

Esri Developer Summit

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esri.com/events/devsummit



What's New in the ArcGIS API for Silverlight

Morten Nielsen

Rex Hansen

A decorative graphic at the bottom of the slide. It features a curved orange border at the top. Below the border is a semi-transparent map of a landscape with green fields and blue water. Overlaid on the map is white text representing code snippets from the ArcGIS API for Silverlight. The code includes symbols like 'esri.symbol.SimpleLineSymbol', 'new dojo.Color([0,0,0,0.5])', and 'feature.setSymbol'.

```
esri.symbol.SimpleLineSymbol
new dojo.Color([0,0,0,0.5])
polySymbol(feature.setSymbol)
} else if(f == 1) {
var polySymbolGreen =
polySymbolGreen.setOutline
symbol.SimpleLineSymbol(esri.symbol
Color([0,0,0,0.5]), 1));
polySymbolGreen.setColor(new dojo
feature.setSymbol(polySymbolGreen)
== 2) {
polyBlue = new esri.symbol.Simple
setOutline(new
esri.symbol.SimpleLineSymbol
new dojo.Color([0,0,0,0.5]), 1);
polyBlue);
```

Agenda

- **What's new**
 - Platform
 - Product
 - API
- **Road Ahead**



Microsoft's Silverlight Platform

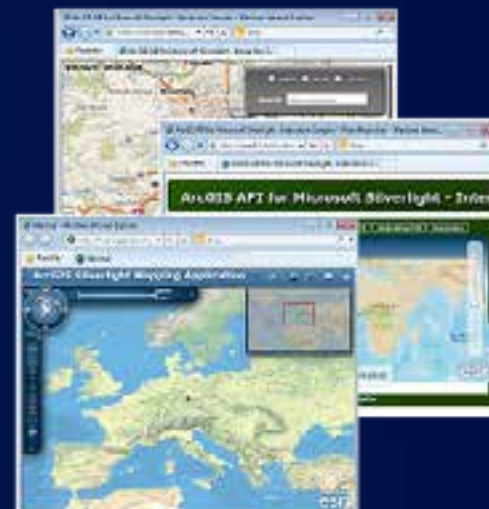
- Premier Web client for desktop browsers
- Backed by Microsoft and Esri
- Silverlight 5
- Support on future systems
 - Windows 8



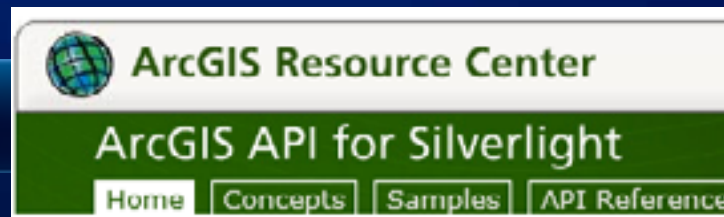
ArcGIS API for Silverlight



- **Releases**
 - v2.4 - January 2012
 - v3.0 RC - March 2012
- **ArcGIS Viewer for Silverlight**
 - Application builder
 - Extensible framework
- **WPF API**
 - Now ArcGIS Runtime SDK for WPF
 - Access local data, native resources
- **Integration with ComponentOne Studio (v2.4)**
-



What's New in 2.4



- **WebMap**
 - CSV, KML, WMS
 - Popups with media
- **DataSources**
- **GraphicsDataSource**
- **Auto-projection**
- **ArcGIS Extensibility SDK for Silverlight**
 - Viewer
 - SharePoint

What's New in 3.0



- **New ArcGIS Server 10.1 functionality**
 - **Map services**
 - Dynamic layers
 - Group and statistics
 - Generate renderer
 - **Feature services**
 - Editor tracking
 - Ownership based editing
 - Versioned editing
 - **Print service**
 - **IdentityManager**

What's New in 3.0 (cont.)

- **New ArcGIS Server 10.1 functionality (cont.)**
 - **Image services**
 - **Geometry with M and Z**
 - **Uploads**
- **Hosted services**
- **Portal API**



Resource Center

Rex Hansen

- Community
- Samples
- Documentation
- API Reference



Demos

Rex Hansen

- WebMaps
- KML
- AutoProjection
- IdentityManager

WebMaps

- WebMap library
- Support for WebMap 1.5
 - KML, CSV by ref, WMS
 - Popup media – charts, images
 - PopupTemplate(s)
- Document class
 - ServerBaseUrl - url to Portal
 - ProxyUrl – url to proxy
- Use DocumentValues to get raw json

KML

- Toolkit.DataSources library
- Source code on codeplex (<http://esrisilverlight.codeplex.com/>)
- **GroupLayers**
- **Targeting Google Maps level support**
 - Nested folders (layers), setting visibility of layers, placemarks, ground overlays, regions, network links, auto-refresh on network links, and more...
- **Deserialized within the API, no service required**
- **Usually need a proxy**
- **Silverlight does not display HTML natively**
 - Use 3rd party control

AutoProjection

- Internal to GraphicsLayers
- **Graphic geometry needs spatial reference to participate**
- **Only display of graphic affected, underlying geometry remains the same**
- **WKID 4326 and 102100 handled on client**
- **Use ProjectionService with other combinations**

IdentityManager

- Supports token secured services
 - ArcGIS Server 10.0 sp1+
 - ArcGIS Online, ArcGIS for Portal
- **One per application**
- **Activate by setting Challenge delegate**
- **Use SignInDialog toolkit control**
- **Layers, Tasks, Portal contents (webmap, service item)**
- **Generate credentials, pass to callback**
- **Manages token expiration**
- **TokenOptions to get previous error, set proxy, referer**

Dynamic Rendering

Morten Nielsen

http://servicesbeta2.esri.com/arcgis/rest/services/Census/MapServer

Census (MapServer)

URLS: esriDecimalDegrees

Supported Image Format Types: PNG32,PNG24,PNG,JPG,DIB,TIFF,EMF,PS,PDF,GIF,SVG,SVGZ,BMP

Document Info:

Title: Census

Author: ESRI

Comments: This map contains sample census data of the United States. This is a sample service hosted by ESRI, powered by ArcGIS Server. ESRI reserves the right to change or remove this service at any time and without notice.

Subject: This map contains sample census data of the United States.

Category:

Keywords: Census

AntialiasingMode: None

TextAntialiasingMode: Force

Supports Dynamic Layers: true

MaxRecordCount: 5000

MaxImageHeight: 2048

MaxImageWidth: 2048

Supported Query Formats: JSON, AMF

Min Scale: 0

Max Scale: 0

100%

Change the renderers and the data!

LayerDrawingOptions:

- Allows you to override the renderer for each layer.
- Use `GenerateRendererTask` helper to create good class breaks.

DynamicLayerInfos:

- Reorder the layers
- Change the source data
 - Map layers, workspaces, tables, joins...

DynamicLayerInfos

- **LayerMapSource**
 - reference layers already in map service
- **LayerDataSource:**
 - **TableDataSource** (workspaces & GDB versions)
 - **QueryDataSource** (query layers)
 - **RasterDataSource** (raster data)
 - **JoinDataSource** (join the above sources)

Note: When you use DynamicLayerInfos, you replace all existing layer infos.

Statistics

Morten Nielsen

7 statistic types available

- **Sum**
- **Average**
- **Min**
- **Max**
- **Count**
- **Standard Deviation**
- **Variance**

```
Query query = new Query();
query.OutStatistics.Add(
    new OutStatistic("AGE", "AvrAge", StatisticType.Average));
query.Where = "STATE_NAME = 'California'";
myQueryTask.ExecuteAsync(query);
```

New 10.1 Image Server Capabilities

Morten Nielsen

Image Server Editing

Add, update and delete rasters in a mosaic dataset.

```
public class ArcGISImageServiceLayer : Layer {  
    AddRasters(  
        ImageServiceAddParameters,  
        Action<ImageServiceEditResults, Exception>)  
  
    UpdateRaster(  
        ImageServiceUpdateParameters,  
        Action<ImageServiceEditResults, Exception>)  
  
    DeleteRasters(  
        IEnumerable<int>,  
        Action<ImageServiceEditResults, Exception>)  
}
```

Mensuration Task

New task for measuring length, height, area etc. based on imagery data.

```
public class MensurationTask : TaskBase {  
    Point ( ... )  
    DistanceAndAngle ( ... )  
    HeightFromBaseToTop ( ... )  
    HeightFromBaseAndTopShadow ( ... )  
    HeightFromTopAndTopShadow ( ... )  
    AreaAndPerimeter ( ... )  
    Centroid ( ... )  
}
```

Print Task

Morten Nielsen

Print Task (AKA Export Map Task)

New task for exporting a map layout to a high quality PDF or image via the server.

```
public class PrintTask : TaskBase {  
    GetServiceInfo( ... ); //metadata about print service  
    Execute ( ... );      //this is probably all you'll be using  
    SubmitJob ( ... );   //only for customized print services (async GP)  
}
```

Located in new assembly:

ESRI.ArcGIS.Client.Printing.dll

Print Task

```
PrintTask printTask = new PrintTask("http://server/arcgis/rest/services/...")
printTask.ExecuteCompleted += (task, args) =>
{
    if (args.Error == null)
    {
        Uri result = args.PrintResult.Url;
    }
};
printTask.ExecuteAsync(new PrintParameters(MyMap) { Format = "PDF" });
```

Deep dive on PrintTask in “Advanced Silverlight” session
Thursday at 8:30 AM Catalina/Madera

Road Ahead



- **v3.0 - June 2012**
 - **Support for 10.1 final ArcGIS services**
 - **Support for the Portal API**
 - **ArcGIS Online**
 - **ArcGIS for Portal**

More Silverlight sessions!

- **Advanced Silverlight**
 - **Thu 8:30 AM Catalina/Madera**
- **Silverlight Viewer - Customization**
 - **Wed 1:00 PM Primrose B**
- **MVVM**
 - **Wed 2:45 PM Mesquite GH**
- **Image services with Silverlight**
 - **Wed 4:30 PM Smoketree A - E**
- **Esri and Microsoft**
 - **Thu 10:15 AM Primrose C/D**



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