Using Maps and Geospatial Analytics in OBI 11g

Dan Vlamis, Vlamis Software Solutions
dvlamis@vlamis.com

1 Summary

Maps communicate data faster and more intuitively than any other data visualization method. Map views are built-in in OBI 11g, but aren't often used because some additional configuration work is needed. You'll see how to leverage OBI's native map views in BI dashboards, add geo spatial calculations to OBI analyses and queries, and determine which analytical layers to add to your map presentations.

Map views are a new view type in Oracle Business Intelligence Enterprise Edition (OBIEE) 11g for displaying analysis results. This provides a valuable, rich interactive visualization capability since most BI data already contains a geographic dimension such as store addresses, sales districts or regions. OBIEE 11g allows BI administrators to pre-associates the business model with mapping data so that analysis results are automatically map-ready. Any analysis that includes a column associated with a configured map feature is ready to be rendered in a Map View without any customization or coding whatsoever.

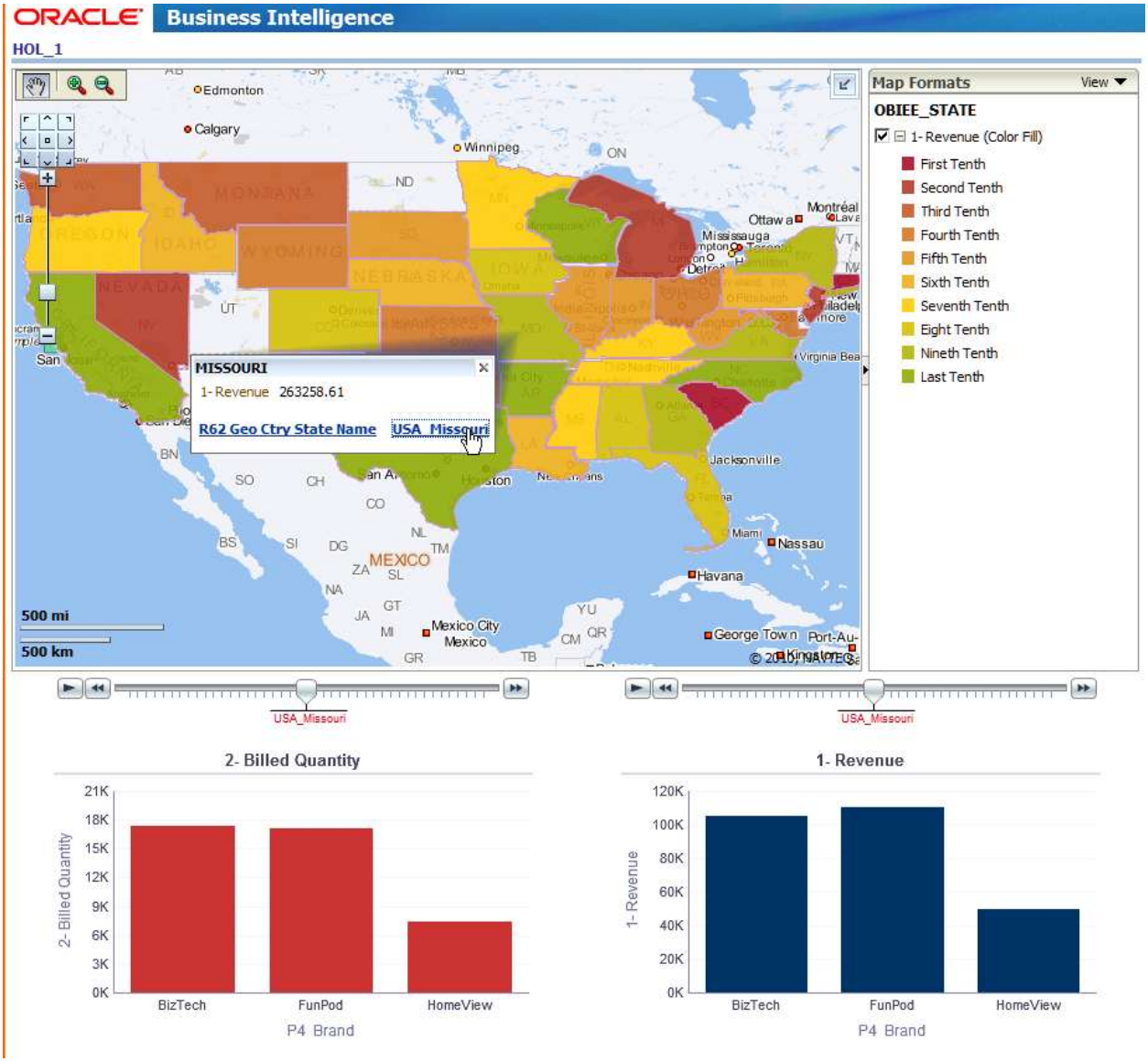

Figure 1 – color-coded map of United States based on Revenue

2 Basic Process

In order to represent data on a map, you must provide some way for Oracle Map Viewer to represent the data using a coordinate system. The most common coordinate system is to use the latitude and longitude. The process of translating addresses to latitude and longitude is called geocoding the data. You can use Oracle Spatial or Oracle Locator (or other third-party services) to geocode your data as points. This will enable you to represent your data as a series of points.

You may also want to represent your data using well-known regions such as countries, states, zip codes, etc. To represent this data, Oracle BI must know the boundaries of these regions. This is accomplished by defining the boundaries of these regions via a series of points for a given polygon. Oracle Map Viewer takes care of drawing these boundaries with data often obtained from Oracle Spatial. The data can come from third-party providers such as Nokia.

In Oracle BI, under "Administration", the "Manage Map Data" link allows you to manage the

relationship between your third-party map data and your BI data. For example, a table called STATES may contain the boundary of each state, defining for example, the exact points that define the state of Ohio. If you have sales for Ohio, you need to be able to join between your sales data (for Ohio) and the schema that contains the outline of the state of Ohio.

Once this relationship has been established, you can represent your BI data on a map by simple creating a report and telling Oracle BI to create a new view as a map. In Figure 1, you can see that Revenue has been represented by a color-coded map. Representing data on a map enables the viewer to see spatial relationships in the data. For example, notice that South Carolina is very different from its neighboring states on the map.

You can try out Map Views in OBIEE for free by registering at the following URL:
http://www.vlamis.com/testdrive-registration/

For further information, see the following resources:

Oracle Business Intelligence Enterprise Edition:

http://www.oracle.com/us/solutions/business-analytics/business-intelligence/overview/index.html

Oracle Spatial and Graph:

http://www.oracle.com/us/products/database/options/spatial/overview/index.html