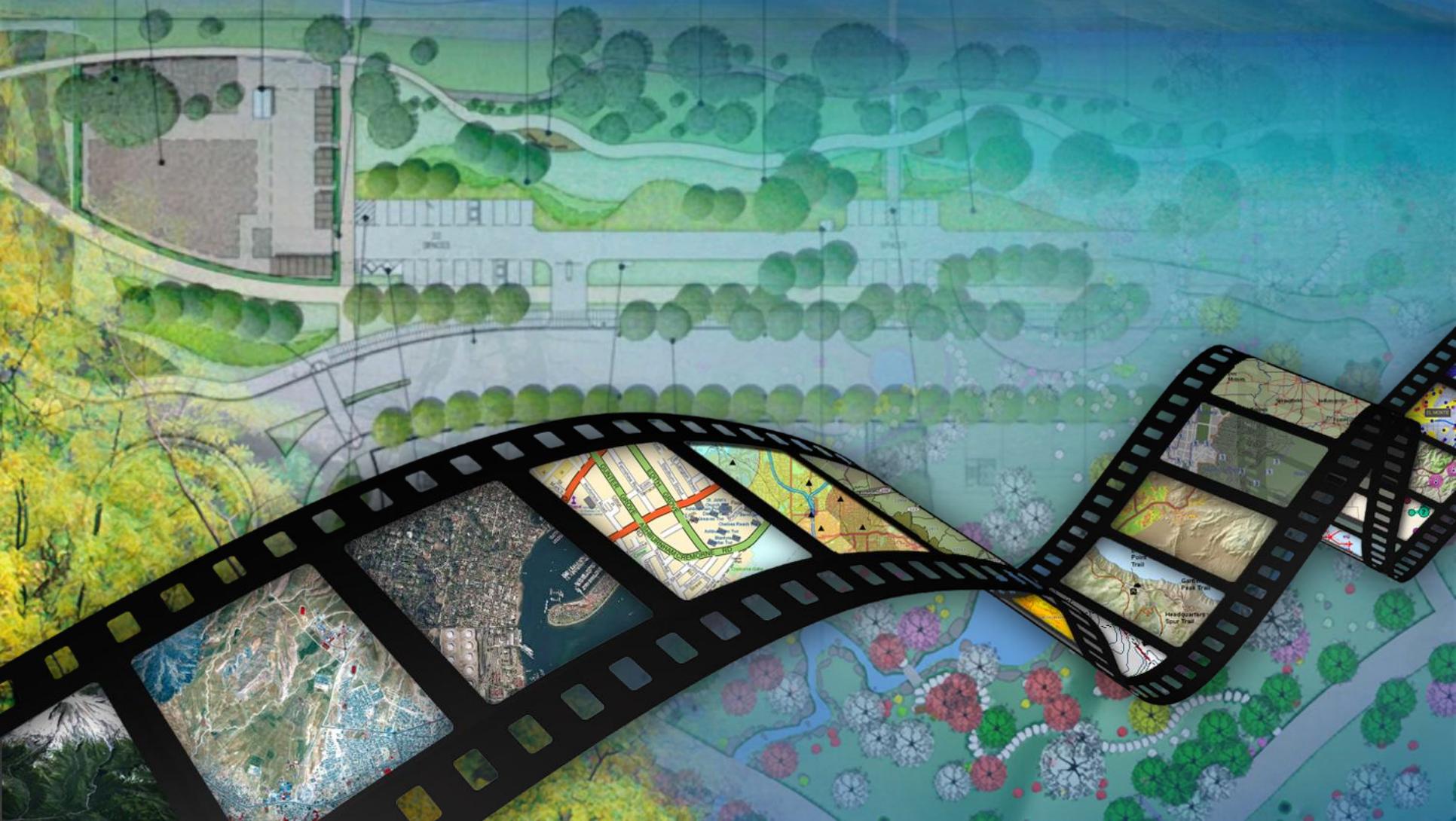


ArcGIS Server Enterprise components that no longer incur a deployment license fee:

- Web ADF – SDK or Runtime
- Web Service Handlers
- Server Object Manager (SOM)

*... Supporting Hosted & On Premise Implementations*

# FUTURE





# Thank You

