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

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http://www.YesVirginia.org
Architecture

ArcSDE 8.3 (Sql Server)

ArcIMS 4.0.1

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

IIS / .NET

http://www.YesVirginia.org
Overlaying Transparent Maps

http://www.YesVirginia.org
Pre-Generate the maps that are static (and SLOW)

naics4_4461_empSmall_salesSmall.gif

http://www.YesVirginia.org
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
Simple Map Request:

```java
// 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…”

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

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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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Quickly Customizeable 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

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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.

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