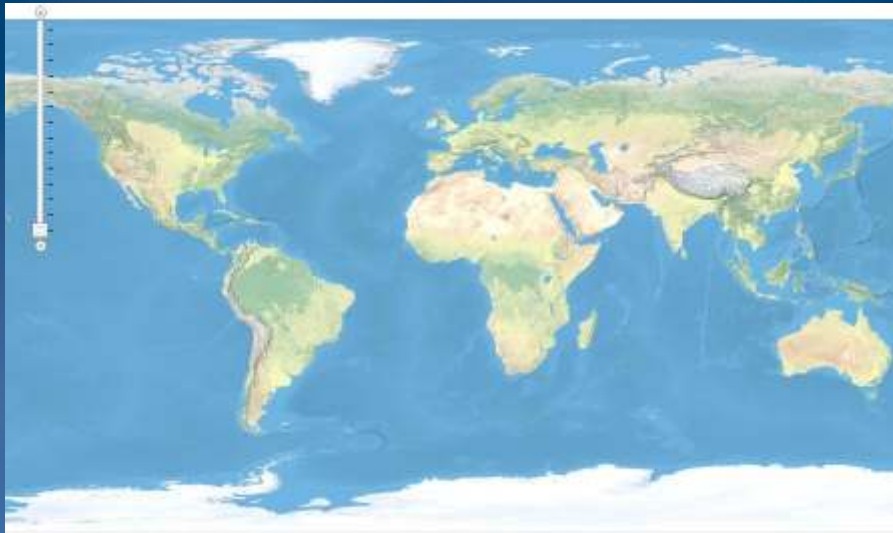


Building Mashups with ArcGIS Server

Rex Hansen

*Lead Product Engineer - .NET Server
ESRI Redlands*

The Simple ArcGIS Web APIs Demo



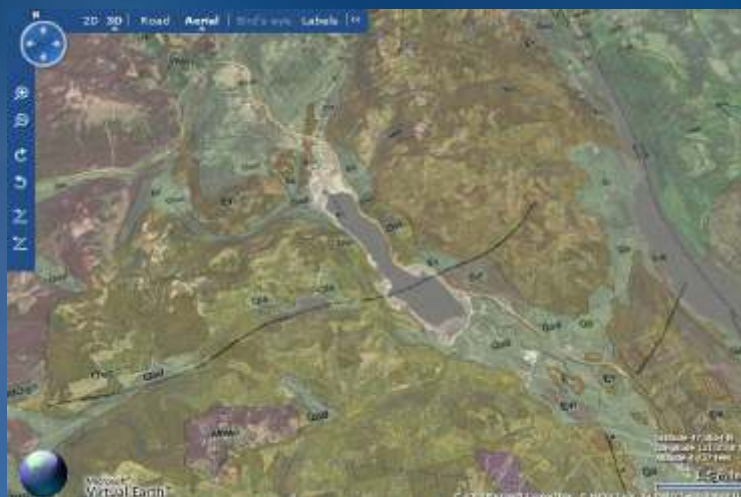
Come on guys, It can't be that easy.

What about Google Maps?



Alright I give you those two.

You will never be able to do 3D in VE...



What does a simple mapping API offer you?

- Easily integrate maps and services into your existing web pages

Kansas total production for 2007 was 36,576,849 barrels. The production from the top ten fields (5,422,663 barrels) amounted to 14.8% of the state's total, down 1% from 2006.

Field	bbl	% of total	2006 Rank
1. Bemis-Shotts	1,035,515	2.8	1
2. Chase-Silica	652,488	1.8	2
3. Trapp	580,234	1.6	6
4. El Dorado	553,828	1.5	5
5. Spivy-Grabs-Basil	528,508	1.4	4
6. Hall-Gurney	474,114	1.3	7
7. Pleasant Prairie	451,439	1.2	8
8. Fairport	424,210	1.2	9
9. Kraft-Prusa	364,130	1.0	unranked
10. Sturup	358,197	1.0	3



Data and snapshots courtesy of the Kansas Geological Survey

Build Enterprise Mashups with ArcGIS Server

- Develop custom Web applications that mashup ArcGIS services, Google Maps, and Microsoft Bing Maps
- You can build ArcGIS Server Web applications using browser based Web APIs powered by backend REST services
- For ArcGIS Server developers, no development or deployment license is required on the Web server hosting your application

How do you go from your data to a Mashup?

- Author GIS resources (eg maps, locators, models) using desktop.
- Publish GIS resources to create GIS Services.
- Each capability is exposed to consumers as an independent GIS Web Service accessible over HTTP via SOAP or REST
- <http://resources.esri.com/arcgisserver>

ArcGIS Server REST API

- New at 9.3
- Simple view of ArcGIS Server
- ArcGIS Server hosts a Services Directory
 - Used by developer while building application
 - <http://services.arcgisonline.com/arcgis/rest>

ArcGIS Server 9.3 REST API

- All GIS Services are exposed as resources
 - Service level metadata
- Some resources have operations
 - Map Service (export, find, identify)
 - Map Service Layers (query)
 - Image Services (export)
 - Geocode Service (findAddressCandidates, Reverse Geocode)
 - Geoprocessing (execute, submit job)
 - Network Analyst (solve route)
 - Geometry Service (project, buffer, and others)

ArcGIS JavaScript APIs

- Embed maps and tasks from any ArcGIS Server into your website
- Use content provided by ESRI or use your own content as a basemap
- Built on top of Dojo JavaScript toolkit
- Extensions for Google Maps and Bing (Virtual Earth) data



ArcGIS API for Flex

- Design for the Adobe Flex platform
- Rendered by Adobe Flash Player or Adobe AIR
- Customize with MXML and ActionScript
- Established platform
- Example
 - [Solar Boston](#)
 - [City of Greeley Property Information Map](#)



ArcGIS API for Microsoft Silverlight/WPF

- Designed for the Silverlight and WPF Platforms
- Reuse .NET developer skills
- WPF supports native 64 bit (x64) platforms
 - Pure managed code
- ESRI MapIt's premier client



Libraries

- **ESRI.ArcGIS.Client.dll**
 - Core library.
 - Contains map, ArcGIS Service Layers, Graphics, Geometry, and Symbol components
- **ESRI.ArcGIS.Client.Bing.dll**
 - Bing services library
 - Adds support for using Virtual Earth layers and services
- **ESRI.ArcGIS.Client.Toolkit.dll***
 - Common set of controls for navigating and interacting with the map
 - Navigation Control, Toolbar, Overview Map, etc.

CodePlex URL: <http://esrisilverlight.codeplex.com>

Requirements

- **Microsoft Silverlight Platform**
- **Tooling**
 - Microsoft Visual Studio 2008 SP1
 - Any version, Express on up to Team Suite
 - .NET 3.5 SP1
 - Silverlight Tools for Visual Studio 2008 SP1 (add-on)
 - Silverlight Toolkit (CodePlex)
- **Other Products**
 - Expression Blend

Roadmap

- V1.0 – NOW!
 - <http://resources.esri.com/arcgisserver/apis/silverlight/>
 - Download libraries and begin building your web sites today
- Perpetual release cycle
 - Quarterly updates
- Toolkit on CodePlex
- Silverlight 3 support – NOW
- V1.1 – November 2009

Getting Started

Demo

- Resource Center
 - Interactive SDK
 - Documentation
 - Samples
- CodePlex

Let's build a mashup!

Silverlight mashup demos

- [Spatial Flickr](#)
- [Showcase](#)
 - GeoRSS
 - WMS
 - Media
 - Silverlight Toolkit charting
 - Place Name locator

Let's Review

- ArcGIS API for Microsoft Silverlight and WPF
 - v1.0 available now at the Resource Center
- Build rich, interactive internet applications
- Support for ArcGIS Server, MapIt and Bing Services
- We are looking for feedback
 - The more you tell us your experiences, the better the product will be

How about 3D in Silverlight?



What's coming in 1.1?

- Built for Silverlight 3
- Behaviors and Actions
- Design-time support in Expression Blend
- Project templates in Visual Studio and Expression Blend

ESRI Parts for Microsoft SharePoint

- Configurable Map Web Part for Microsoft SharePoint
- Support for MOSS 2007
- Base Maps
 - ArcGIS Online
 - Bing Maps
- Operational Layers
 - ArcGIS Server map service
 - feature layers
 - ESRI MapIt
 - SQL Server tables
 - SharePoint lists



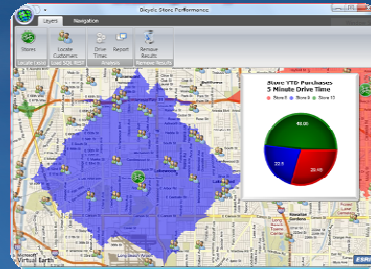
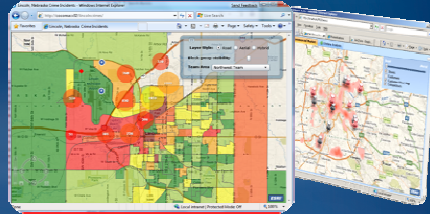
Overview of MapIt



- **New Mapping** product
- Helps prepare your data for use in mapping applications
- Provides **REST**-ful service for working with the data in Rich Internet Client applications
- Natively supports both **32 and 64 bit** Windows
- Takes advantage of **existing Microsoft investments**
 - SQL Server 2008, IIS, SharePoint, Office, Silverlight/WPF

What MapIt does

- Spatially visualizes data
 - Point and Area Data
 - Shows Patterns and relationships
- Integrates with the Cloud
 - Data and Services
 - Bing and ArcGIS Online
 - Demographics and business data



... a platform for spatially enabling Enterprise applications

Should you be interested in MapIt?

- Do you have SQL Server 2008?
- Do you have or want to have tables with spatially oriented data (e.g. addresses, lat/long, sales in regions)?
- Do you want to use native SQL Server spatial types and operations to store and process spatial content in tables?
- Do you want to be able to access your spatial data in SQL Server via a Web service?

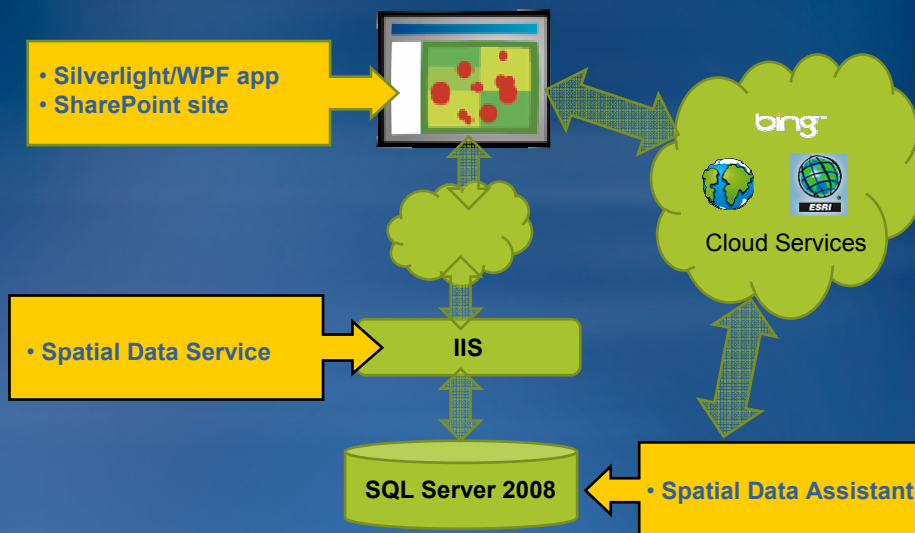
➤ If yes, use MapIt: <http://www.esri.com/mapit>

ESRI MapIt V1.0



- **Spatial Data Assistant**
 - Assists with data loading of “geo” data
 - Spatially enables existing SQL Tables
- **Spatial Data Service**
 - Web service to access SQL Server Spatial
- **ArcGIS API for Microsoft Silverlight/WPF**
 - Premier Web application client
- **ESRI Parts for Microsoft SharePoint**
 - Mapping components for SharePoint

MapIt Features - Technical Overview



How do I get it?

- MapIt - <http://www.esri.com/mapit>
 - V1.0 available now
 - V1.1 available in November
- ESRI Parts for Microsoft SharePoint
 - V1.0 available now
 - With MapIt
 - V1.1 available in November
 - Resource center: <http://resources.esri.com/sharepoint>

Questions?