Esri Petroleum User Group Conference

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Web Mapping Applications with ArcGIS

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esri

Agenda

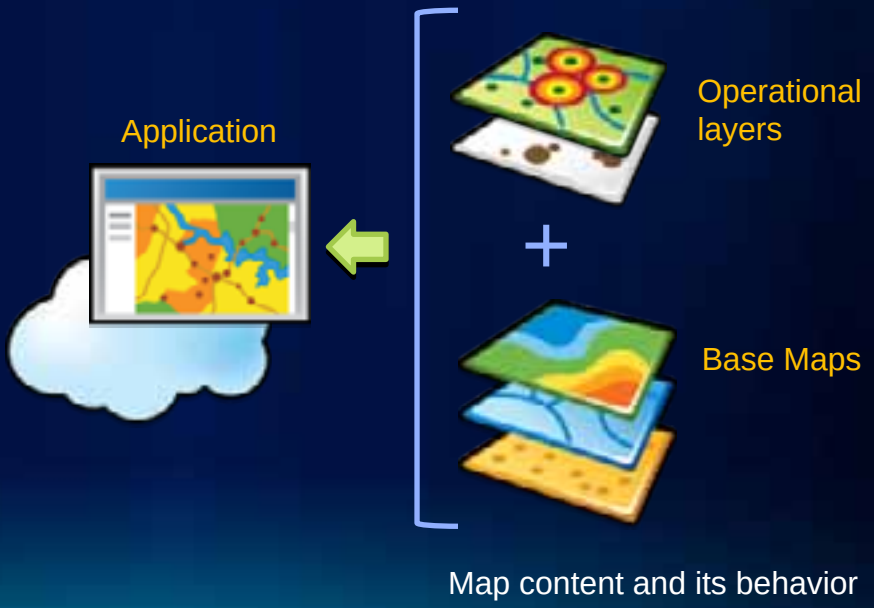
- Web Mapping and Map Services Fundamentals
- ArcGIS Web Mapping Applications
  - Hosted online
  - Hosted on-premise
- Summary

Web Application Fundamentals

- A Web application is an app that is accessed over a network
  - Intranet or internet
- GIS use case is typically a Web mapping application used within a Web browser
- Generally not a fully functional GIS application, but a focused application

Web Mapping Applications use GIS Services

- Web Mapping apps consist of:
  - Map content
    - *Base Maps*
    - *Operational layers*
  - Functionality (tasks)
    - *Use other GIS services*



ArcGIS includes ready-to-use configurable Web Apps

No programming and no development

Hosted on ArcGIS.com

ArcGIS.com Viewer

ArcGIS Explorer Online

Hosted on-premise

ArcGIS Viewer for Flex

ArcGIS Viewer for Silverlight

ArcGIS for SharePoint

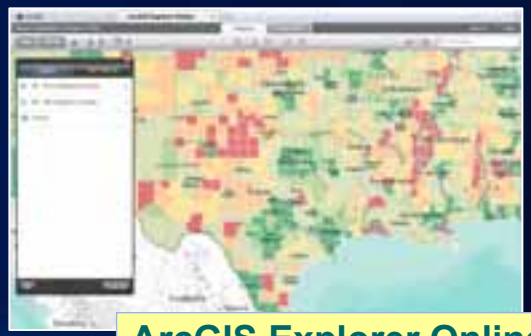
`http://resources.arcgis.com/content/web/web-apps`

ArcGIS.com and its Configurable Web Apps

A new look at creating and sharing geographic information

- A public site, hosted by Esri
- Find, create and share geographic information
  - Empowering the non-GIS expert!
- Public and Private Groups
- Two ready to use applications:

ArcGIS.com Viewer



ArcGIS Explorer Online

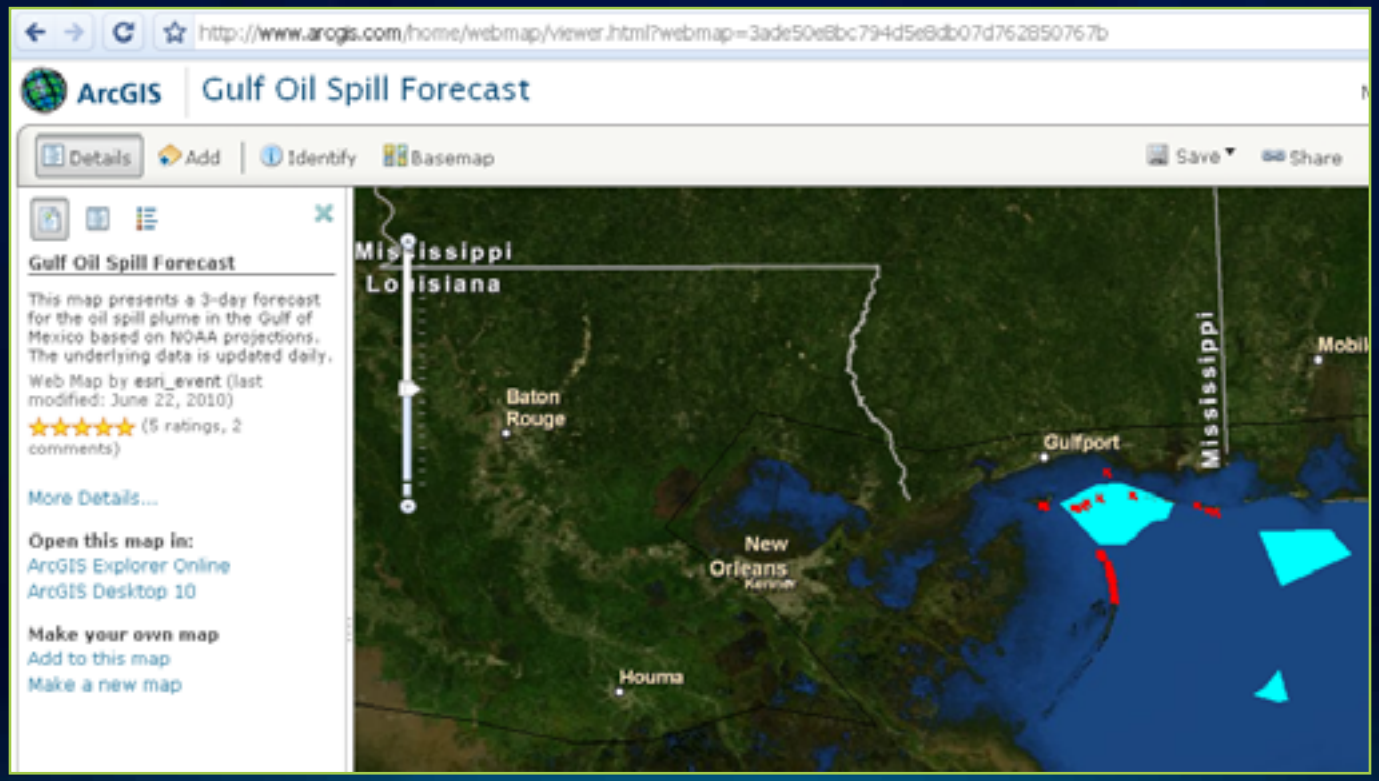
arcgis.com

A gateway into your ArcGIS Server services and applications

A

ArcGIS.com Viewer

- **Author and share maps with NO programming**



ArcGIS.com Viewer: Downloading Template apps

http://www.arcgis.com/home/webmap/viewer.html

- Download HTML apps that use your Web Maps
- Create a Web Map
- Select a Template Web Application
- Save and host on your own
- Optionally change the source code

ArcGIS Explorer Online

- Free, lightweight, rich internet client
- A lightweight version of ArcGIS Explorer Desktop
- Includes:
  - Base Map gallery
  - Notes (markup)
  - Dynamic presentations
  - Query
  - More …

http://explorer.arcgis.com/

Demo 1
ArcGIS.com Web Apps

Summary of ArcGIS.com Web Apps

Ready-to-use map viewer apps

- Configurable but not customizable
- Hosted by Esri
  - They do not work unless you are connected to the internet
  - Not for sensitive data
- **ArcGIS.com Viewer**
  - Based on HTML (no plug-in needed)
  - Simple mashups
  - Embeddable web maps
- **ArcGIS Explorer Online**
  - Silverlight (needs plug-in)
  - Great for presentations
  - Some more advanced features (notes and configurable search)

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ArcGIS Viewer for Flex

A ready-to-deploy application built on the ArcGIS API for Flex

- Configurable application
  - Look and feel
  - Capabilities
  - Content
- Ideal for focused/vertical applications
- Extensible/customizable
- Supports ArcGIS.com Web Maps
- You host it, you control it

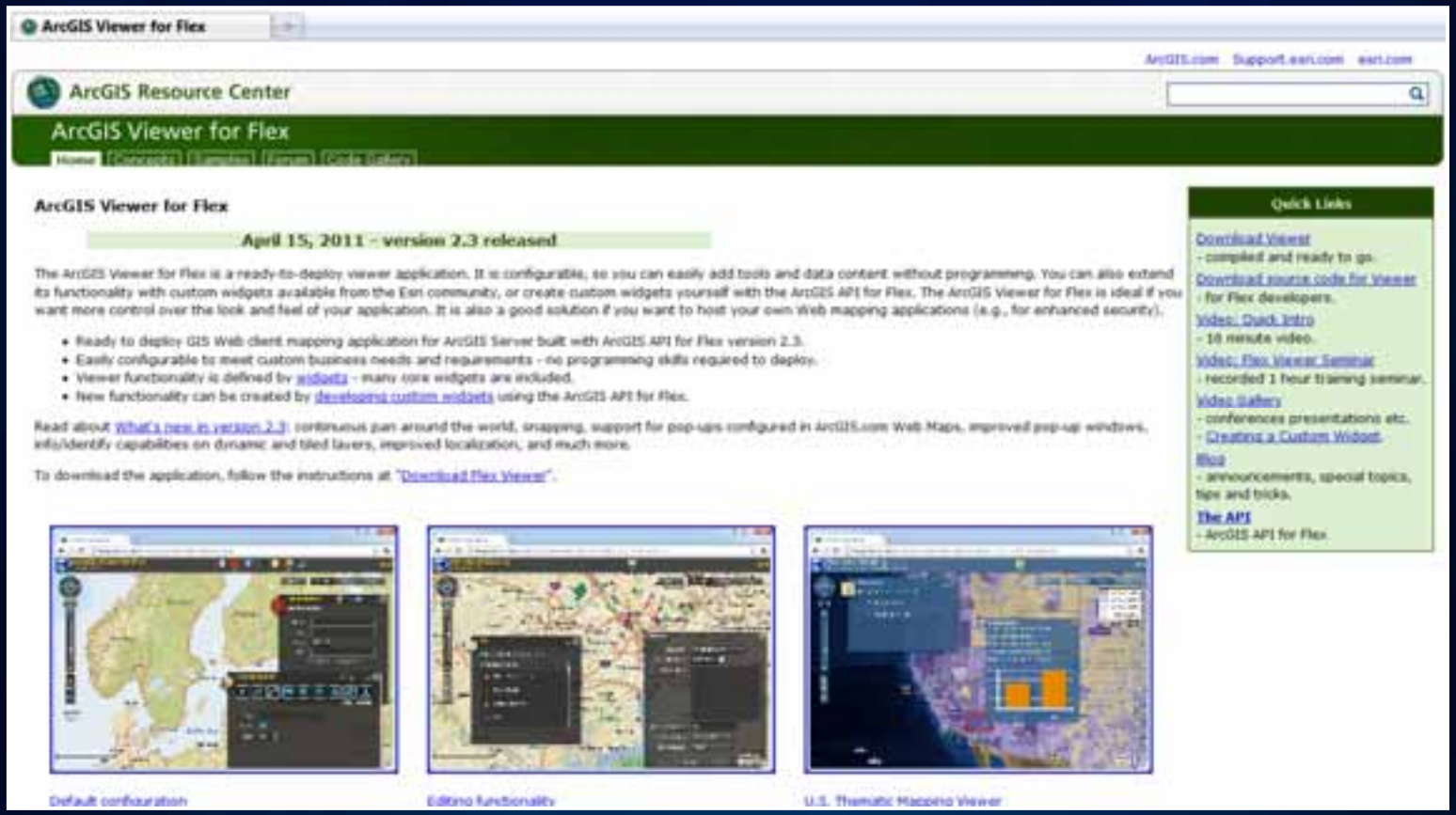
esri.com/flexviewer

Formerly known as the 'Sample Flex Viewer', now fully supported

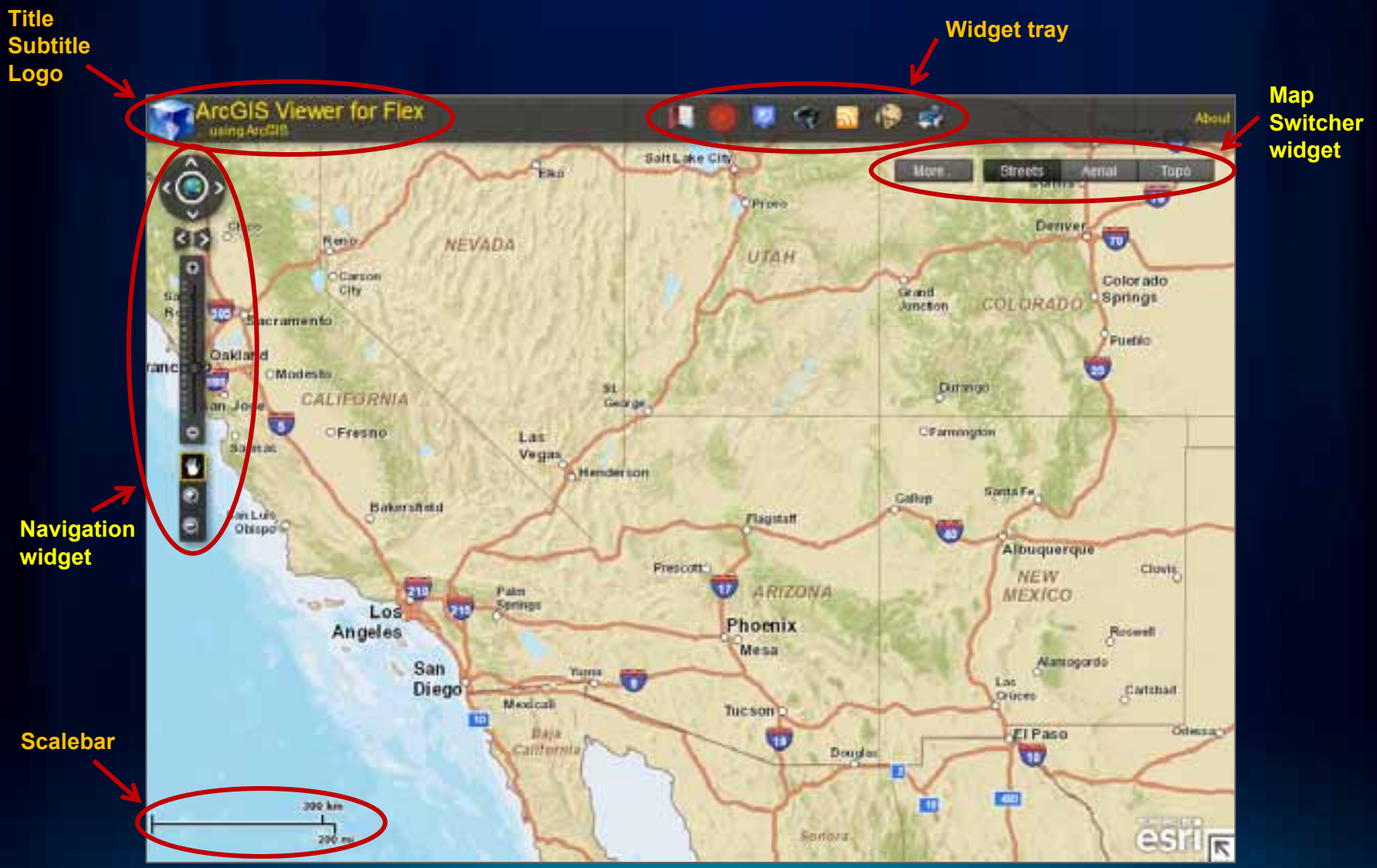
Demo 2a
ArcGIS Viewer for Flex

ArcGIS Viewer for Flex – Resource Center

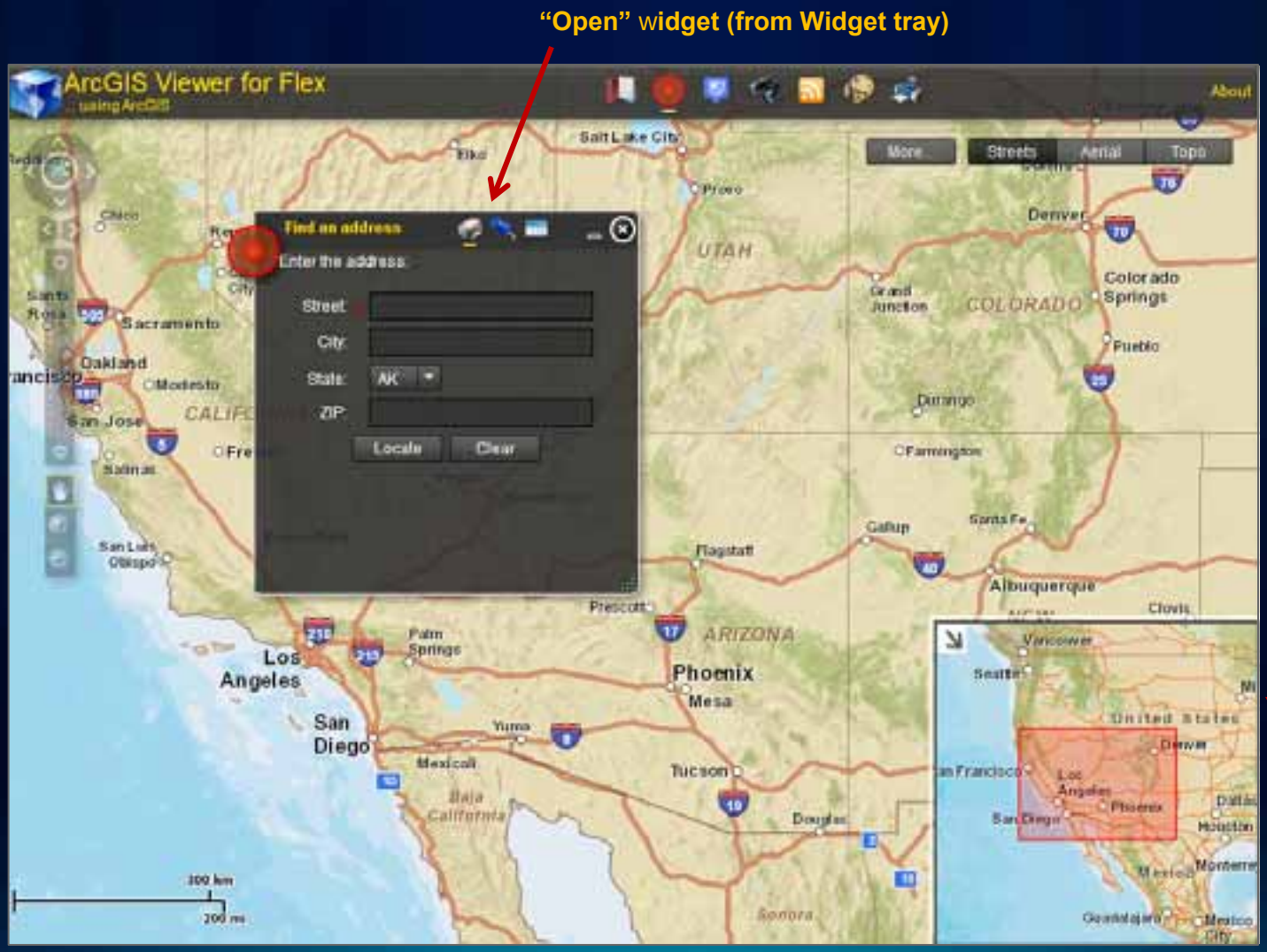
http://links.esri.com/flexviewer



ArcGIS Viewer for Flex – User Interface



ArcGIS Viewer for Flex – User Interface



UI Widgets

- Header Controller
- Map Switcher
- Navigation
- Overview Map
- Splash screen
- Info Popup
- Coordinates

Functional Widgets

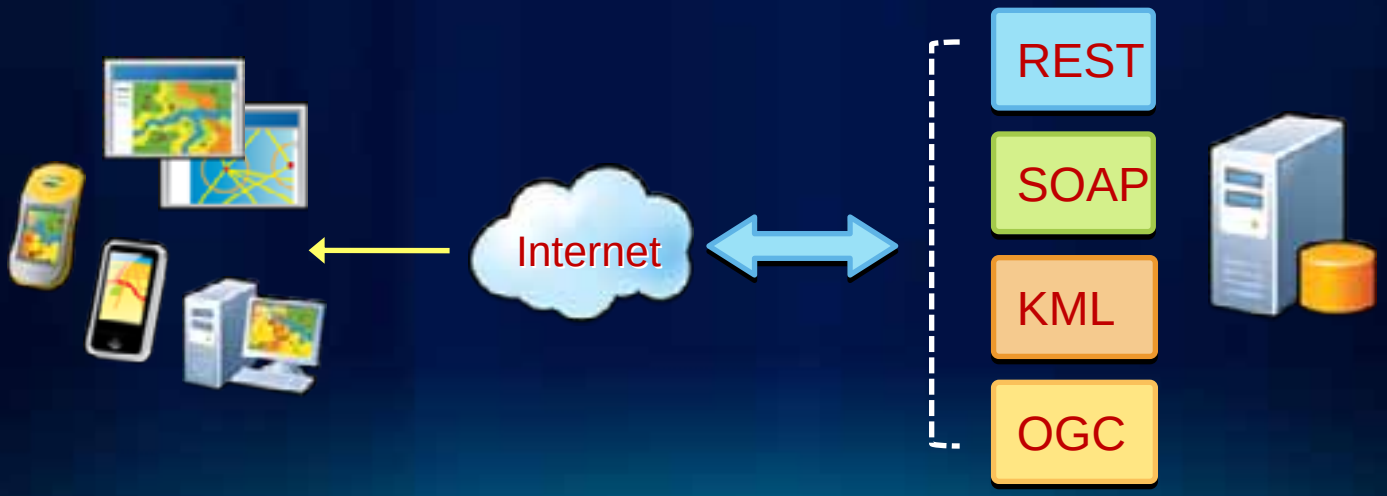
- Bookmark
- Data Extract
- Draw
- Edit
- GeoRSS
- Layer List
- Locate
- Print
- Query
- Search
- Time Slider
- Legend

- Use them as needed for your applications

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)**



ArcGIS Server – Services Directory

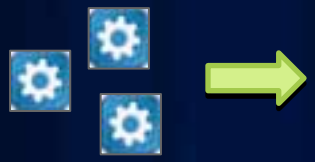
View of ArcGIS Server REST endpoint

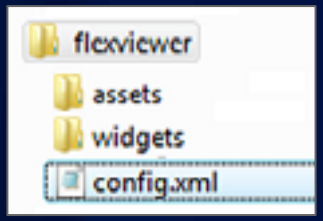
- **ArcGIS Services Directory exposes REST API**
  - `http://localhost/ArcGIS/rest`

Configure the ArcGIS Viewer for Flex

Edit the Viewer configuration file

- **Assemble widgets to create focused app**





Edit *config.xml* file

- Appearance
- Functionality
- Data content

General properties

UI elements

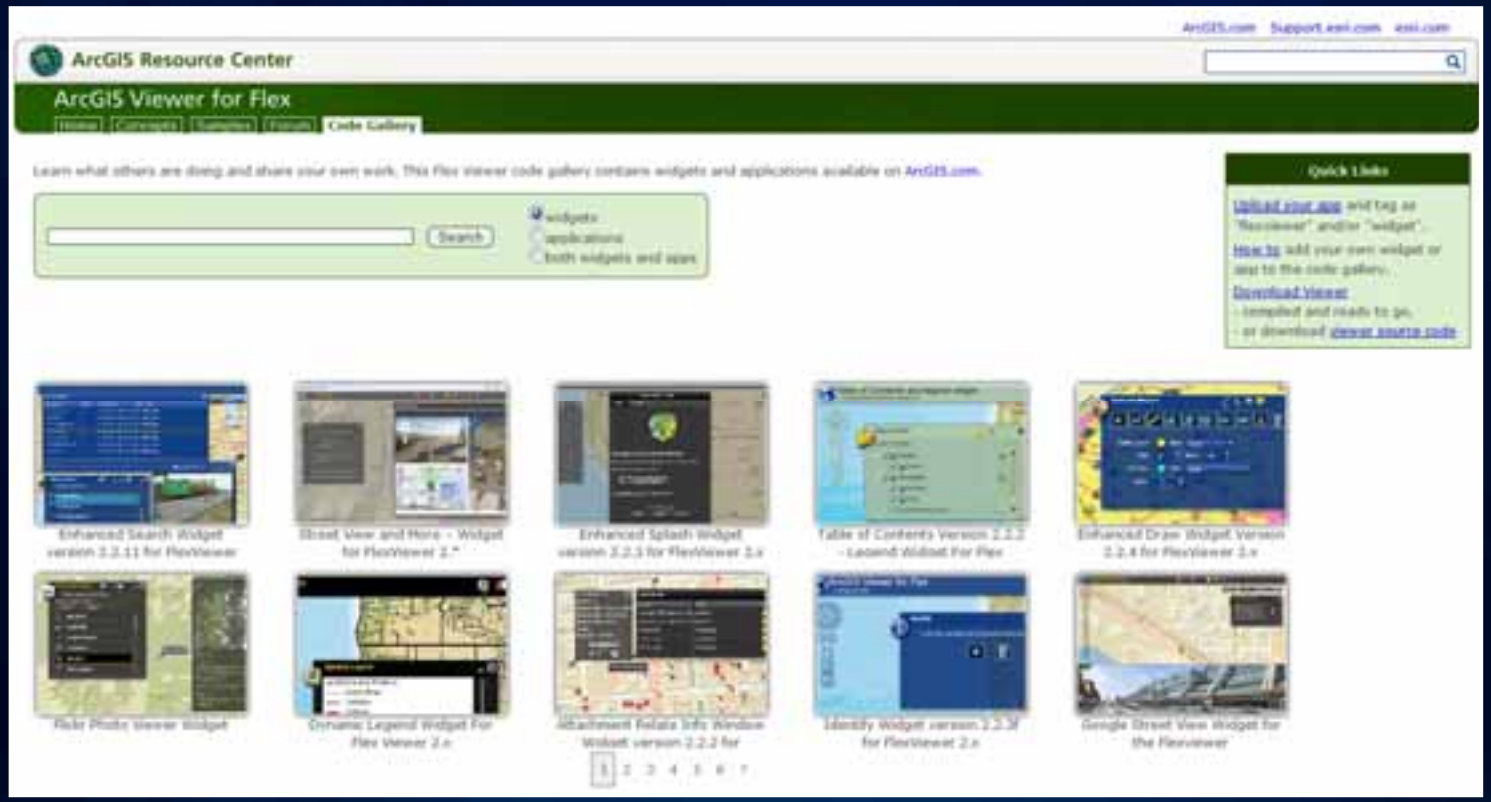
Map properties
Spatial extent
Data content

Widget container
Widgets

Demo 2b
Configure the ArcGIS Viewer for Flex

Additional Widgets from the community

http://help.arcgis.com/en/webapps/flexviewer/gallery.html



Summary ArcGIS Viewer for Flex

- Configurable app
  - Edit XML files
- Customizable (via ArcGIS API for Flex)
  - Source code provided
  - Extensible widget framework
- Downloadable
  - Does not require connection to external servers
- Requires Flash plug-in

- **Application Builder coming soon!!!**

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http://resources.arcgis.com/content/web/web-apps

ArcGIS Viewer for Microsoft Silverlight

A ready-to-deploy application built on the ArcGIS API for Silverlight

- Easily and quickly build Web applications
- Includes Application Builder
  - WYSIWYG user experience
- No programming, nor configuration file editing
- Ideal for novice Web application creators
- Extensible framework
- You host it, you control it

Install → Configure → Deploy

beta.esri.com/community/

Currently in public beta

ArcGIS Viewer for MS Silverlight overview

- Web browser-based application
- Consists of 3 components:
  1. Configurable Viewer
  2. Application Builder
  3. Extensibility Kits

- Leverages ArcGIS Server 10 functionality
- Supports ArcGIS.com Web Maps

Demo 3
ArcGIS Viewer for Microsoft Silverlight

Viewer Application Builder

- Configure custom Web applications
  - Set properties to meet business requirements
  - Flexible workflow
- Easy to deploy

- Modify an existing published site
  - Make configuration changes with Builder
- Optional "*Getting started mode*"

- Builder can be extended with "add-ins"

Extensibility Kits

- Viewer functionality defined by “add-ins”
  - “Add-ins” → modular code
- Developers can create custom “add-ins”
  - Requires ArcGIS API for Silverlight 2.2

- Viewer capabilities can be extended:

1. Tools → custom functions
2. Behaviors → custom non UI logic
3. Layouts → custom application “look and feel”
4. Layers → custom data layer types

Summary ArcGIS Viewer for MS Silverlight

- Configurable app
- Application builder – WYSIWYG UE
- Customizable (via ArcGIS API for Silverlight)
  - Extensibility kits
  - Sample code for tools
- Requires Silverlight plug-in

- Public beta NOW
- Beta 2 – UC timeframe

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ArcGIS for SharePoint

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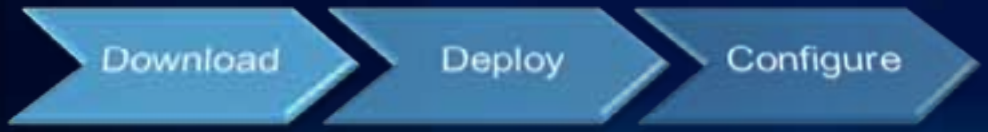
ArcGIS for SharePoint

Configurable out-of-the-box mapping components

- Configurable
  - Map Web Part
  - Geocoding Workflow
  - Location Field
- Ideal for
  - Creation of focused GIS apps on SharePoint pages
  - Spatially enabling SharePoint data
- Works with ArcGIS.com Web maps
- You host it, you control it



Map Web Part

A configurable out-of-the-box map

- Configurable
  - Map content
  - Capabilities
  - Color scheme
- Interactively configured via point and click
- Can be embedded in any SharePoint web part or wiki page
- Extensible

Geocoding Workflow

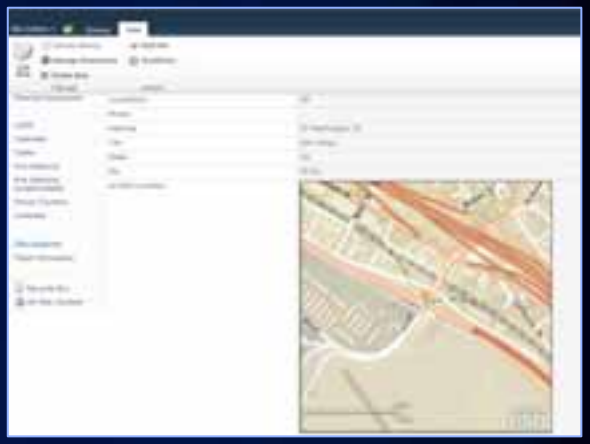
Spatially enable SharePoint lists

- Geocode SharePoint lists of addresses
- Select locator service
  - ArcGIS Online
  - Bing Maps
  - ArcGIS Server
- Automatically geocode when
  - New records are added
  - Addresses are updated

Location Field

Spatially edit SharePoint list items

- Embeds a map of an item's location within the item form
- Edit location
  - Drag to new location
  - Update based on new address
- Review and select address match candidates



ArcGIS for SharePoint Resource Center

http://links.esri.com/sharepoint

Summary for ArcGIS for SharePoint

- Configurable web part
  - WYSIWYG
- Customizable
  - Extensible add-in framework (ArcGIS API for Silverlight)
- Requires Microsoft SharePoint and Silverlight plug-in
- Great integration with Sharepoint
  - Reads sharepoint lists
  - Provides Map Web Part

Summary

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Flex Viewer

Silverlight Viewer

SharePoint Web parts

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