Choosing the Right Customization Pathway for ArcGIS Server
Agenda

• Introduction to ArcGIS Server
• Out-of-the-box Web Mapping Application
• Software Developer Kits (SDKs)
  – Web Application Developer Framework (ADF)
  – ArcGIS JavaScript API
  – ArcGIS API for Flex
• Summary
• Resources
ArcGIS Server

- Complete
- Interoperable
- Server-Based
- GIS

Making GIS Knowledge Available To Anyone . . .

. . . Integrates With Other Systems Via Standards
ArcGIS Services and Applications

Applications
- ArcGIS Desktop
- ArcGIS Explorer
- Browser Applications
- Mobile Applications
- Composite Applications

Services
- 2D Mapping
- 3D Globe
- Geodatabase
- Locator
- Geoprocessing
- Image
ArcGIS Server Resource Center

- [http://resources.esri.com/arcgisserver/](http://resources.esri.com/arcgisserver/)

### Web Applications

**JavaScript™**

Develop custom JavaScript™ applications that mashup ArcGIS services, Google Maps, and Microsoft Virtual Earth™ data. The ArcGIS JavaScript API takes full advantage of powerful mapping, geocoding, and geoprocessing services.

**Flex™**

Develop rich internet applications with ArcGIS services using the Flex™ framework. The API enables creating applications with intuitive, visually rich and responsive user interface. The ArcGIS API for Flex takes full advantage of the powerful mapping, geocoding, and geoprocessing capabilities of ArcGIS services.

**.NET**

Build applications with GIS capabilities

**Java**

Build applications with GIS capabilities
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Out-of-the-box Web Mapping Application demo
Why use the out-of-the-box Web Mapping Application?

• The only out-of-the-box configurable application
• Easy to configure
  – No programming skills required
  – Tasks and tools, data sources, look and feel (skins)
  – Enhanced experience with 9.3
  – Easily securable
• Ideal for GIS web users
User stories of the Web Mapping Application
Out-of-the-box Web Mapping Application use cases

- **Web GIS Viewer**
  - Navigation and more: Measure tool, Overview, Table of Contents, Identify, Search, etc.
  - Blend multiple services (ArcGIS Server, ArcIMS, WMS)

- **Web Editing**
  - Edit enterprise geodatabases
  - Snapping, split, merge, attribute domains

- **Run GIS Analytical tools (Geoprocessing)**
Authoring maps for the Web

- Optimizing dynamic map services
- Using cached map services
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Web ADF Software Developer Kits
Why use the Web ADF SDKs?

- The most complete developer framework in the market
- Fully integrated with IDEs
- Many developer controls
- Extensible
- Leverages all ArcObjects functionality
- ESRI provides the source code of many tasks (Code Galleries)
- Major improvements at 9.3
- Ideal for Advanced .NET and Java Developers
Web ADF SDK use cases

• Focused applications
  – Visualization
  – Web Editing
  – Analysis

• Integration with other systems
  – SharePoint
  – Databases
  – .NET or Java development environments
User stories of the Web ADF SDK Application
Sample application: Integration with SharePoint
Developer skills

- Requires server development experience
  - Security, .NET, Java, web servers
  - Compiled code
  - Designed for extensibility
  - Custom tasks
- Take advantage of ESRI Business Partners
Web ADF Map Viewer Solution (MVS)
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ArcGIS JavaScript API

- Lightweight programming model
- Mapping, querying, analysis
- Simple architecture
- Free deployment
- Everything you need is online
Why use the ArcGIS JavaScript API?

- Very low entry bar for developers
- Simple things made easy. It does very few things but very well
- Enough for a lot of projects
- Simple to maintain
- Easy migration path for many of our users (ArcIMS, Avenue programmers)
Sample application 1: demographic reports
Sample application 2: parcel notification
Sample application 3: trail map
JavaScript API demo
JavaScript API Extensions
For Google Maps and Microsoft Virtual Earth

• Similar to ArcGIS JavaScript API
• Mainly for non-ESRI users
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ArcGIS API for Flex

- Same functionality as the JavaScript API
- Leverage Adobe Flex
ArcGIS API for Flex demo
User stories of the ArcGIS API for Flex

- **Golden Guardian 2008**
  - CalEMA, Resources Agency
  - Test major disaster response
  - Local, state, federal agencies
  - Over 5,000 participants
  - Application set up in a short time
Why use the ArcGIS API for Flex?

- Rich Internet Applications
- Simple architecture, simple API
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# ArcGIS Server Web clients and the GIS resources

<table>
<thead>
<tr>
<th></th>
<th>JavaScript</th>
<th>Flex</th>
<th>WebADF</th>
<th>ArcIMS</th>
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<tbody>
<tr>
<td>Map Service</td>
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<td>ArcIMS</td>
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<td>WMS</td>
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<tr>
<td>Image Service</td>
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<td>WFS</td>
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<tr>
<td>WCS</td>
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</table>
## Developer functionality of ArcGIS Server Web clients

<table>
<thead>
<tr>
<th>Feature</th>
<th>JS</th>
<th>Flex</th>
<th>WebADF</th>
<th>ArcIMS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Fine Grained ArcObjects</td>
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<tr>
<td>Change Layer Definitions on map service layers</td>
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<td>X</td>
<td>X</td>
<td>X</td>
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<tr>
<td>MapTips (point, polyline, polygon)</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>IDE Integration and controls</td>
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<td>X</td>
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<tr>
<td>Custom Data Sources</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Page Layout Control (Prints ArcMap-like layouts)</td>
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<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Customization pathways

Out of the box

Web Mapping Application

No programming experience required

SDKs

WebADFs

.NET

Java

JavaScript

ArcGIS

GM

VE

.NET experience

Java experience

JavaScript experience

ActionScript MXML experience

.NET experience

Java experience

JavaScript experience

ActionScript MXML experience

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ActionScript MXML experience
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- **ArcGIS Server Resource Center**

- **ArcGIS Server help**

- **Recorded training seminars**

- **ArcGIS Server functionality matrix**

- **ArcGIS Server license levels**
Selected Instructor-led Training for ArcGIS Server

• Introduction to ArcGIS Server
• ArcGIS Server: Web Administration Using the Microsoft .NET Framework
• Developing Applications with ArcGIS Server Using the Java Platform
• Developing Applications with ArcGIS Server Using the Microsoft .NET Framework
• Introduction to ArcGIS Server Image Extension
Upcoming Live Training Seminars

• Free!
• Introduction to ArcLogistics Navigator
  – Thursday, February 12, 2009
    9:00 a.m., 11:00 a.m., & 3:00 p.m. Pacific Time
• ArcGIS Server Image Services at 9.3
  – Thursday, March 26, 2009
    9:00 a.m., 11:00 a.m., & 3:00 p.m. Pacific Time

http://training.esri.com/campus/seminars/schedule.cfm
Upcoming ESRI Online Virtual Classroom Training

- **ArcGIS Survey Analyst: Maintaining Land Records Using the Cadastral Editor Version 9.3**
  - 02/24/09–02/26/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online
  - 05/19/09–05/21/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online

- **Working with CAD Data in ArcGIS Desktop Version 9.3**
  - 03/03/09–03/05/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online

- **Working with Geometric Networks for Utilities Version 9.3**
  - 03/17/09–03/19/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online
  - 04/28/09–04/30/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online
  - 06/16/09–06/18/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online

- **Advanced Techniques for Labels and Annotation Version 9.3**
  - 04/07/09–04/09/09: 8:30 AM – 11:30 AM PT, Tuesday–Thursday Online
Upcoming ESRI Instructor-led Training: Sacramento office

- ArcGIS Desktop I: Getting Started with GIS Version 9.3
  - 05/04/09–05/05/09

- ArcGIS Desktop II: Tools and Functionality Version 9.3
  - 02/23/09–02/25/09
  - 03/30/09–04/01/09
  - 05/06/09–05/08/09

- ArcGIS Desktop III: GIS Workflows and Analysis Version 9.3
  - 02/26/09–02/27/09
  - 04/02/09–04/03/09
Upcoming ESRI Instructor-led courses: Sacramento

- **Introduction to Programming ArcObjects Using VBA Version 9.3**
  - 02/18/09–02/20/09

- **ArcGIS Server Enterprise Configuration and Tuning for SQL Server Version 9.3**
  - 06/11/09–06/12/09

- **Data Management in the Multiuser Geodatabase Version 9.3**
  - 03/09/09–03/11/09
  - 06/08/09–06/10/09

- **Introduction to ArcGIS Server Version 9.3**
  - 02/12/09–02/13/09
  - 05/11/09–05/12/09

- **ArcGIS Server: Web Administration Using the Microsoft .NET Framework Version 9.3**
  - 05/13/09–05/15/09
Questions?
Thank You