

Using SGID Data via an Open GIS Web Map Service (WMS)

Contributed by Lee Eschler & Bert Granberg
05, May, 2008
Last Updated 25, Aug, 2009

The Open GIS Consortium has defined interoperability standards for getting mapping applications to communicate and share data with one another. AGRC has implemented WMS compliant services for imagery layers and will be doing so for cached maps of vector data in the next few months.

The Utah Division of Water Rights runs several web-based interactive maps that use the open source UMN MapServer software. MapServer is capable of consuming WMS compliant map services and is doing so display SGID data on its interactive web-based maps. Other free WMS clients are available that allow GIS users (ex. GAIA , ArcGIS Explorer, etc) to connect directly and view WMS layers using just a simple connection string.

First, a little background from the the Open GIS Consortium website: <http://www.opengeospatial.org/standards/wms>
- The Open GIS Consortium's Web Map Service (WMS) implementation specification provides three basic operations (GetCapabilities, GetMap, and GetFeatureInfo) in support of the creation and display of registered and superimposed map-like views of information that can come simultaneously from multiple remote and heterogeneous sources.

- When client and server software implements WMS, any client can access maps from any server. Any client can combine maps (overlay them like clear acetate sheets) from one or more servers. Any client can query information from a map provided by any server. While programmers need to write code to implement the specifications, end users can take advantage of products that include them to publish and access geospatial information. Software buyers can choose the best solution for their needs and not worry about if it will work with other solutions; if they all implement the same standard, WMS, they will all work together.

- In the particular WMS specification defines:

- How to request and provide a map as a picture or set of features (GetMap)

- How to get and provide information about the content of a map such as the value of a feature at a location (GetFeatureInfo)

- How to get and provide information about what types of maps a server can deliver (GetCapabilities) .

Now, here are the examples for Minnesota MapServer layer definitions that utilize data from the Utah SGID data. The syntax includes the MapServer layer definition parameters and the simple CONNECTION string that calls the Utah SGID WMS for data.

```
LAYER # UAO Imagery from a Utah SGID WMS Service
  NAME 'uao' STATUS OFF TYPE RASTER CONNECTIONTYPE WMS CONNECTION
'http://mapserv.utah.gov/arcgis/services/Cachelmagery/MapServer/WMSServer?
REQUEST=GetMap&SERVICE=WMS&VERSION=1.1.1&LAYERS= 0&STYLES=0&FORMAT=image/png' METADATA
"wms_name" "UAO2003" "wms_srs" "EPSG:26912" wms_server_version "1.1.1" wms_format "image/png"
END PROJECTION "init=epsg:26912" END END LAYER #NAIP 2006 Imagery from a Utah SGID WMS Service
  NAME 'naip' STATUS OFF TYPE RASTER CONNECTIONTYPE WMS CONNECTION
http://mapserv.utah.gov/arcgis/services/Cachelmagery/MapServer/WMSServer?
REQUEST=GetMap&SERVICE=WMS&VERSION=1.1.1&LAYERS=0&STYLES=0&FORMAT=image/png"
METADATA "wms_name" "NAIP2006" "wms_srs" "EPSG:26912" wms_server_version "1.1.1"
"image/jpeg" END PROJECTION "init=epsg:26912" END END LAYER #Example of connecting
the SDE, NOT A WMS Service
  NAME 'SGID.U024.Municipalities' GROUP 'SGID.U024.Municipalities' CONNECTIONTYPE PLUGIN
CONNECTION 'gdb92.agrc.utah.gov,port:5151,SGID,agrc,agrc' PLUGIN "d:/wrtdata/public/cgi-
bin/msplugin_sde_92.dll" DATA 'SGID.U024.Municipalities,Shape,SDE.DEFAULT' PROJECTION
"init=epsg:26912" END #end projection METADATA "queryable" "true" "ows_title" "SGID.U024.Municipalities"
"ows_abstract" "" "ows_keywordlist" "" "wms_extent" "198460.1689 4051438.6049 700984.9628 4697524.2"
"wms_metadataurl_type" "TC211" "wms_dataurl_format" "text/html" "wms_dataurl_href"
"http://www.yourorganization.org/geonetwork/srv/en/metadata.show?id=" "wms_style_default_title" "default"
"wms_format" "image/png" "ows_srs" "EPSG:26912" "wms_attribution_onlineresource"
"http://www.yourorganization.org/" "wms_attribution_title" "Data from Your Organization"
"wms_attribution_logourl_width" "20" "wms_attribution_logourl_height" "20" "wms_attribution_logourl_format"
"image/jpg" "wms_attribution_logourl_href" "http://www.yourorganization.org/geonetwork/images/ver
END #end metadata TYPE polygon STATUS ON TOLERANCE 8 #default is 3 for raster, 0 for vector
#TOLERANCEUNITS meters #default is meters, [pixels|feet|inches|kilometers|meters|miles|dd] class STYLE
OUTLINECOLOR 110 110 110 END #end style end
END #end layer
```