

Migrating to ArcGIS 10



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Migrating to ArcGIS 10

- **You'll Need to Know:**
 - **Download & Install**
 - **Workflow Changes**
 - **Data Compatibility**
 - **Scripts & Applications**
 - **Mixed Environments**

- **Keys to Successful Migration**
 - **Know What's New**
 - **Know What You've Got**
 - **Know How It's Used**
 - **Document & Plan**
 - **Test**
 - **Implement & Support**

Let's get started...

What's New in 10

- **ArcGIS Resource Center**
 - Location: <http://resources.arcgis.com>
 - Server Help on the [ArcGIS Resource Center](#)
 - Desktop Help on the [ArcGIS Resource Center](#)
 - More “What’s New at 10” topics in Desktop Help:
 - [Using VBA with ArcGIS Desktop 10](#), geoprocessing, Python, etc..
- **Esri.com**
 - [What’s New Videos](#)
 - [Commonly Asked Questions](#)
- **Free Training Video at Training.esri.com**
 - [ArcGIS 10 Deployment Quick Tour](#)
- **Customer Care Version 10: <https://customers.esri.com/>**
 - Your Software, Purchases, Support and Training Registrations
 - Call Customer Service or Service.esri.com for 9x licensing

Cloud Computing

The New Age of Cloud Computing furnishes technological capabilities, commonly maintained off premises, that are delivered on demand as services via the Internet.

- Cloud GIS offerings can range from data storage to end-user Web applications to other focused computing services.
- Esri considers cloud computing and technology to be important in the development and vision of the ArcGIS platform.



New License Manager

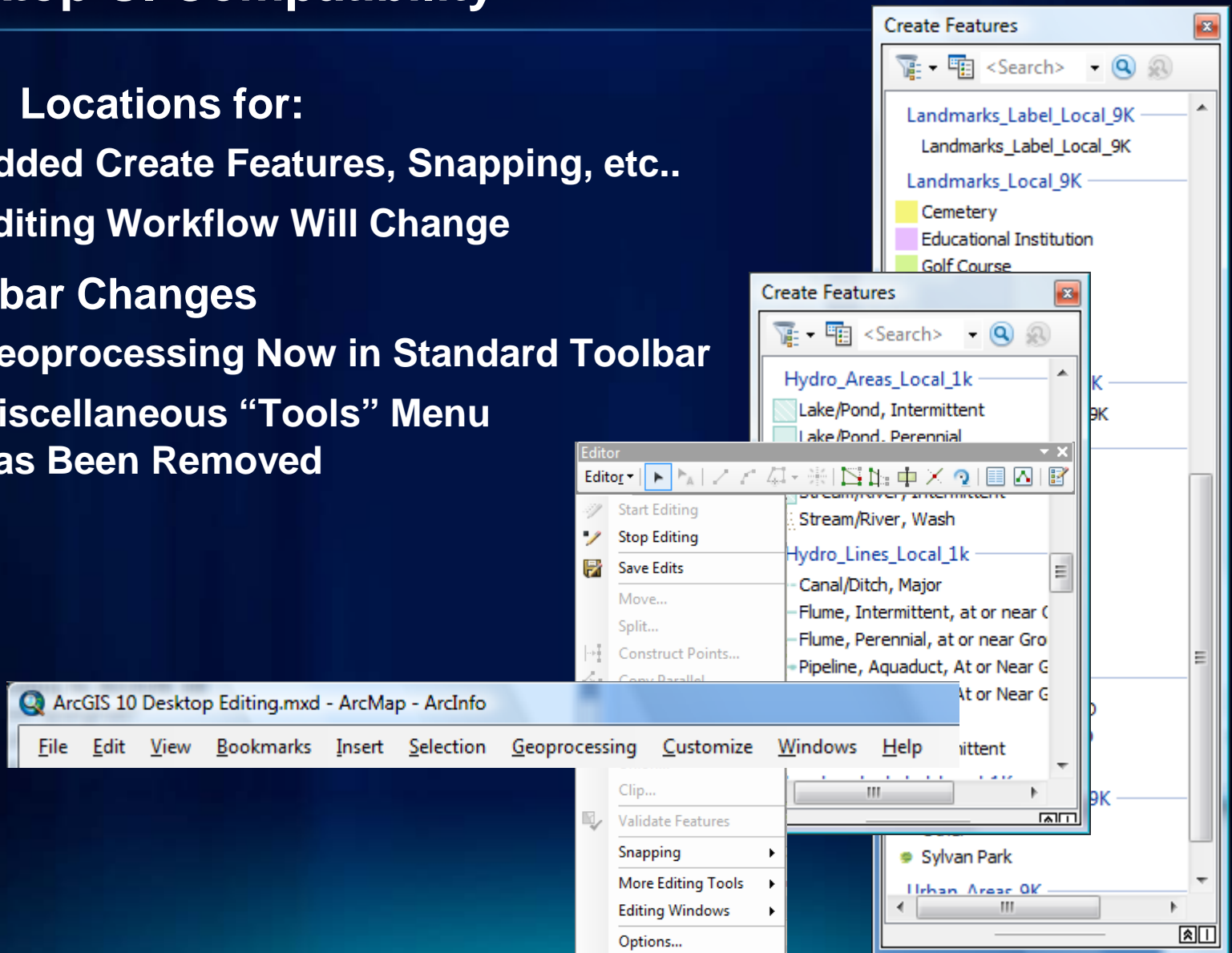
- **ArcGIS License Manager 10**
 - First Uninstall 9x Then Load This
 - Use For All ArcGIS 10 and 9.X Software
 - Licensing Concepts and Strategies **White Paper:**
 - Central License Server, Failover License Server..
 - Borrowing, Provisioning, Cloud Deployment...
 - Enterprise License Deployment **White Paper**
- **Version 10 is All Downloadable.**
 - Media Shipped Only On Request
 - **Software Download Q&A**
- **Service Packs, Patches, etc..**
 - ArcGIS **Service Pack 1** is Out Now
 - Search for All Patches and Service Packs by Product

Document Compatibility

- **Map Documents and Layers**
 - Version 10 Can Open All Previous 9x Map Documents
 - Use “Save As” to Save Version 10 Out as 9x
- **Layer Packages**
 - Version 10 Can Open 9x Layer Packages
 - 9x Can Open Version 10 Layer Packages (Online Will Filter by Version)
- **Map templates (MXT files)**
 - 9x Can be Used in Version 10
 - Save As “MXT” No Longer Supported
 - See Online Help: [MXD Are Now Used as Templates](#)

Desktop UI Compatibility

- **New Locations for:**
 - Added Create Features, Snapping, etc..
 - Editing Workflow Will Change
- **Toolbar Changes**
 - Geoprocessing Now in Standard Toolbar
 - Miscellaneous “Tools” Menu Has Been Removed



Desktop Migration Topics

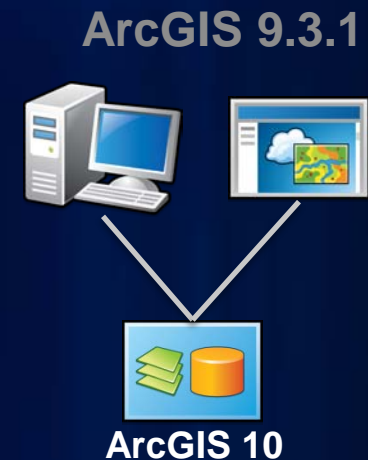
- ArcReader Not in Standard Setup – Now Separate Install
- Version 10 Geocoding Locators Not Supported in 9x
- 3D Analyst and Spatial Analyst Toolbar Commands Removed – Now Use Tools In Toolbox
- VBA Not Supported in the Field Calculator
- VBA Hyperlink Macros No Longer Supported
- ArcToolBox Index removed– Use Search Instead
- 8x Conversion Tools Removed - Other tools are available as substitute
 - Import from e00
- Import from ArcView 3x Project (.apr) Now in Customize Dialog: Help

Misc Server Migration Topics

- **ArcGIS Server Now Separates:**
 - GIS Services Server Install
 - Web Applications Install (Web ADF and Web Map Wizard)
- **Server Object Extension (SOE) Now in ArcObjects SDK**
 - [ArcObjects SDK 10 Microsoft .NET Framework](#)
- **Must Administer Version 10 Server from Version 10 Client**
 - Not from 9.x client (ArcCatalog/Manager)
- **ArcIMS**
 - ArcGIS 9.3.1 was the last release of the ArcMap Server Extension to ArcIMS. If you want [MXD based IMS services](#), you will need to stay with IMS at 9.3.1.
 - Only one more major release of IMS planned: [Deprecation Plan](#)

Services Compatibility

- **9x Map Services (eg: Geocoding)**
 - Fully Supported In ArcGIS 10 Clients
- **Version 10 Services**
 - Version 10 Service Types/Features That Are Supported in 9x Clients
 - Compact Cache'
 - New Version 10 Service Types/Features Not Supported in 9x Clients
 - New Feature Service
 - New Image Service Capabilities



Services Compatibility - Mobile

- Version 10 Applications can Connect to 9x Servers
- 9x Applications can Connect to Version 10 Servers
- Mobile Map Cache Replaces SDC Basemap on Mobile Device at Version 10: Create a Mobile Cache

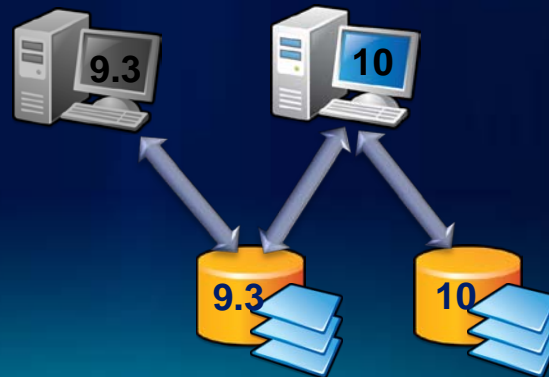


Image Extension

- **Services Compatibility**
 - **Version 10 Image Services are supported in 9x**
 - **9x Image Services are supported in Version 10**
- **Enables Serving of Mosaic Datasets**
 - **Mosaic Datasets are the Geodatabase Data Model for Raster Data Management**
- **Authoring and Serving Image Service Definitions (ISDefs) is Deprecated at 10 and Will Not be Supported Beyond 10**
- **ISDefs Should be Converted to Mosaics Datasets**
 - **ISDefs are a valid source for Mosaic Datasets**
- **Legacy Image Server (ISDef Based) is Available at 10**
 - **Existing Customer**
 - **Separate Install and License**
 - **Last Release**

Geodatabase Compatibility

- **9x Geodatabases Can Be Used in Version 10**
 - **But Cannot Use Any New Version 10 Geodatabase Features (i.e.: Mosaic Datasets)**
- **New or Upgraded Version 10 Geodatabases are not usable in 9x**
- **Upgrading from 9x to Version 10 is done via ArcCatalog or a GP tool, not SDE command line**
 - **Access the tool through the Database Properties dialog box in ArcCatalog, Search, the toolbox itself or with a Python script**



Geodatabase Compatibility

- ArcSDE Client/Server **Compatibility Matrix**
- New Tools to Create Specific GDB Versions
 - Create File GDB and Create Personal GDB (9.2, 9.3, 10)
 - Allows Backward Migration
- Consolidation of GDB System Tables
 - All Internal System Tables Changed in Version 10
 - Direct Access To Internal GDB Schema in 9x Must be Rebuilt for Version 10
 - **Simplified Geodatabase Schema**

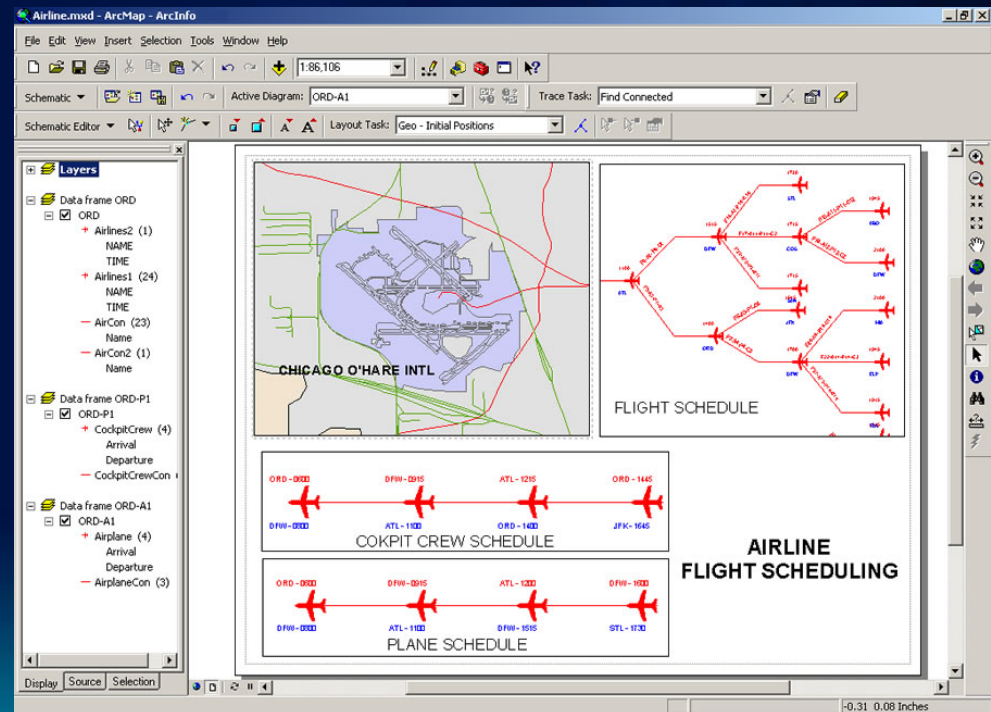
ArcSDE client applications	Version	ArcSDE 9.1	ArcSDE 9.2	ArcSDE 9.3	ArcSDE 9.3.1	ArcSDE 10
ArcGIS Desktop	9.1					
	9.2	1		2	2	
	9.3	1, 3	3			
	9.3.1	1, 3	3			
	10		3, 4	4	4	
ArcGIS Server	9.1					
	9.2	9		2	2	
	9.3	9				
	9.3.1	9				
	10					
ArcIMS	9.1	10				
	9.2	10	10	2, 10	2, 10	
	9.3	10	10	11	11	
	9.3.1	10	10	11	11	
	10		11	11	11	11
ArcPad	7, 7.0.1	12	12	12	12	
	7.1, 7.1.1	12	12	12	12	
	8.0	12	13	13	13	
	10					
ArcView GIS	3.3	14				
MapObjects - Java	2.3					
MapObjects - Windows	2.4		15			
		ArcSDE 9.1	ArcSDE 9.2	ArcSDE 9.3	ArcSDE 9.3.1	ArcSDE 10

Key: - Fully supported
 - Fully supported with services
 - Not Supported

Remember to plan and test upgrades...

Schematic Datasets

- Schematic Extension and Data Model Rewritten at Version 10
- 9x Schematic Datasets Must be Migrated to Version 10
- Version 10 Datasets Cannot be Used in 9x
- Schematic APIs Have Changed - ArcObjects Code Must be Rewritten



Metadata Migration Changes:

- Metadata Has Been Rewritten at 10
- Stored in an ArcGIS Metadata Format for Internal Storage
- Can be Viewed in Multiple “Styles”
- Imported and Exported to On-Disk Specific Standards (ISO, FGDC,...)
- All Existing ESRI-ISO Metadata is Internally Converted to the New Storage Format When Edited/Saved (or via a GP Tool)
- FGDC Style Not Supported Out-of-the-Box at Version 10
 - Download the FGDC Metadata Style Patch
- READ THE HELP... understand Metadata Styles

Customization Compatibility - ArcObjects

- **.NET**

- **9x Code Will Not Work**
- **Must Upgrade Code to Work at 10 (usually simple)**
Consider Upgrade to Visual Studio if Not Yet at 2008 or 2010
- **Help Topics for “Migrating and upgrading your code” in the ArcObjects SDK for Microsoft .NET**

- **Java**

- **9x Code Must be Recompiled**
- **No Major Changes Required**
- **Help Topics in “What’s new in ArcGIS 10” in Java ArcObjects Developer Guide**

Customization Compatibility – VB6 and VBA

- **VB6 Applications are NOT supported in ArcGIS 10**
 - Migrate to language of choice (.NET, Java)
 - See “[Migrating from VB6 to VB.Net](#)” in the online help
- **VBA**
 - Not Installed by Default
 - Must get Free Registration Code from Customer Service
 - Version 10 is Last Release Supported
 - See Help on “[Migrating VBA customizations to ArcGIS 10](#)”

Customization Compatibility – Web APIs

- Existing Web API Applications (1.x) Continue to Work
- New 10 Features Available Only to 2.x Web APIs
 - Editing
 - Time slider
 - Enhanced Image Service capabilities
 - Related and Standalone Geodatabase Tables...
- [ArcGIS Viewer for Flex 2.1](#) is Now Released
- Moving 1.x Code into 2.x Code is Straight-Forward
 - Few Changes Documented in [Migrating to 2.0](#) in Web API help
- Changes in Framework May be More Significant:
 - Visual Studio 2008 to Visual Studio 2010
 - Flex 3 to Flex 4
 - Silverlight 3 to Silverlight 4

Customization Compatibility – Web ADFs

- **.Net**
 - **Out -of-the-Box Web Map Use Migration Utility and Manager**
 - **Custom apps:**
 - **Documentation Available to Migrate the Web ADF to 10 Plus How to Create .NET Web Applications**
- **Java**
 - **Major Changes in the Javascript Libraries and JSF Version (now 1.2) Documented in Migrate the Web ADF to 10 and the Java ADF help**

Is the Web ADF Still Right for You?

Customization Compatibility – ArcGIS Mobile

- **Version 10 Applications Can Connect To 9x Servers**
- **9x Applications Can Connect To Version 10 Servers**
- **Remember**
 - **Recompile 9.3.1 Code**
 - **SDC Basemap on Mobile Device Replaced With Mobile Map Caches at Version 10**

Customization Compatibility – ArcGIS Engine

ArcGIS Code Migration Analyzer

- Identifies Migration Changes Needed

The screenshot displays the ArcGIS Code Migration Analyzer application window. The main window is titled "ArcGIS Code Migration Analyzer" and contains the following elements:

- Projects in Solution:** A list box containing "Test93AppExe", "Test93EngineClassLibrary1", and "Test93EngineClassLibrary2".
- Projects to Analyze:** A list box containing "Test93AppExe", "Test93EngineClassLibrary1", and "Test93EngineClassLibrary2".
- Buttons:** Navigation arrows (right and left) between the project lists, a "Select All" button, and a "Help" button.
- Text:** "Analyzes code to help developers migrate applications to 10.0" and "The Analyzer will recommend changes that you should make to m".

An "Error List" dialog box is overlaid on the main window, showing the following details:

- Summary:** 0 Errors, 43 Warnings, 0 Messages.
- Table:**

	Description
2	ArcGIS: The solution platform should be set to x86 so it can run properly on 64-bit machines. Project: Test93AppExe
3	ArcGIS: Replace assembly reference ESRI.ArcGIS.AxGlobeControl with ESRI.ArcGIS.AxControls. Project: Test93AppExe
4	ArcGIS: Replace assembly reference ESRI.ArcGIS.AxLicenseControl with ESRI.ArcGIS.AxControls. Project: Test93AppExe
5	ArcGIS: Replace assembly reference ESRI.ArcGIS.AxMapControl with ESRI.ArcGIS.AxControls. Project: Test93AppExe
6	ArcGIS: Replace assembly reference ESRI.ArcGIS.AxPageLayoutControl with ESRI.ArcGIS.AxControls. Project: Test93AppExe
7	ArcGIS: Replace assembly reference ESRI.ArcGIS.AxSceneControl with ESRI.ArcGIS.AxControls.

Migration Workflows

- **Important to Plan and Upgrade - Don't Just Let It Happen**
 - **Test Before Production**
 - **Rewrite Workflow Documentation with the Tool Changes**
 - **Have a Backup & Recovery Plan**
 - **Test Workflow with Staging Deployments (Desktops & Servers)**
 - **Phased Upgrade – in Either Order:**
 - **Upgrade Clients (Desktops/Engines) to Version 10**
 - **Updated Servers to Version 10**
- Then:**
- **Upgrade Geodatabase to Version 10**

How Do You Test Data Quality?

Defining Quality

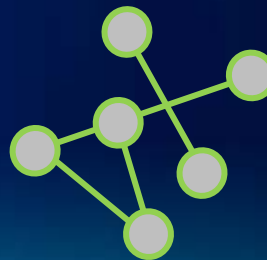
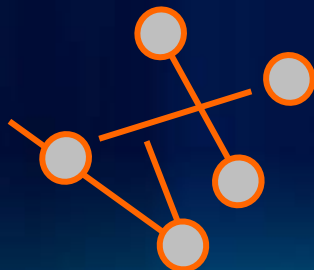
What is 'good' quality?

- Positional Accuracy
- Attribute Accuracy
- Completeness
- Logical Consistency
- Lineage

(Guptill & Morrison, 1995)

Requirements are defined:

- Intended purpose and usage
- Technical specifications
- Client requirements



Quality Control

Quality Control

- The tasks required to ensure data quality
- Methods to assess and evaluate data

Quality Assurance Plan

- Defines desired level of data quality
- Specifies acceptable and unacceptable levels of error
- Identifies how quality control will be performed

Understanding Data Reviewer

- **Extension to ArcGIS Desktop**
- **System to process and assess spatial data quality**

- **Workflow for conducting quality control**
- **Tools to perform automated and visual quality control**
- **Ways to summarize and report information**



Data Reviewer Product Information

- 60-day Trial
- ArcGIS Data Reviewer Checks Poster

Email questions and comments to datareviewer@esri.com

Mapping and Charting Training at Version 10

Instructor-Led Training

- Quality Control Using ArcGIS Data Reviewer (2 Days)
- Understanding ArcGIS Workflow Manager (3 Days)
- Data Editing with Esri Production Mapping (3 Days)
- Cartography with Esri Production Mapping (2 Days)
- Introduction to Esri Production Mapping (5 Days)

Virtual Campus:

- Introduction to GIS Data ReViewer

Training Resources

- **Instructor-Led Courses in Classroom or Virtual**
 - [What's New with ArcGIS 10 Desktop](#); 2-days; \$980
 - [What's New with Editing in ArcGIS 10](#); 1-day; \$490
- **Self-Paced Web Course (3 hrs, Hands-on)**
 - [Using ArcMap with ArcGIS 10](#); Free
 - [Editing in ArcGIS Desktop 10](#); Free
 - [Using Python in ArcGIS Desktop 10](#); Free
- **Many Free ArcGIS 10 Training Seminars**

[Editing in ArcGIS Desktop](#)

[Visualizing and Analyzing Imagery](#)

[Managing Imagery in ArcGIS](#)

[Using Network Analyst in ArcGIS](#)

[Developing Add-Ins for ArcGIS Desktop](#)

[ArcGIS 10 Deployment: Download, Installation, and Authorization](#)

[Web Editing with ArcGIS Server](#)

[Geocoding in ArcGIS Desktop](#)

New Courses for ArcGIS 10

2-Day Instructor-Led in Classroom or Virtual

- **ArcGIS Extension Courses:**
 - **Managing Imagery Using ArcGIS**
 - **Working with 3D GIS Using ArcGIS**
- **ArcGIS Server/Web Applications Course:**
 - **Creating Effective Web Applications Using ArcGIS Server**

Great for the GIS Analyst. Choose Flex, JavaScript or Silverlight API
- **ArcGIS Server Developer Courses:**
 - **Building Web Applications using the ArcGIS API for Flex**
 - **Building Web Applications using the ArcGIS API for Microsoft Silverlight/WPF**
 - **Building Web Applications using the ArcGIS API for JavaScript**

Workshops from Esri Professional Services

- **Geodatabase Data Modeling Workshop** **2 days**
 - Steps involved in the geodatabase modeling process
- **Database Conversion and Migration Workshop** **3 days**
 - Basics of data migration and/or conversion process
- **Parcel Editing Discovery Workshop** **3 days**
 - New parcel editing capabilities & templates in ArcGIS 10
- **Enterprise GIS Health Check** **3 days & 12 hours remote**
 - Examine existing GIS systems for errors, problems, and configuration issues that may impact the usability of Esri products
 - Report outlining the overall health of the system and recommendations to address any identified issues.

Jump Start Services

- **ArcGIS Workflow Manager or Data Reviewer Jump Start: 5 days**
 - Workshop plus installation and configuration assistance
- **ArcGIS Server Jump Start: 3 and 4 day options**
 - Installation and configuration assistance for ArcGIS Server Enterprise
- **ArcGIS Server for Amazon Jump Start: 4 days**
 - On-site installation, configuration assistance, and technology transfer for ArcGIS for Amazon EC2
- **ArcGIS Server Geoportal Extension: 3 and 5 day options**
 - Teaches how to install, configure, and customize a geospatial portal & review of how to manage the metadata using ArcCatalog™

In the Cloud

ArcGIS Server Cloud Solutions Offered by Esri

- **ArcGIS Server on Amazon EC2**: your pre-configured ArcGIS Server hosted by a Cloud provider and managed by you. No software installation and no hardware to maintain. Plus, you get full access to a range of Cloud services. [**See details.**](#)
- **ArcGIS Server with Cloud Infrastructure**: your pre-configured ArcGIS Server hosted and managed by Esri. Fast deployment. No Cloud accounts to manage. And no set up fees. We take care of everything. [**See details.**](#)
- **Esri Managed Services**: your custom solution for hosted Web mapping applications and services. Your design. Our expertise. Let us help you build the right Cloud solution for your organization

ArcGIS Server on Amazon EC2

- **ArcGIS Server Amazon's Elastic Compute Cloud (EC2).**
 - Use existing license or Renewable 1, 3 or 12 Month Term License
 - All you need is an [Amazon Web Services](#) account to get started.
 - Contact [Esri Customer Service](#).
- **ArcGIS Server on Amazon EC2 includes the following Amazon Machine Images (AMIs):**
 - ArcGIS Server on Windows 2008
 - ArcGIS Desktop SP1 (for Server administration only)
 - SQL Server Express (if needed to secure access to services)
 - A 100 GB drive for GIS Data
- **Enterprise Geodatabase AMI**
 - PostgreSQL Enterprise Geodatabase on Windows 2008
 - A 100 GB drive for storage of data.
- **More info: [ArcGIS Server on Amazon EC2 Resource Center](#).**

ArcGIS Server with Cloud Infrastructure

- **ArcGIS Server 4-core Windows Server 2008 virtual machine in the Amazon EC2 cloud infrastructure.**
 - 2.0 GHz processor per core
 - 15 GB of memory
 - 500 GB of storage
 - Microsoft Windows Server 2008 64-bit platform
- **Cloud account management by Esri**
- **Available to U.S. customers only.**
- **No need to install or maintain software or manage Cloud accounts and no set up fees**
- **Software is always up-to-date**
- **Use existing ArcGIS Server license renewable 1, 3, and 12 month term licensing**
- **Documentation: deployment guide, best practices, and online help**

Esri Managed Services

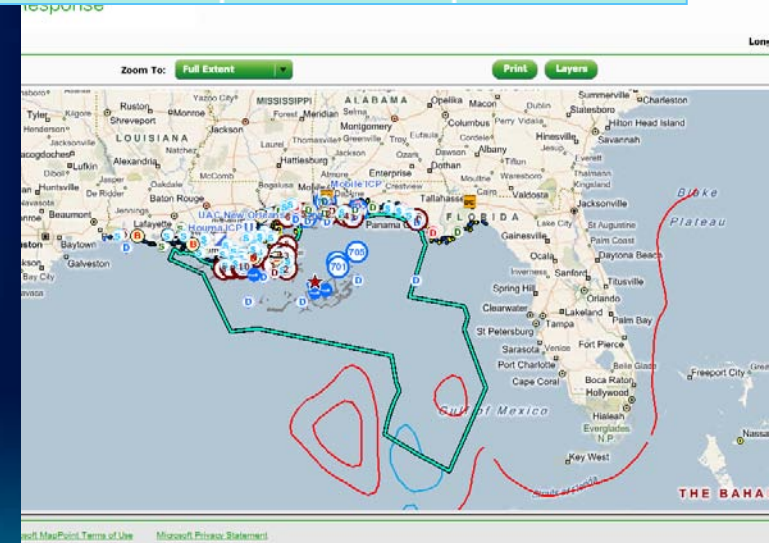
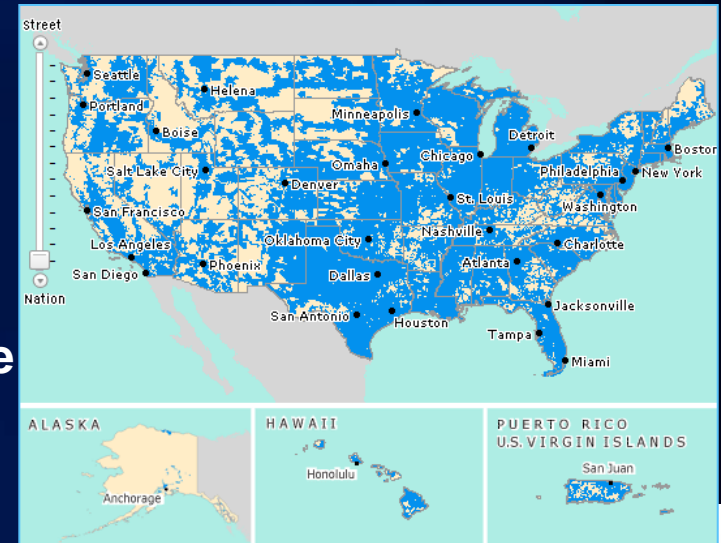
- Here's How ArcGIS Server Cloud Solutions Compare

	ArcGIS Server on Amazon EC2	ArcGIS Server with Cloud Infrastructure	Esri Managed Services
Preconfigured ArcGIS Server			Esri-managed
Choice of Server configuration		Esri-managed	Esri-managed
Self-serve Cloud account management		Esri-managed	Esri-managed
Preconfigured enterprise geodatabase			Esri-managed
Esri Technical Support			
Licensing	Use your ArcGIS Server perpetual license or choose from 1, 3, or 12 month, renewable term licensing options		

Esri Managed Services

Examples

- **AT&T Coverage Viewer - High availability and heavy usage**
 - ArcGIS Server 9.3.1 JavaScript
 - Weekly Data Updates
 - ArcGIS Online & Weekly Data Update
 - 99.5% System Availability
 - 400,000 map requests per day max.
- **BP Gulf of Mexico Response Map - Fast deployment, scalable**
 - ArcGIS Server 10 Flex
 - Daily Data Updates
 - 99.9% System Availability
 - 90,000 map requests per hour max.



Esri Managed Services: What do you get?

- **Infrastructure**
 - Facilities
 - Network
 - Security
 - Hardware
 - Software (ESRI and 3rd Party)
- **Deployment**
 - Staging
 - Production
- **Data Management**
 - Data Updates
 - Data Backup and Archive
- **Technical Support and Monitoring**
 - Tier 1 Helpdesk
 - Tier 2 Hosting Environment
 - Tier 3 Custom Application



Best Practices - Architecture

Prepare Environments to Support Upgrades

- Test/Development
- Staging
- Production

Best Practices - Planning

- **Planning**
 - **Research New Functionality**
 - **Inventory Existing Software, Hardware, Applications**
 - **Plan a Migration Strategy**
 - **Update Workflows**
 - **Testing**

Best Practices - Implementation

- **Start Migration Process**
 - Evaluate Custom Code
 - Upgrade Applications
 - Upgrade Servers
 - Upgrade Clients
 - Upgrade Geodatabase Last
 - Testing



<http://resources.arcgis.com>