ArcGIS Viewer for Flex
An Introduction
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Agenda

• Background
• Product overview and advantages
• Functionality and UI (widgets)
• Installation structure
• Configuration
• Development
• Road ahead
ArcGIS 10 — A Complete System

Easier
More Powerful
and Everywhere

• Discover
• Create
• Manage
• Visualize
• Analyze
• Collaborate

Cloud
Enterprise
Local
Review: Data Content in a Web Map

*Common design pattern*

- **Base Maps**
  - Geographic frame of reference
  - Contain static data

- **Operational layers**
  - Information overlays that end uses interact with
  - Contain dynamic data

- Operational layers display on top of Base Maps
Building Web clients

• **Web Mapping APIs**
  - ArcGIS API for JavaScript
  - ArcGIS API for Flex
  - ArcGIS API for Silverlight

• Provide a comprehensive framework for creating GIS enabled Web mapping applications

• Primarily geared towards developers

• **ArcGIS Server Manager - Application Builder**
  - Deprecated post ArcGIS 10
Product history

• Before ArcGIS 10, there was the **Sample Flex Viewer**
  - Developer sample built on the Flex API
  - One of the top downloaded samples
  - Hundreds of active sites

• **ArcGIS Viewer for Flex** (released Sept 20, 2010)
  - Formal product release of the Sample Flex Viewer
  - Approx. 17,000 downloads
  - ArcGIS Online group
    - **ArcGIS Viewer for Flex Live Sites**
ArcGIS Viewer for Flex

- Configurable ready-to-deploy Web client
  - Built with the ArcGIS API for Flex
- Easily and quickly build GIS Web mapping applications

- No programming required, designed with the “non-developer” in mind
- Supported by ESRI Technical Support
- Resource Center
  - [http://links.esri.com/flexviewer](http://links.esri.com/flexviewer)
ArcGIS Viewer for Flex – User Interface

“Open” widget (from Widget tray)

Overview Map widget
Demo 1
Introducing the ArcGIS Viewer for Flex
Advantages of the ArcGIS Viewer for Flex

- Configurable *ready-to-deploy* ArcGIS Server Web client
  - No programming required
- Extensible functionality via widgets

- Starting template to create custom Web mapping applications
  - No need to re-architect underlying framework
- Viewer application framework can be extended with ArcGIS API for Flex development
  - Source code provided
ArcGIS Viewer for Flex – Users

2 main groups who use the Viewer

• **Configurators**
  - Configure and deploy the Viewer without programming
  - Leverage existing widgets
  - E.g., GIS analysts, Website designers, Managers

• **Developers**
  - Extend Viewer functionality
    - Change behavior of existing widgets
    - Create new widgets
    - Extend Viewer application
  - E.g., Business partners, Website developers, Flex API developers
Working with the ArcGIS Viewer for Flex

- Configurable XML files enable changes to:
  - Appearance
  - Functionality (via widgets)
  - Data content

- Widgets - modular functionality
  - Consist of:
    - XML configuration file
    - Compiled Flash (.swf) file
ArcGIS Viewer for Flex functionality

*Based on widgets*

- Viewer application functionality defined by widgets
- **20 core widgets included** (increase with future releases)
- Each widget is configurable
  - No programming required

- Use a select group of widgets to create custom Web clients to address specific business workflows
  - Build focused Web mapping applications
- “Lego-like” approach to client development
### Core functional widgets

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bookmark</strong></td>
<td><img src="image1.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Data Extract</strong></td>
<td><img src="image2.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Draw</strong></td>
<td><img src="image3.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Edit</strong></td>
<td><img src="image4.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>GeoRSS</strong></td>
<td><img src="image5.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Layer list</strong></td>
<td><img src="image6.png" alt="Icon" /></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Locate</strong></td>
<td><img src="image7.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Print</strong></td>
<td><img src="image8.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Query</strong></td>
<td><img src="image9.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Search</strong></td>
<td><img src="image10.png" alt="Icon" /></td>
</tr>
<tr>
<td><strong>Time slider</strong></td>
<td><img src="image11.png" alt="Icon" /></td>
</tr>
</tbody>
</table>
Core UI widgets

- Header controller

- Map switcher

- Navigation

- Overview map
Core UI widgets

- Coordinates
- Legend
- Pop Up windows
- Splash screen
ArcGIS Viewer for Flex – Resource Center

http://links.esri.com/flexviewer

• Download the application
• Help documentation, widget and configuration samples, and support forum
Demo 2
Explore Viewer functionality
(tour of different widgets)
Viewer installation structure

Download package contents

- Contains Viewer resources
- Contains Pop up window configurations
- Contains widgets

Viewer configuration files
Localization support files

Each widget has:
- XML configuration file
- Compile Flash (.swf) file
Customizing the ArcGIS Viewer for Flex

Configure for your business requirements

- ArcGIS Viewer for Flex can be easily customized
  - Appearance, functionality, and data content
  - Edit XML configuration files (no programming)

- It also has an extensible framework
  - Source code available

- Custom development
  - Using the ArcGIS API for Flex
Review: ArcGIS Server – Web protocols

*Support industry standards*

- Its GIS services can be accessed via
  - Representational State Transfer (REST)
  - Simple Object Access Protocol (SOAP)
  - Keyhole Markup Language (KML)
  - Open Geospatial Consortium (OGC)
Review: ArcGIS Server – Services Directory

*View of ArcGIS Server REST endpoint*

- ArcGIS Services Directory exposes REST API
  - http://localhost/ArcGIS/rest
Configure the ArcGIS Viewer for Flex

- Customize by editing the application configuration file

Edit `config.xml` file
- Appearance
- Functionality
- Data content
Enable custom data

- **ArcGIS Services Directory**
  - View of REST endpoint
  - Information about Web services
  - [http://localhost/ArcGIS/rest](http://localhost/ArcGIS/rest)

- **Edit Viewer configuration file**
  - Add as base map or operational layer
  - Use `<layer>` tag
  - Reference URL address
  - Ensure consistent projection
Demo 3
Configure the Viewer
Demo 3 summary

*Configuring the Viewer*

- Changed title, logo, style colors
- Defined new spatial extent for map display
- Switched basemap
- Added operational layer
Add new widgets

Widgets power the Viewer

- Widgets are added in 2 different locations in the Viewer configuration file (*config.xml*)
  1. As a stand-alone widget
  2. In a widget container
- Use `<widget>` tag
Widget code gallery – Resource Center

- Contributed by Esri staff and user community
Configure Viewer application widgets

- Customize each widget by editing its configuration file

Example: Edit `BookmarkWidget.xml` file (Properties of the widget)
Demo 4

Adding widgets to the Viewer
Developing with the ArcGIS Viewer for Flex

**Extending its capabilities**

- **Requirements**
  - Adobe Flex SDK
  - Flash Player
  - IDE (Flash Builder)
  - ArcGIS API for Flex

- **Application & widget source code available**

- **Common patterns**
  - Change behavior of existing widgets
  - Create new widgets
  - Extend Viewer application
Road Ahead

• Next **ArcGIS Viewer for Flex 2.4**
  - Release: end of July

• **ArcGIS Viewer for Flex - Application Builder**
  - Interactive “point and click” user experience for viewer configuration
  - Supports ArcGIS Online Web Maps
  - Beta: late summer 2011
  - Release: late Q3/early Q4 2011
ArcGIS Viewer for Flex - Application Builder

Beta coming soon

Custom Web mapping application
Summary

- Creation GIS Web clients, **without programming**
- **Configurable Web mapping application**
  - Uses a ‘configure and deploy’ approach
- Can be extended with ArcGIS API for Flex development
  - **Source code provided**
- Supported by Technical Support

- Online evaluations
  
  [www.esri.com/sessionevals](http://www.esri.com/sessionevals)
Related UC sessions

- **Adobe Flex Special Interest Group**
  - Tues 12:00 – 1:00 PM Room 5 A/B

- **ArcGIS API for Flex – An Introduction**
  - Wed 10:15 – 11:30 AM Room 8

- **ArcGIS API for Flex – Advanced Topics**
  - Tues 10:15 – 11:30 AM Room 8
  - Thurs 8:30 – 9:45 AM Room 8

- **Road Ahead – Flex**
  - Wed 4:05 – 4:25 PM Room 6A

- **Flex Appeal**
  - Wed 12:00 – 1:00 PM Room 8
Related Demo Theater presentations

• Changing the Look and Feel of Your ArcGIS Viewer for Flex Application
  - Wed  5:00 – 5:45 PM   Exhibit Hall C
  - Thurs 12:00 – 12:45 PM   Exhibit Hall C

• Creating Your Own Custom Widget for the ArcGIS Viewer for Flex
  - Thurs 11:00 – 11:45 AM   Exhibit Hall C