

# How a Completely Custom .NET/ArcIMS/ArcObjects Solution for Economic Development Can Do Things That May Surprise You

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Virginia Economic Development Partnership

<http://www.YesVirginia.org>

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# Architecture

ArcSDE 8.3 (Sql Server)

ArcIMS 4.0.1

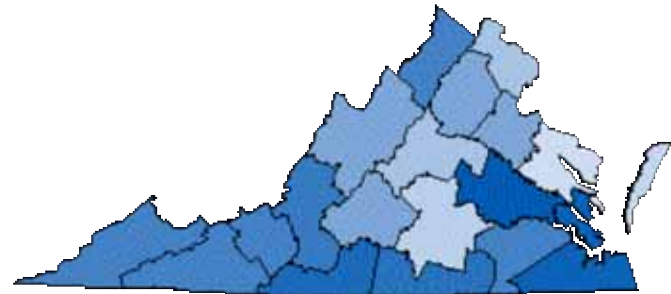
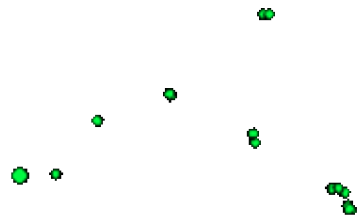
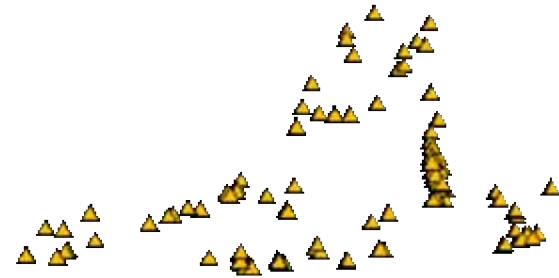
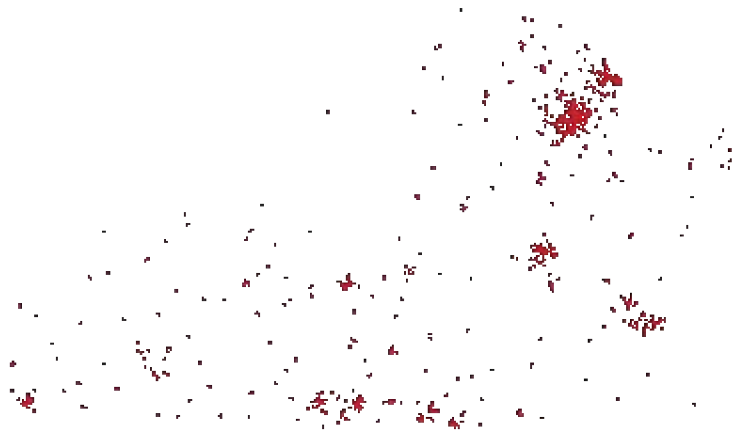
ESRI.ArcIMS.Server.dll, ESRI.ArcIMS.Server.TCP.dll

IIS / .NET

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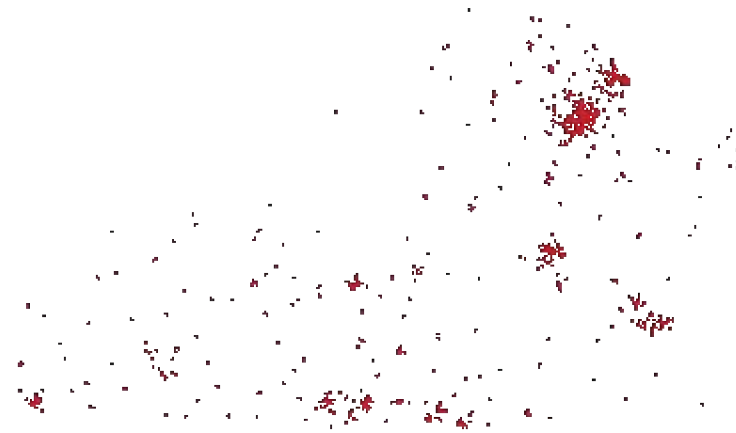
# Overlaying Transparent Maps



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# Pre-Generate the maps that are static (and SLOW)



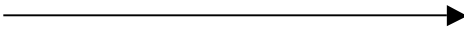
naics4\_4461\_empSmall\_salesSmall.gif

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# Multi-Threaded Approach

## (Don't Let the Maps Slow Us Down)

Main .NET thread: 

- Name map... abc.gif
- Spawn Map Making Thread
- Send Page to the Browser



Map Making Thread:

- Generates map request
- Map is saved to Server Output directory with requested name

Browser:

sees image tag a with url of:

<http://virginiascan.yesvirginia.org/OpenMap.aspx?name=abc.gif>

<http://www.YesVirginia.org>

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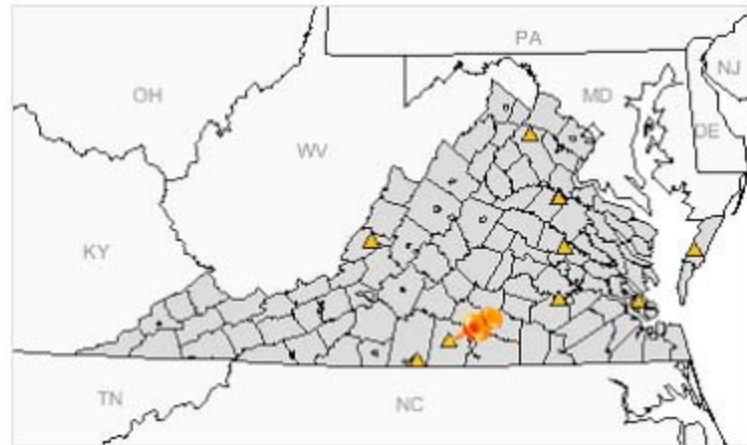
# Simple Map Request:

```
// Create a map object
IMSTools.map m_map = new IMSTools.Map();
m_map.Envelope = env;
m_map.Host = Config.ArcXml_Host;
m_map.AppServerPort = Config.ArcXml_AppServerPort;
m_map.ServiceName = Config.ArcXml_ServiceName;
m_map.Width = 375;
m_map.Height = 221;
// Turn on the interstates layer
// Define a layer def
IMSTools.LayerDef layerDef = new LayerDef("interstates", true);
// add the layer def to the layer def collection
m_map.LayerDefCollection.Add("myInterstateLayer", layerDef)
// Request the map
m_map.GetMap ();
// Optional debugging code
Trace.Write(m_map.Request);
Trace.Write(m_map.Response);
// assign the new map image url to an Image object for output to browser
myImage.ImageUrl = m_map.URL;
```

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“Yes, Virginia, there is a way to generate clickable point features in an IMS map...”



<u>Property Name</u>	<u>Total Acreage</u>	<u>Largest Contiguous Parcel</u>	<u>Locality</u>
<u>17/66 Industrial Park</u>	157	114	Fauquier County
<u>95 Business Park</u>	390	390	Spotsylvania County
<u>95 Commerce Place</u>	100	60	Spotsylvania County
<u>Abbott Site</u>	200	200	Halifax County
<u>Accomack Airport Industrial Park</u>	371	30	Accomack County
<u>Air Commerce Park Phase II</u>	319	319	Newport News City

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# Points You Can Click and/or MouseOver

- Store X,Y map coordinates in database for each point (In our case, through an ArcObjects script)
- Use .NET to create dynamic image map
- Hope you don't have two points sitting on top of one another (or deal with it in a more productive manner)



# Custom Radius Tool

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Search

Home | Virginia Advantages | Site Selection | Data Center | International Trade | About Us | My Briefcase

### Property Details

**Bedford Center for Business Shell Building**  
1635 Venture Boulevard  
Bedford City

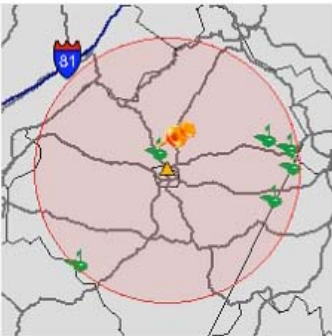
**Contact:**  
Suzanne Chvala  
(804) 371-8100

Property | Map | Reports/Photos | Workforce | Businesses | Quality of Life

Select the feature you are interested in.  
Golf Courses

Distance (miles)  
15

Search



**6 Results.** Displaying 1 through 6

Name
Bedford Country Club
Colonial Hills Golf Course
Ivy Hill Golf Course
London Downs Golf Club
Poplar Forest Golf Course
Sycamore Ridge Golf Course

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# Quickly Customizable Interface...

Virginia's Gateway Region: Location Search - Microsoft Internet Explorer


File Edit View Favorites Tools Help

Back Forward Stop Refresh Home Search Favorites Media Print Mail News RSS Feeds

Address [http://gateway.virginiacan.yesvirginia.org/Site\\_Selection/PropertySearch.aspx](http://gateway.virginiacan.yesvirginia.org/Site_Selection/PropertySearch.aspx)

**VIRGINIA'S Gateway Region**  
ACCESS IS EVERYTHING.

News  
Events



Home  
Site Map  
Links  
Contact

Property Name	Space Available	Ceiling Height	Locality
1420 Farmer Street	131,500	24	Petersburg City
1929 Puddledock Road	40,000	26	Petersburg City
Bartholomew Building	14,600	32	Prince George County
BSV Building 1	15,000	22	Sussex County
BSV Building 2	13,000	28	Sussex County
Coca Cola Building Petersburg	22,570	16	Petersburg City
Davis Oil Building	3,000	9	Sussex County
Enochs Warehouse	40,000	20	Hopewell City
Forbes Building	5,400	16	Prince George County
Harrison Mechanical Building	17,664	16	Prince George County

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# Quickly Customizable Interface...

The screenshot shows a web browser window displaying the Virginia's aCORRIDOR website. The browser title is "Search for a site in the aCorridor - Microsoft Internet Explorer". The address bar shows the URL: [http://acorridor.virgiascan.yesvirginia.org/Site\\_Selection/PropertySearch.aspx](http://acorridor.virgiascan.yesvirginia.org/Site_Selection/PropertySearch.aspx). The website header features the logo "V@ VIRGINIA'S aCORRIDOR" with the tagline "access to markets, technology & transportation".

The main content area includes a search bar with the text "Search for a Site in the aCorridor" and a dropdown menu for "Other Site Selection Information". Below the search bar is a map of the Virginia aCorridor region, showing major highways (I-77, I-81, I-76, I-64) and state boundaries (TN, NC, WV).

Below the map is a table of property listings:

Property Name	Space Available	Ceiling Height	Locality
Aerus Building	137,240	25	Bristol City
Cozart Warehouse 5	121,500	30	Washington County
Cozart Warehouse 7	140,000	25	Washington County
EPOCH Warehouse	180,000	31	Smyth County
Progress Park Virtual Building	104,800	26	Wythe County

Navigation buttons include "Previous", "Next", and "Edit Criteria". A sidebar on the left contains navigation links: "About the aCorridor", "Region's Advantages", "Site Selection Tools & info", "Regional Profiles", "Success Stories", "News", "Contact us", "Search", and "Home". A search box is located below the "Search" link. At the bottom of the sidebar, there is a logo and the text "We're always ready to help you. Call 1-888-819-0343".

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# Quickly Customizable Interface...

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Search

Home | Virginia Advantages | Site Selection | Data Center | International Trade | About Us | My Briefcase

### Property Details

**1430 Farmer Street**  
1430 Farmer Street  
Petersburg City

**Contact:**  
Suzanne Chvala  
(804) 371-8100

Property | Map | Reports/Photos | Workforce | Businesses | Quality of Life

Aerial map showing the property location with a yellow triangle marker and navigation controls (zoom in/out, pan arrows, and a vertical zoom slider).

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# Quickly Customizable Interface...



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“But I need lots of REALLY  
good looking maps...”

- Use ArcMap/ArcObjects to automate maps  
(export jpg's and/or pdf's)
- [Example](#)

# Some Parting Thoughts...

- Get\_Features requests are really useful but SLOW. Query just an id then use SQL to do your work.
- Versioning makes life hard when we choose to do direct SQL work. But versioning is pretty cool and fast loading pages are cooler so we deal with it. Compress frequently.

# Some Parting Thoughts...

- If the spatial data lends itself to it, pre-generate the maps. Especially if the maps are slow.
- Break functionality into reusable components whenever possible.