

ORACLE®

S P A T I A L

May 2011
Oracle Spatial User Conference



Oracle Spatial User Conference

May 19, 2011

Ronald Reagan Building and International Trade Center
Washington, DC USA

Jayant Sharma
Director, Prod. Mgt.

David Lapp
Pr. Sales Consultant



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Map Views In OBIEE11g

The following is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

Agenda

- When are map views useful
- Concepts and integration overview
- Demonstration
- Q&A

Business Data...



Interactive Visualizations

Year	Plant Location Country	Plant Location State	Spend Type	Spend	# of Suppliers	# of Buyers	Invoiced Quantity	
2007	US	BE	Unspecified	ITEM	8,451,585	11	4	11,746
		BR	SP	TAX	288,325	8	4	
		FR	Unspecified	ITEM	706,542	2	3	848
		GB	Unspecified	ITEM	36,058,468	10	8	51,139
		IT	Unspecified	TAX	958,229	9	8	
		JP	Unspecified	ITEM	22,308,436	14	15	45,025
		NL	Unspecified	TAX	464,114	9	4	
		IT	Unspecified	ITEM	8,406,679	11	4	14,435
		JP	Unspecified	TAX	309,027	8	4	
		NL	Unspecified	ITEM	28,937,424	10	4	44,364
		AZ	ITEM	461,415	8	2		
		CA	ITEM	136,853	2	1	18,904	
		CO	ITEM	37,732,046	42	11	1,884,123	
		DC	ITEM	1,080	1	1	90	
		GA	ITEM	17,771,255	9	4	74,600	
		IL	ITEM	88,411	11	3	59,332	
		LA	ITEM	44,876	1	1	2,508	
		MA	ITEM	132,583	1	1	17,704	
		MA	ITEM	68,870,319	6	1	472,984	
		MI	ITEM	31	3	2	545	
		NC	ITEM	8,546,510	7	1	5,362	
		NY	ITEM	50,640,285	21	5	17,139,790	
		NY	TAX	29	2	2		
		OH	ITEM	129,588	3	1	970	
		OR	ITEM	84	2	1	28	
		TX	ITEM	38,843,715	6	1	575,742	
		WA	ITEM	115,436,145	14	5	6,463,985	
2008	US	BE	Unspecified	ITEM	58,493	6	3	22,325
		BR	SP	ITEM	13,333,269	10	3	
		FR	Unspecified	TAX	41,952,960	2	3	1,061
		GB	Unspecified	ITEM	136,779	4	7	56,607
		IT	Unspecified	TAX	22,465,922	14	15	
		NL	Unspecified	ITEM	63,570	8	3	43,092
		IT	Unspecified	TAX	16,737,493	6	4	
		NL	Unspecified	ITEM	47,759	11	4	25,791
		AZ	ITEM	33,260,624	7	1	50,108	
		CA	ITEM	76,018	10	1		
		CA	ITEM	60,694,355	40	8	3,106,348	

Year
Plant Location Country

Plant Location State
Spending Type

Spend
Suppliers
Buyers
Invoiced Quantity

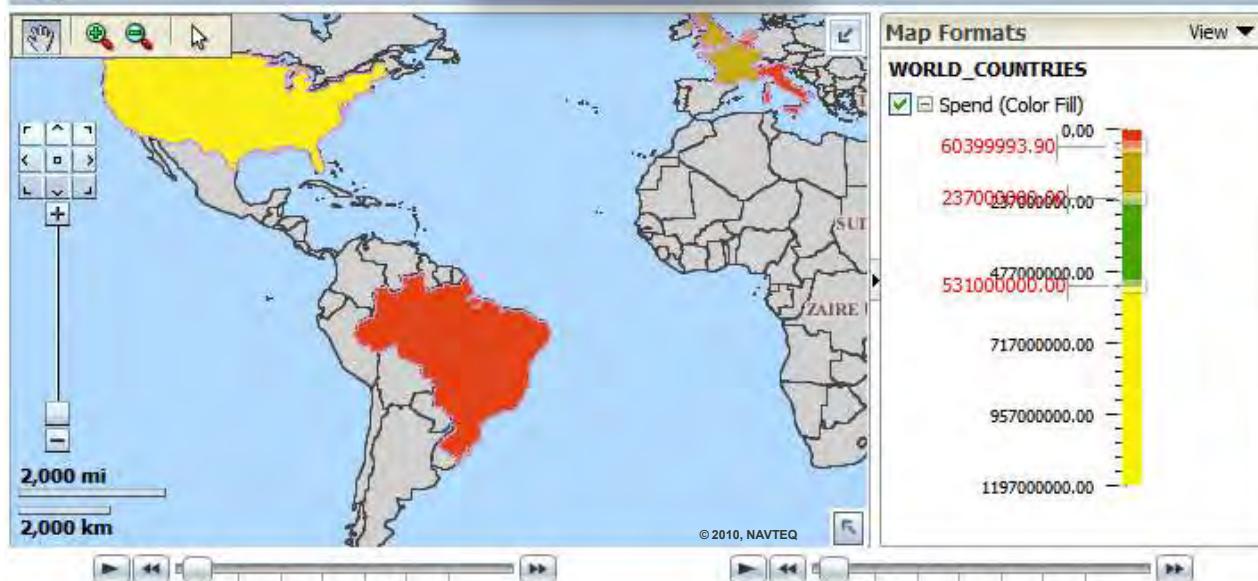
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Corresponding Dashboard

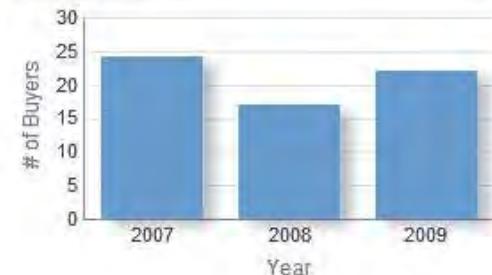
**Spend
Country**

Interactive Visualizations

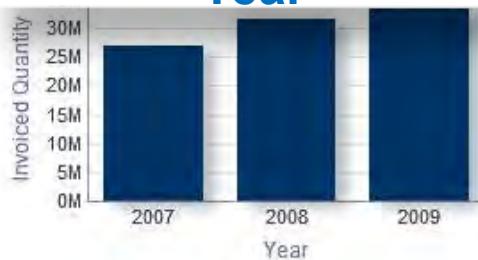


**Buyers
Year**

of Buyers



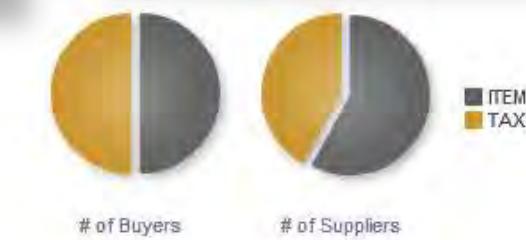
**Invoiced Quantity
Year**



**Buyers, Suppliers
Year**



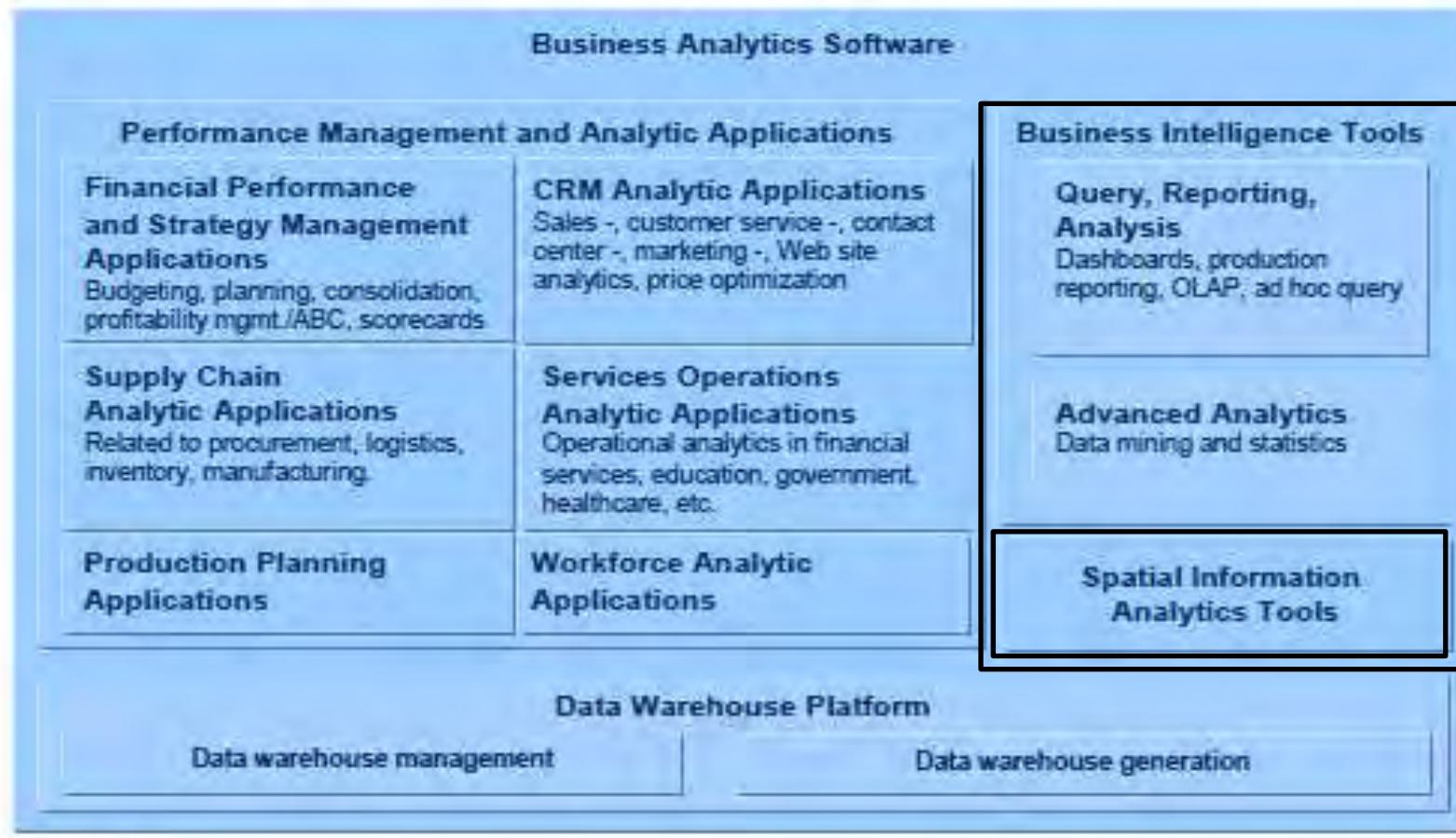
**Buyers, Suppliers
Spending Type**



Spatial is a Natural BI Component

IDC recognized BI sector.

IDC's Business Analytics Software Taxonomy, 2009

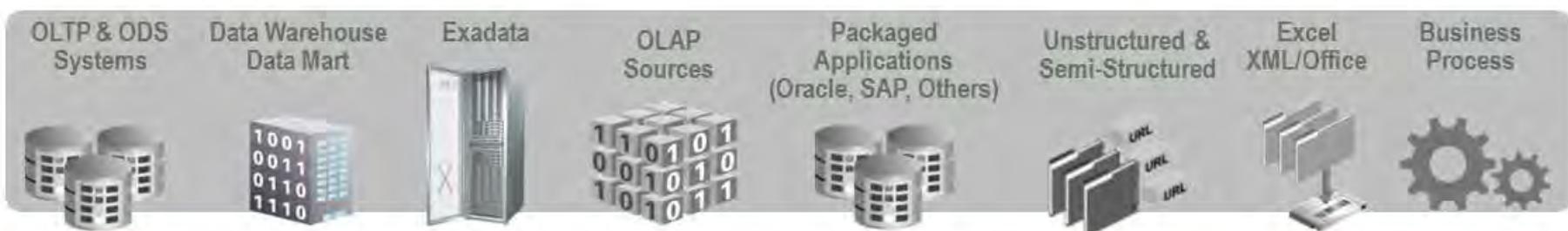


Complete.

Oracle Business Intelligence 11g



Common Business Intelligence Foundation

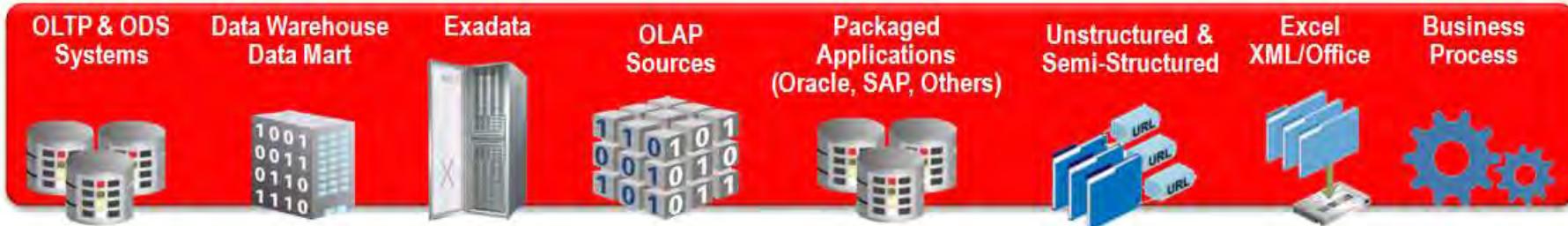


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Open. Oracle Business Intelligence 11g



Common Business Intelligence Foundation



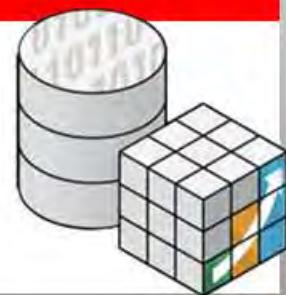
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Integrated. Oracle Business Intelligence 11g



Common Enterprise Information Model

- Common Metadata Foundation across all Data Sources
- Common Security, Access Control, Authorization, Auditing
- Common Request Generation and Optimized Data Access Services
- Common Clustering, Workload Management, & Deployment
- Common Systems & Operational Lifecycle Management



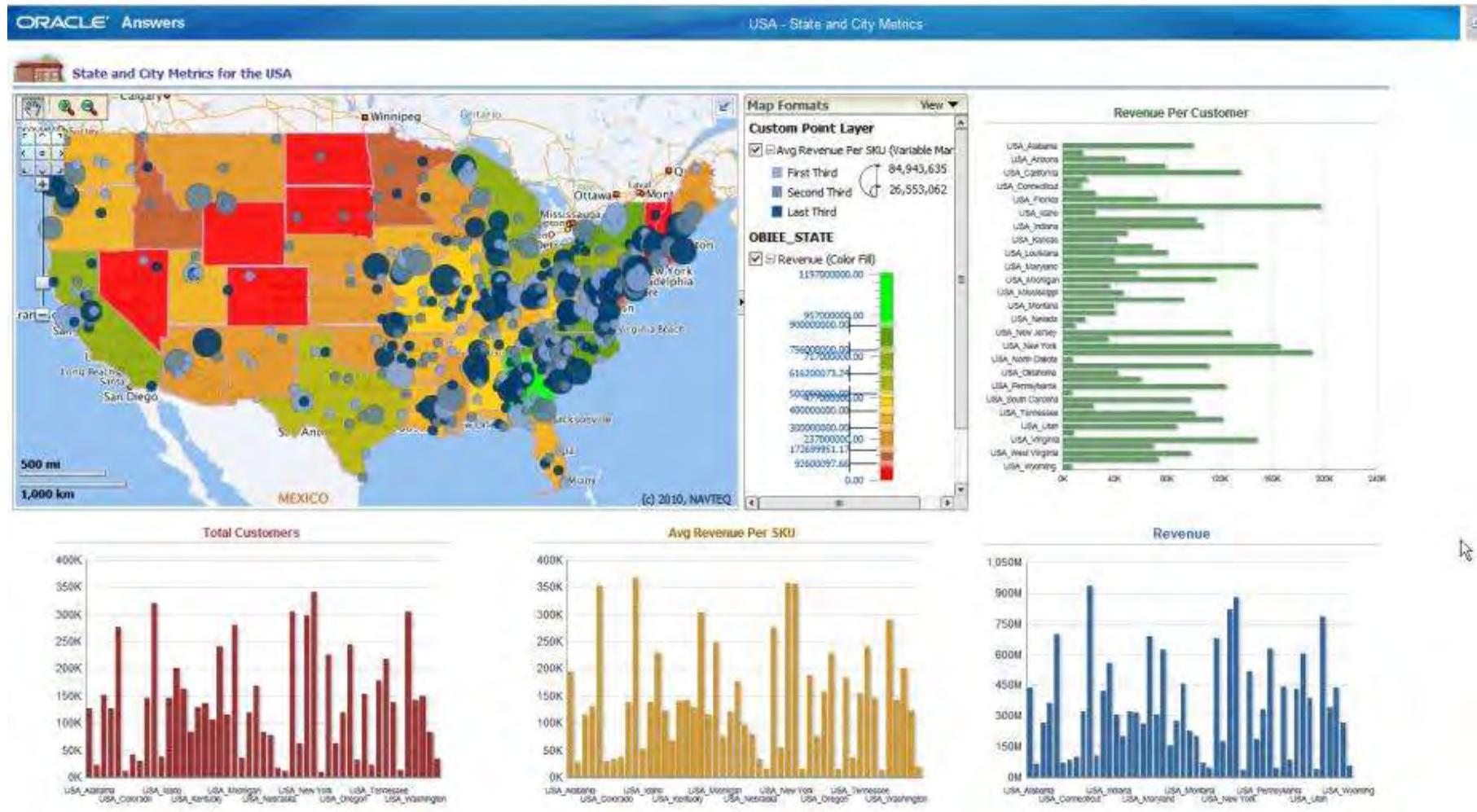
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When are Map views useful

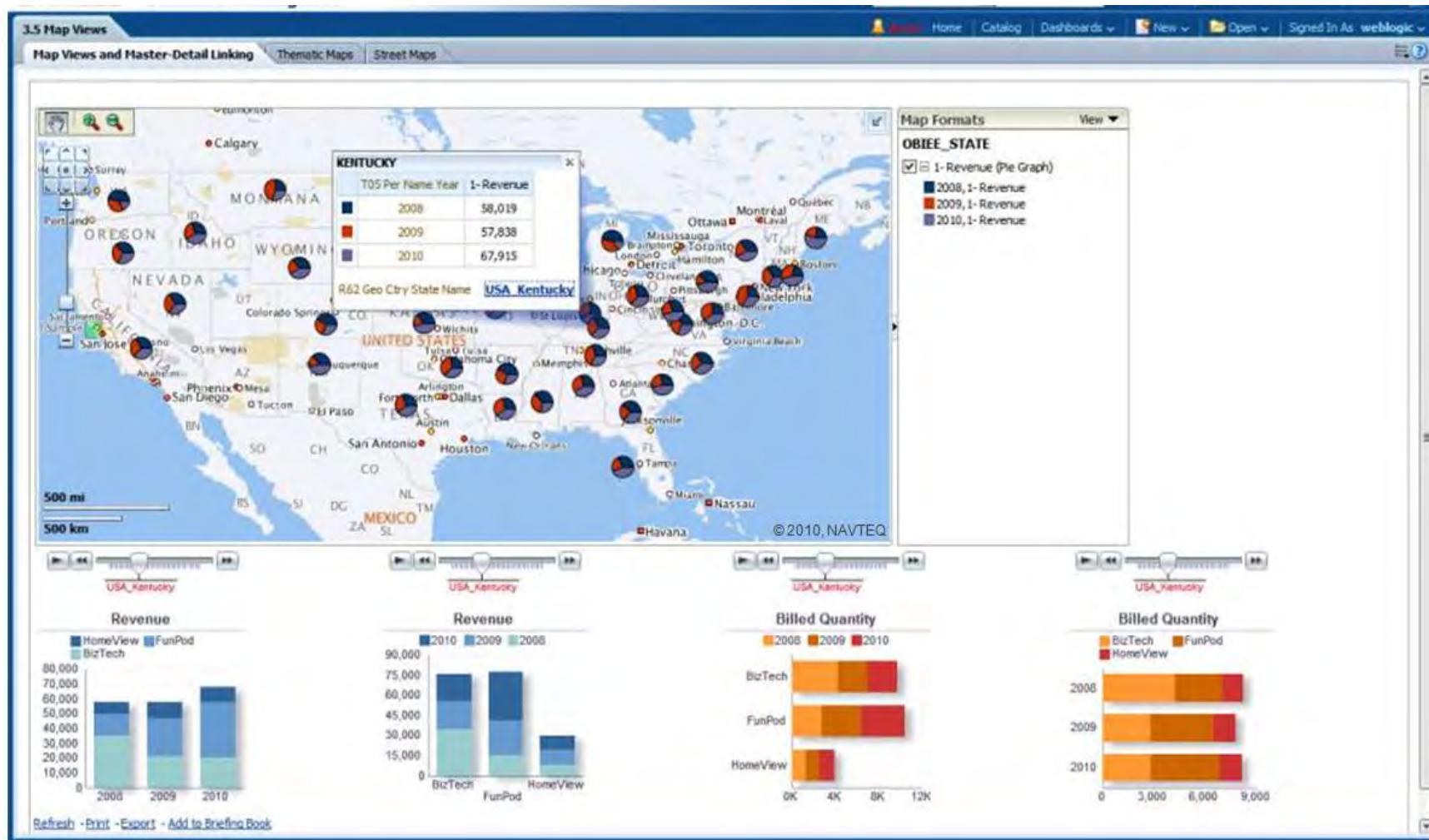
- Visualizing data related to geographic locations.
- Showing lots of data in a relatively small area.
- Showing or detecting spatial relationships and patterns.
- Drilling down from a (map) overview to a detailed report, chart, or graph.

Why Map Views?

The Original High-Density Visualization

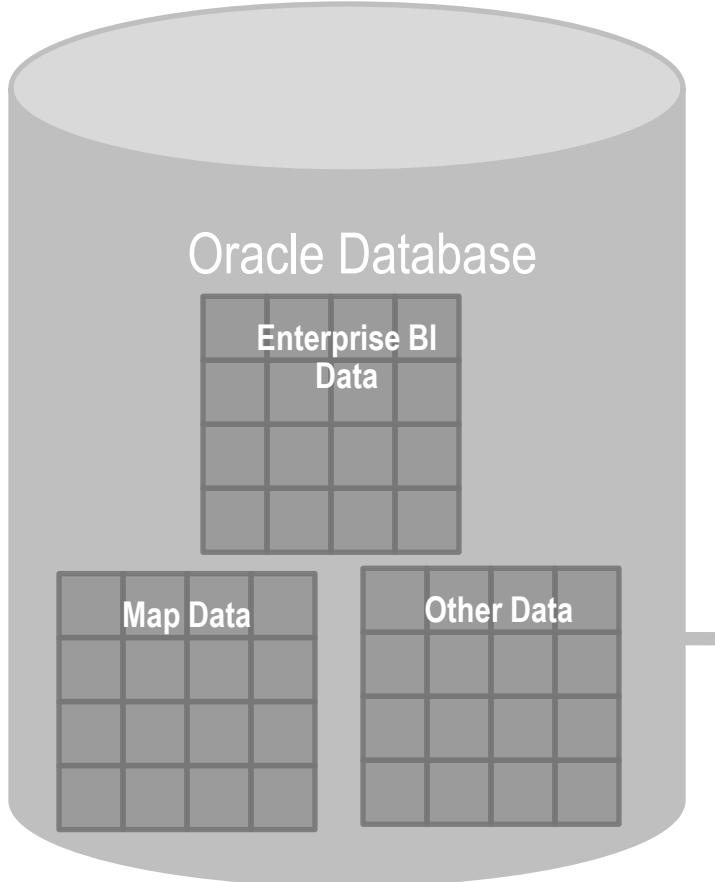


Master-Detail linking: Country on the map, State details in charts.



Secure, Resident Data

- Spatial (and optionally BI) data is safely housed inside an Oracle Database





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Concepts

Understanding Map Views

Data

R61 Geo Country Code	R52 Country Name	1- Revenue
AFG	Afghanistan	142,854
ARE	United Arab Emirates	451,993
ARG	Argentina	1,332,024
AUS	Australia	5,408,727
AUT	Austria	43,990
AZE	Azerbaijan	32,608
BEL	Belgium	38,814
BEN	Benin	51,447
BGD	Bangladesh	48,232
BGR	Bulgaria	55,091
BOL	Bolivia	12,870
BRA	Brazil	870,195
CAF	Central African Republic	42,664
CAN	Canada	1,179,357
CHE	Switzerland	61,818
CHL	Chile	19,909
CHN	China	649,899
CIV	Côte D'Ivoire	40,290
CMR	Cameroon	36,877
COD	Congo, Democratic Republic Of The	30,575
COG	Congo	59,591
COL	Colombia	32,885
CRI	Costa Rica	37,078
CUB	Cuba	43,203
CZE	Czech Republic	36,663

The Table View – From the Data Warehouse

Understanding Map Views

Data

R61 Geo Country Code	R52 Country Name	1- Revenue
AFG	Afghanistan	142,854
ARE	United Arab Emirates	451,993
ARG	Argentina	1,332,024
AUS	Australia	5,408,727
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CZE	Czech Republic	36,663

The Table View – From the Data Warehouse

Understanding Map Views

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Map Definitions

ISO_COUNTRY_CODE	NAME_INIT	GEOMETRY
ABW	Aruba	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AFG	Afghanistan	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AGO	Angola	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AIA	Anguilla	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ALB	Albania	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AND	Andorra	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ANT	Netherlands Antilles	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ARE	United Arab Emirates	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1,765,2003,1),MDSYS.SDO_ORDINATE_AF)
ARG	Argentina	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ARM	Armenia	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ASM	American Samoa	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ATA	Antarctica	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
ATG	Antigua And Barbuda	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AUS	Australia	MDSYS.SDO_GEOMETRY(2004,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1,19,1003,1),MDSYS.SDO_ORDINATE_AF)
AUT	Austria	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AZE	Azerbaijan	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
BDI	Burundi	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
BEL	Belgium	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)

The Spatial Table – Basemap & Shape Information

Understanding Map Views

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ALB	Albania	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
AND	Andorra	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
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ASM	American Samoa	MDSYS.SDO_GEOMETRY(2003,8307,null,MDSYS.SDO_ELEM_INFO_ARRAY(1,1003,1),MDSYS.SDO_ORDINATE_AF)
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The Spatial Table – Basemap & Shape Information

Understanding Map Views

Map Definitions

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AZE	Azerbaijan
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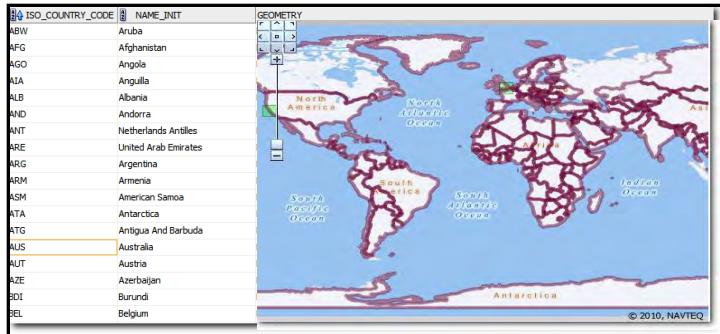
GEOMETRY


© 2010, NAVTEQ

The Spatial Table – Basemap & Shape Information

Understanding Map Views

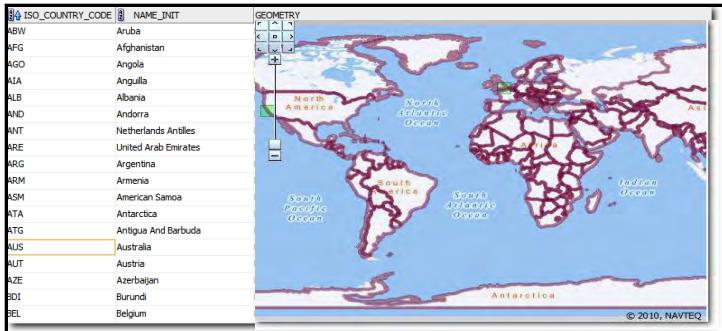
Joining The Two



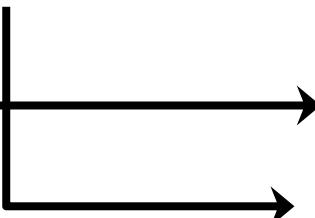
R61 Geo Country Code	R52 Country Name	1- Revenue
AFG	Afghanistan	142,854
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AUS	Australia	5,408,727
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BGD	Bangladesh	48,232
BGR	Bulgaria	55,091
BOL	Bolivia	12,870
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Understanding Map Views

Joining The Two



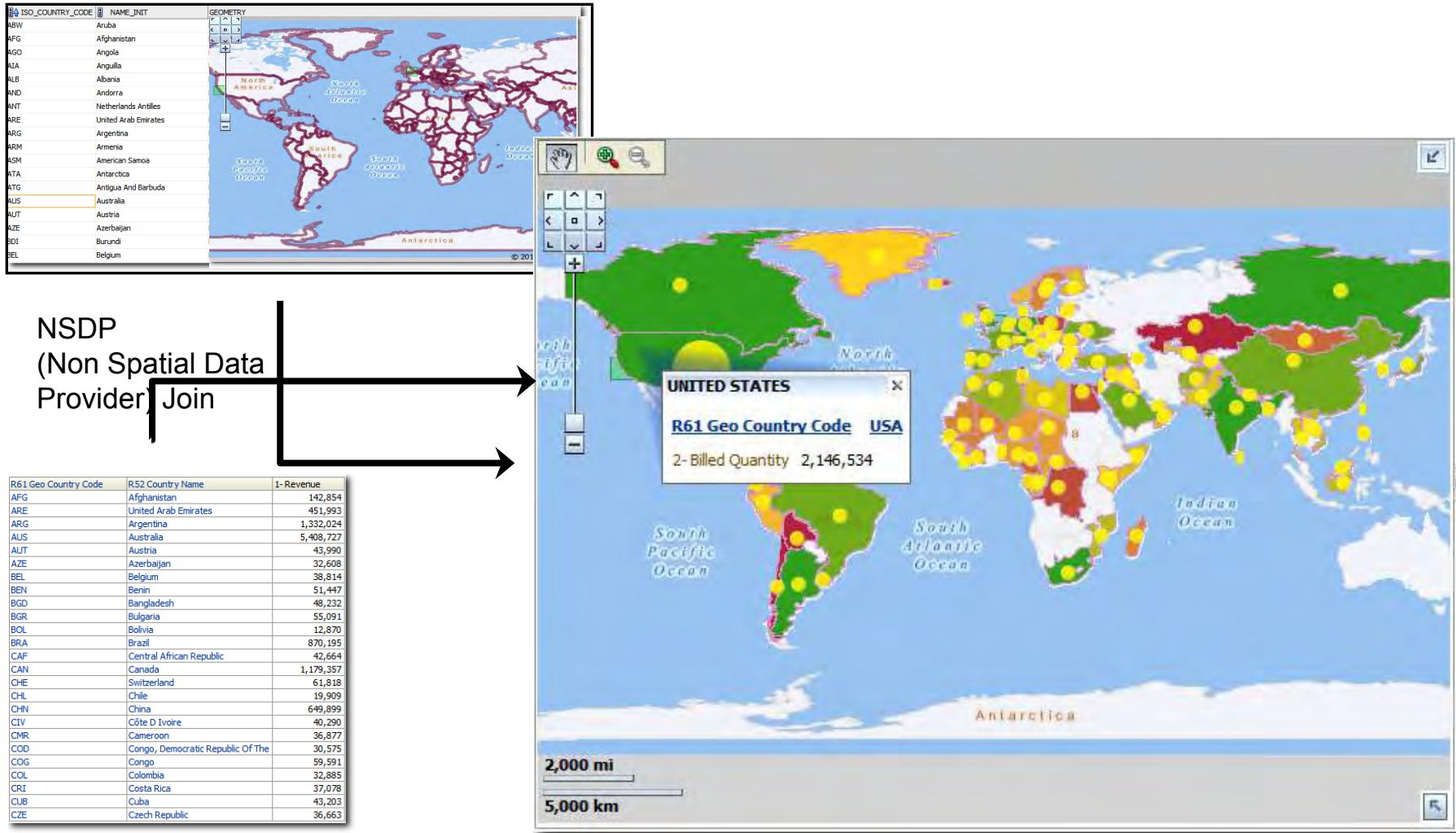
NSDP
(Non Spatial Data Provider) Join



R61 Geo Country Code	R52 Country Name	1- Revenue
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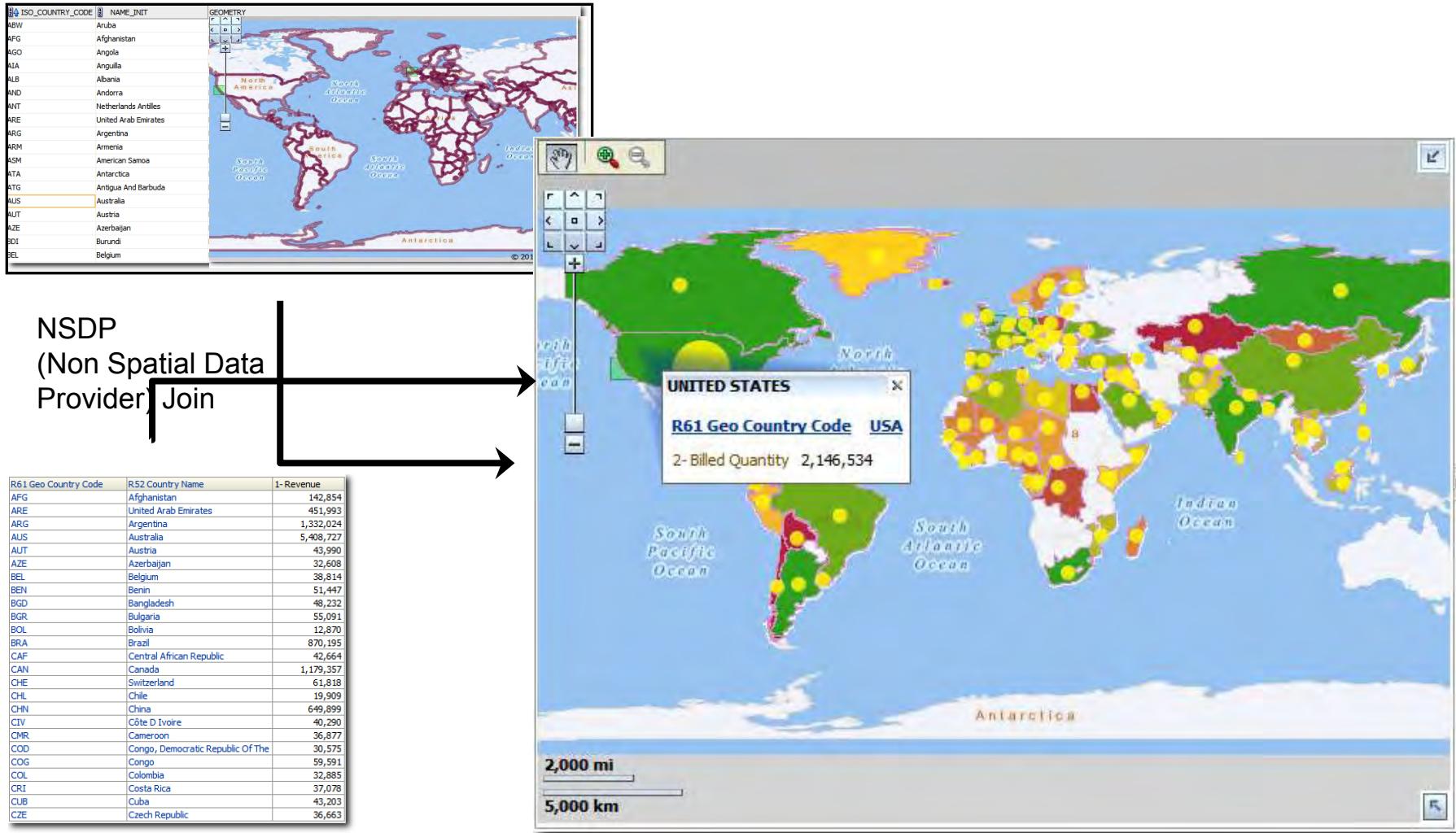
Understanding Map Views

Joining The Two



Understanding Map Views

Joining The Two





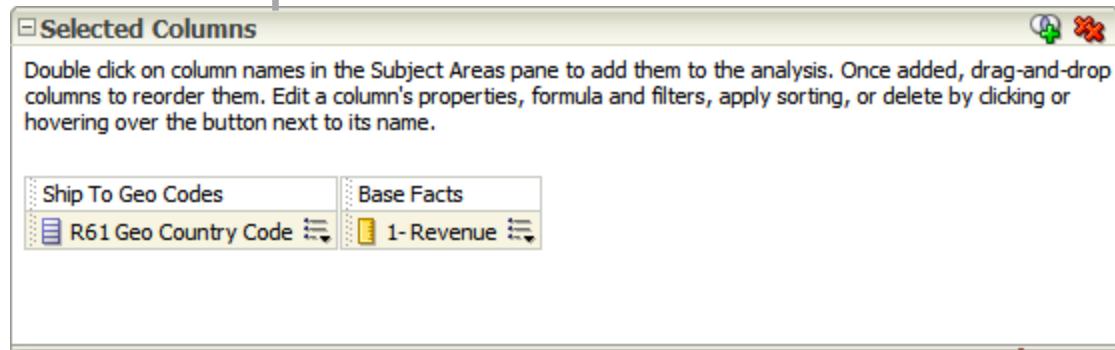
The Integration

Creating Map views

- (At Least) One Column related to location
(e.g. country code, state name)
- (At Least) One Measure
- Default map format created
 - Provided...
- Edit Map View to add / edit / delete formats

Creating Map views

- (At Least) One Column related to location (e.g. country code, state name)
- (At Least) One Measure
- Default map format created
 - Provided...
- Edit Map View to add / edit / delete formats



Creating Map views

Compound Layout

Title

Table

R61 Geo Country Code	1- Revenue
AFG	142,854
ARE	451,993
ARG	1,332,024
AUS	5,408,727
AUT	43,990
AZE	32,608
BEL	38,814
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CHL	19,909
CHN	
CIV	
CMR	
COD	
COG	
COL	
CRI	
CUB	
CZE	

Selected Columns

Double click on column names in the Subject Areas pane to add them to the analysis. Once added, drag-and-drop columns to reorder them. Edit a column's properties, formula and filters, apply sorting, or delete by clicking or hovering over the button next to its name.

Ship To Geo Codes Base Facts

R61 Geo Country Code 1- Revenue

Key text elements overlaid on the interface:

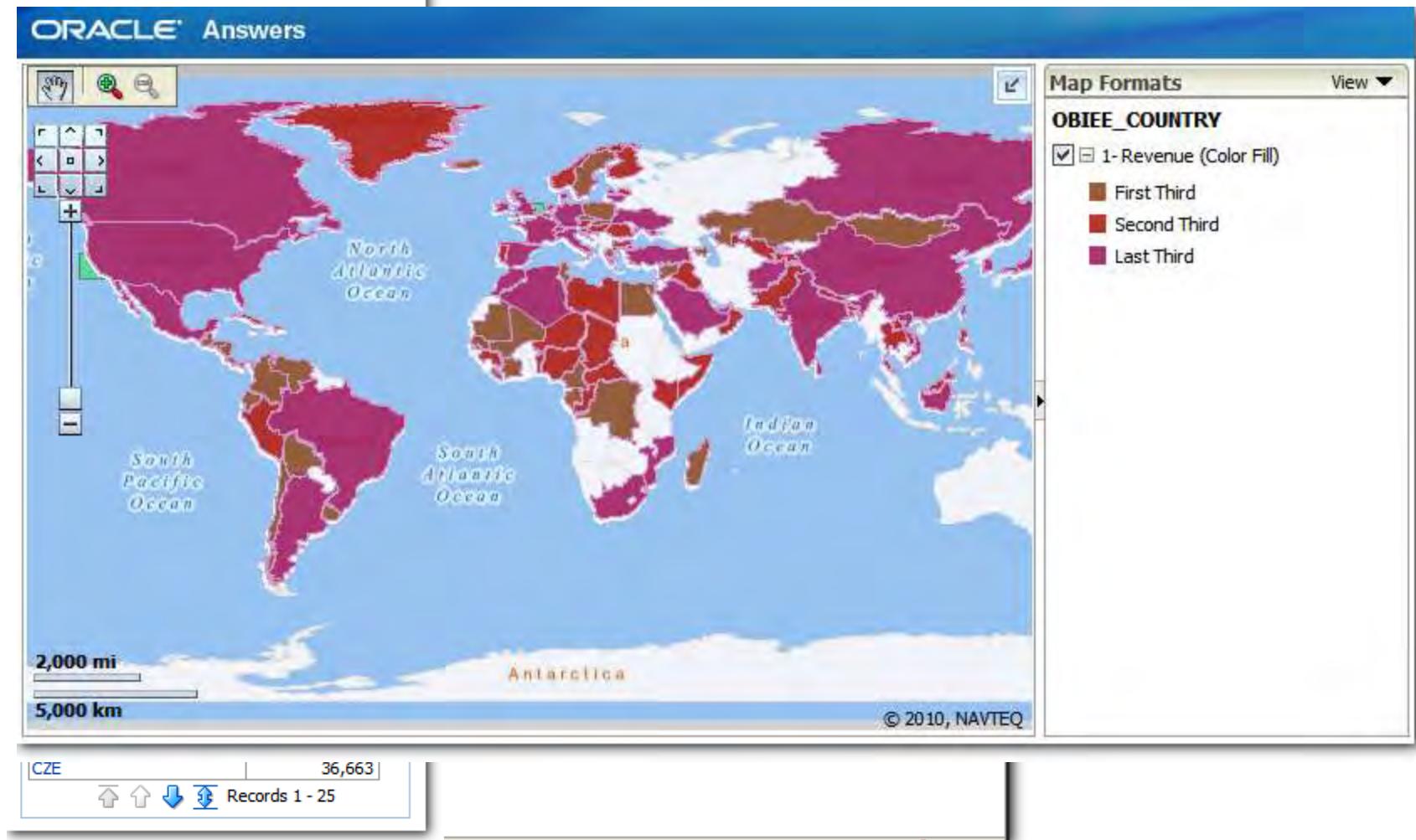
- ie Column related to location code, state name)
- ie Measure format created
- Key to add / edit / delete formats

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Creating Map views

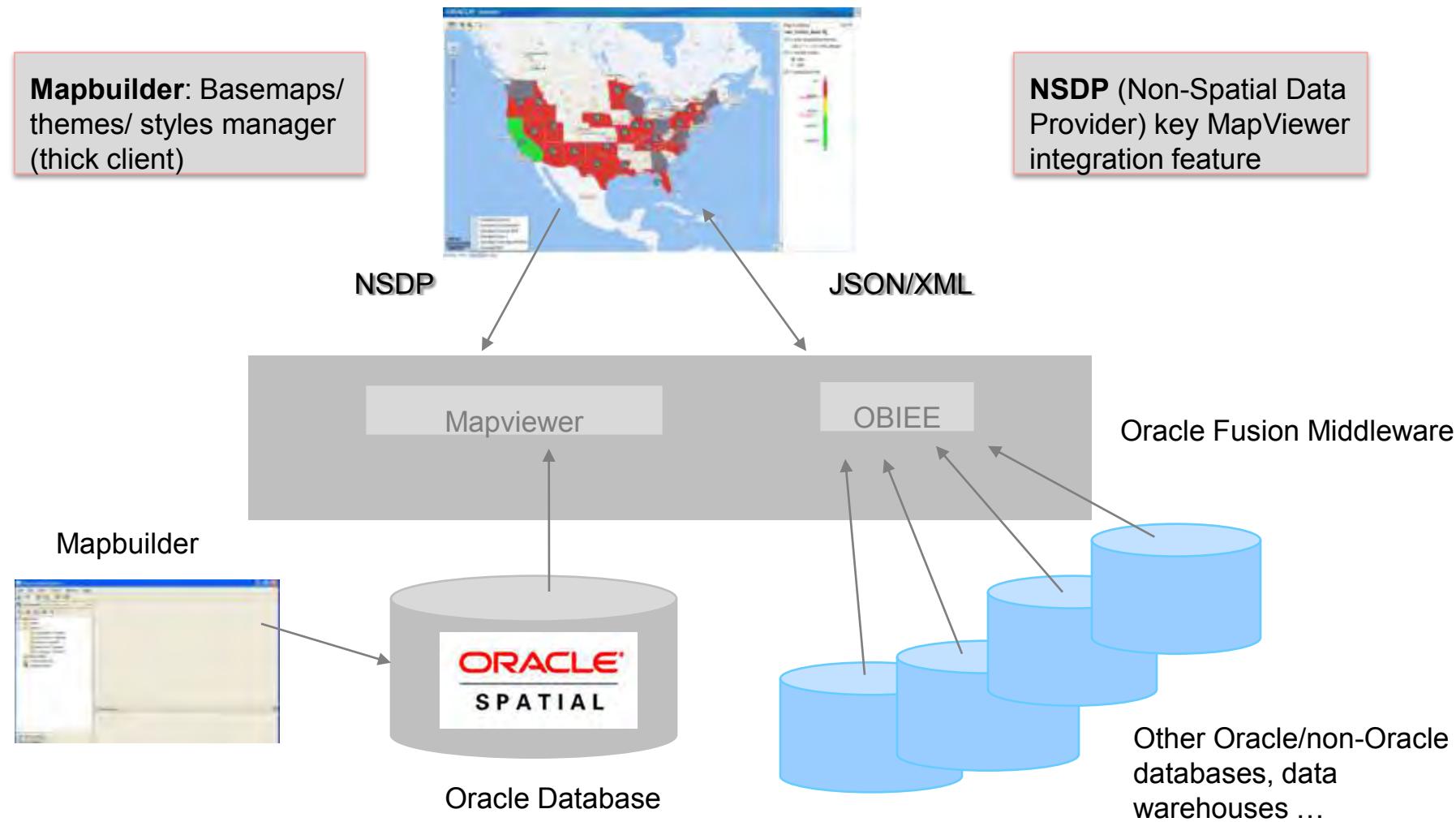
Compound Layout



MapViewer BI Integration Architecture

Mapbuilder: Basemaps/
themes/ styles manager
(thick client)

NSDP (Non-Spatial Data
Provider) key MapViewer
integration feature



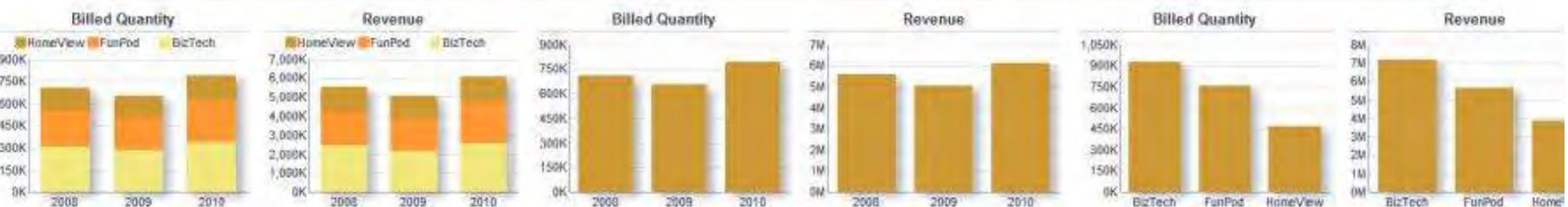


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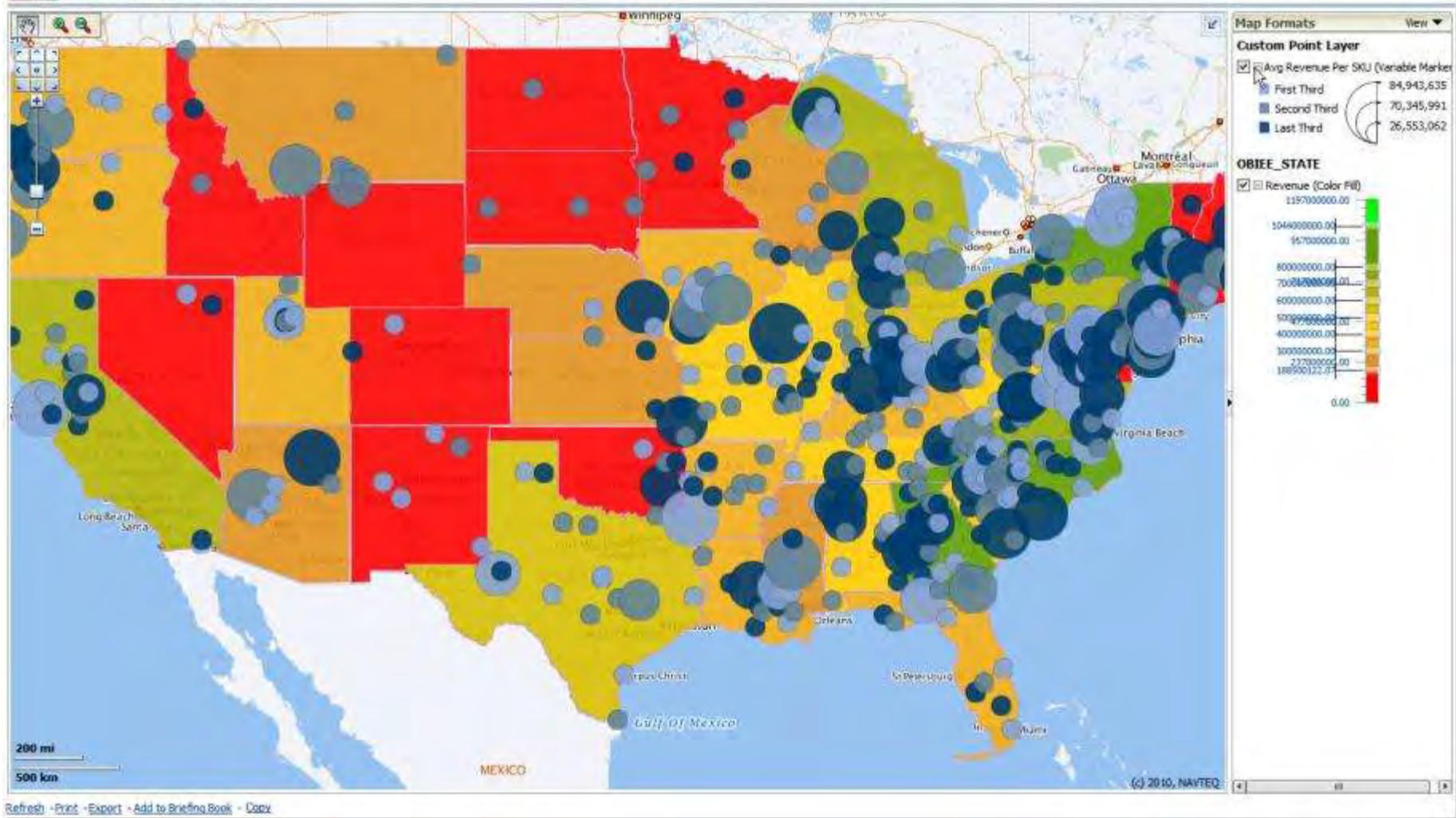
Sample Screenshots

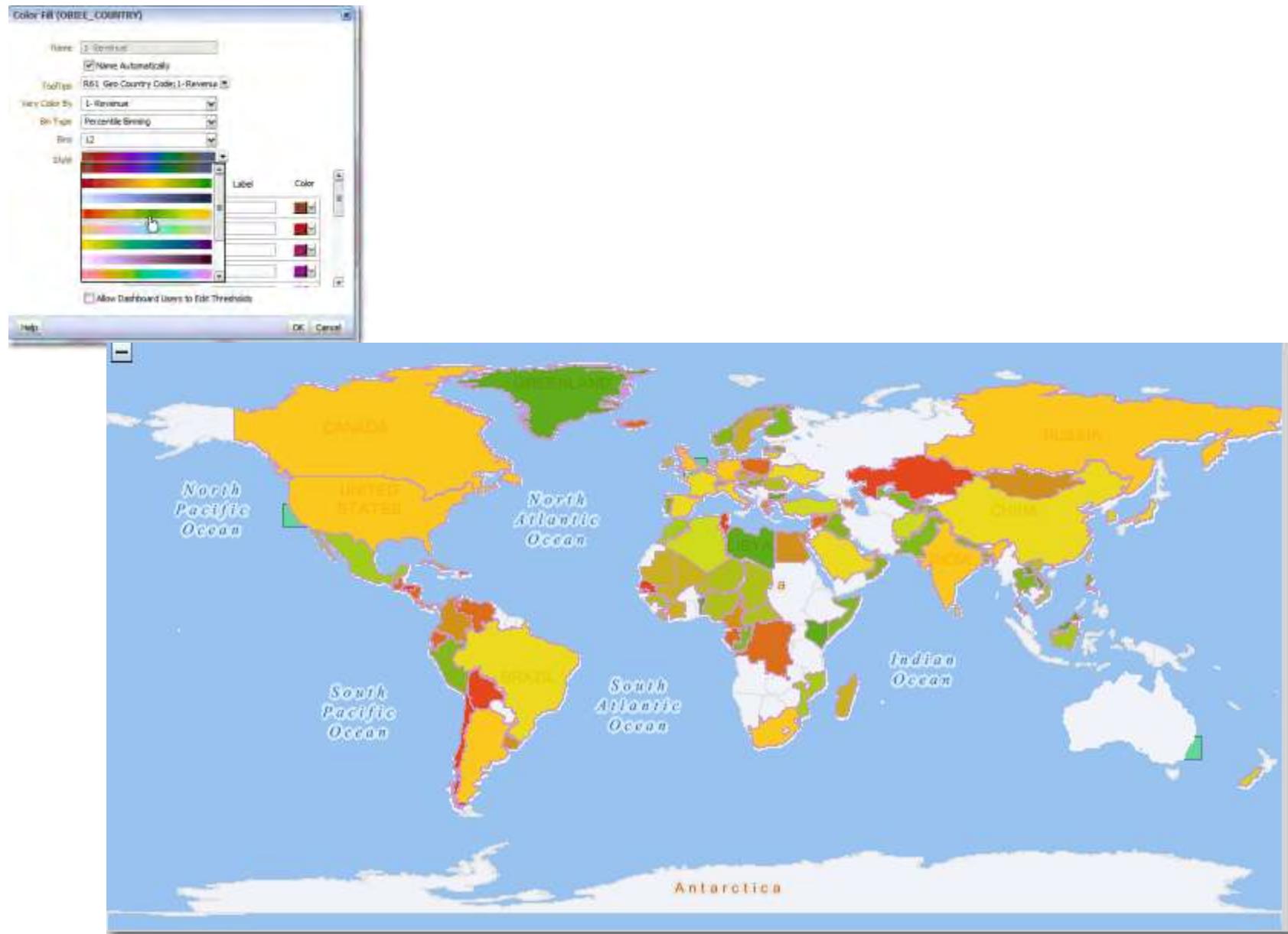
Map Views in OBIEE 11g





State and City Metrics for the USA







Map Formats

OBIEE_COUNTRY

1- Revenue (Variable Marker)



1- Revenue (Pie Graph)

- 2008,1- Revenue
- 2009,1- Revenue
- 2010,1- Revenue

1- Revenue (Bar Graph)

- 2008,1- Revenue
- 2009,1- Revenue
- 2010,1- Revenue



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S C R E E N S H O T S

OBIEE11g Mobile

Dashboard - Maps

iPad VPN 12:49 PM Not Charging

Master Detail Linked Map View

Map Formats

OBIEE_STATE

1- Revenue (Pie Graph)

2008,1- Revenue
2009,1- Revenue
2010,1- Revenue

Revenue

BizTech 1- Revenue
FunPod 1- Revenue
HomeView 1- Revenue

Revenue

2008 1- Revenue
2009 1- Revenue
2010 1- Revenue

Billed Quantity

2008 2- Billed Quantity
2009 2- Billed Quantity
2010 2- Billed Quantity

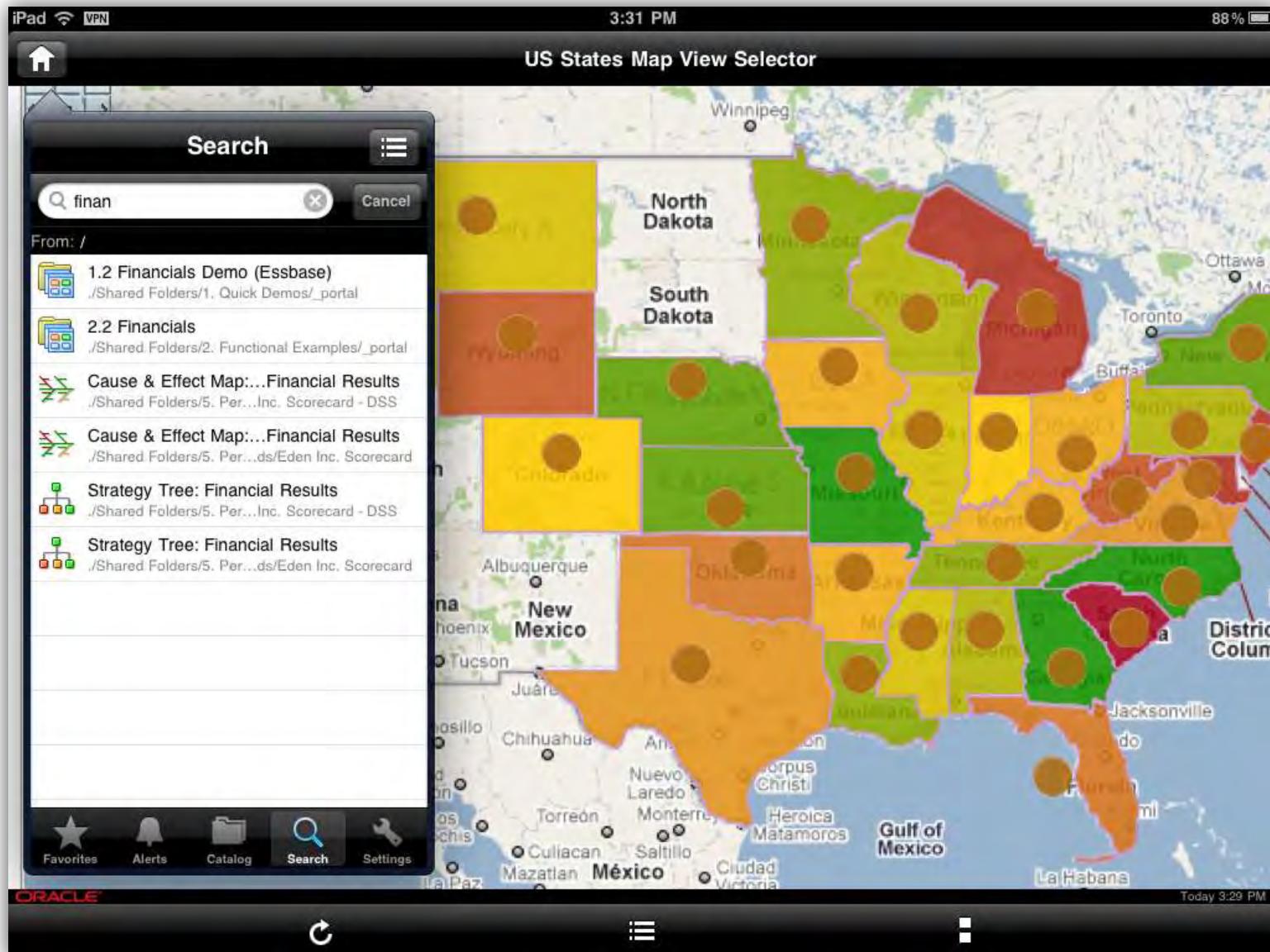
Billed Quantity

BizTech 2- Billed Quantity
FunPod 2- Billed Quantity
HomeView 2- Billed Quantity

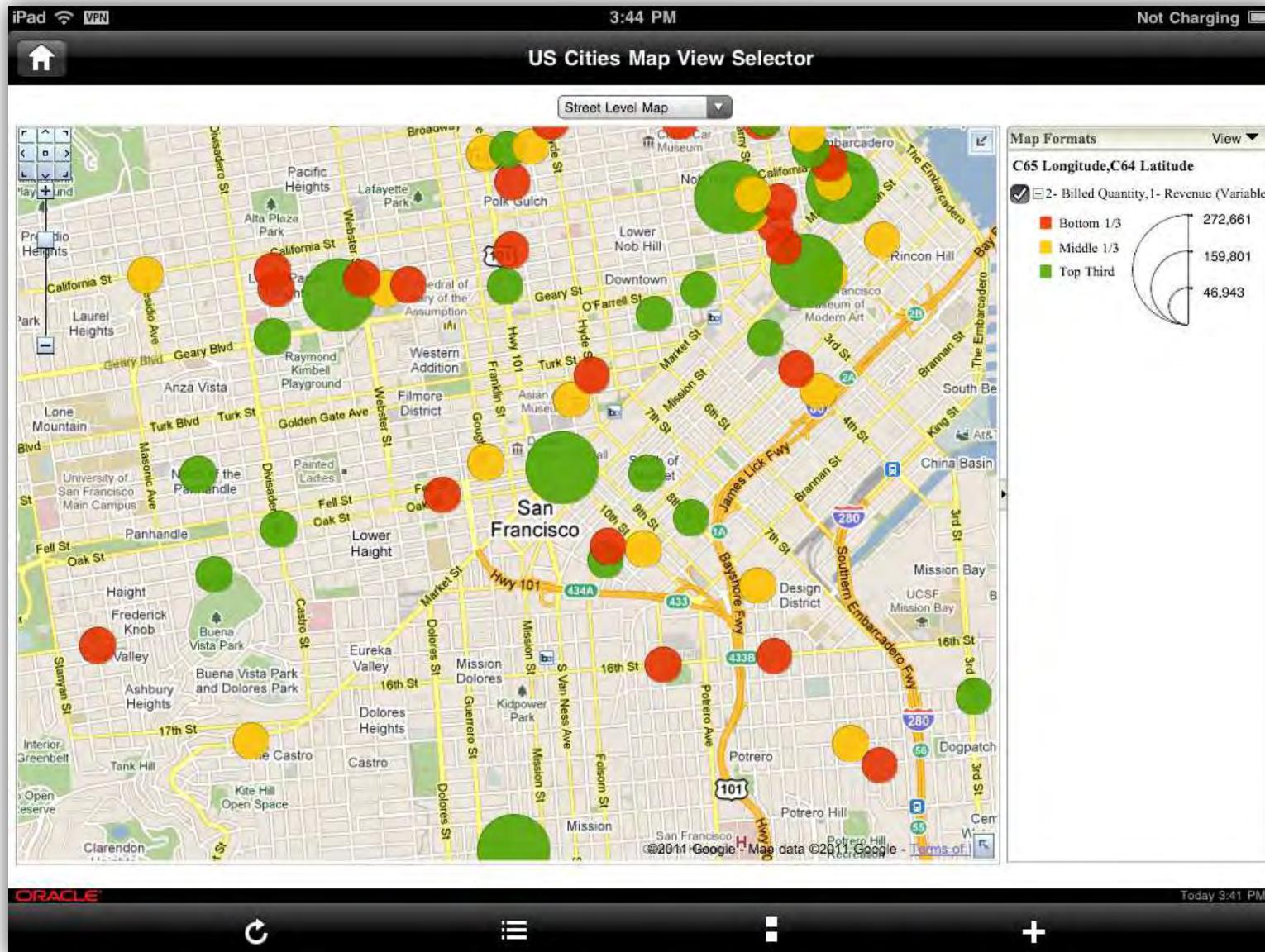
Today 12:45 PM

Map View – Multiple Formats with Formatted Tooltip





Map View – Zoomed-In Street Map



The preceding is intended to outline our general product direction. It is intended for information purposes only, and may not be incorporated into any contract. It is not a commitment to deliver any material, code, or functionality, and should not be relied upon in making purchasing decisions.

The development, release, and timing of any features or functionality described for Oracle's products remains at the sole discretion of Oracle.

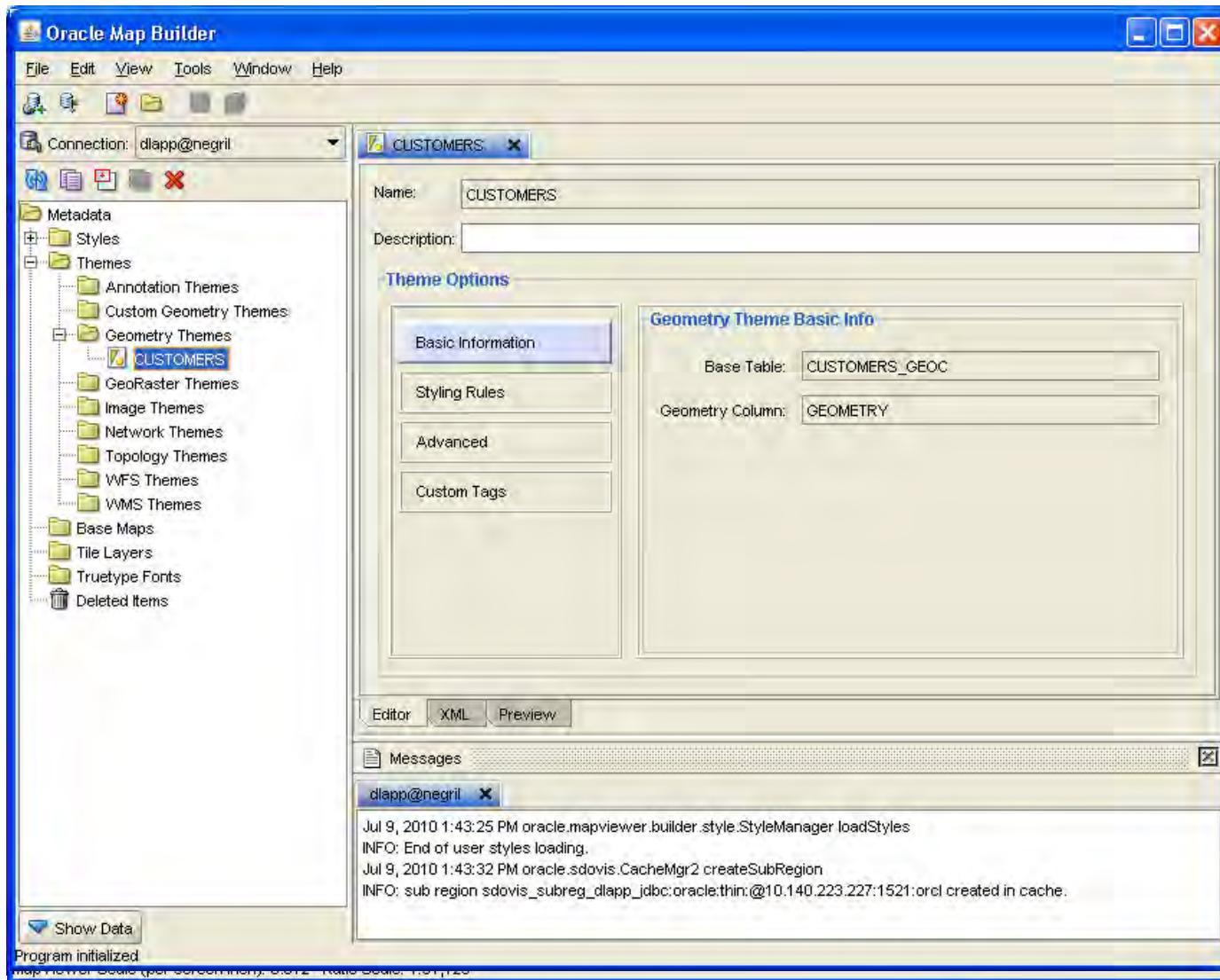
O & A

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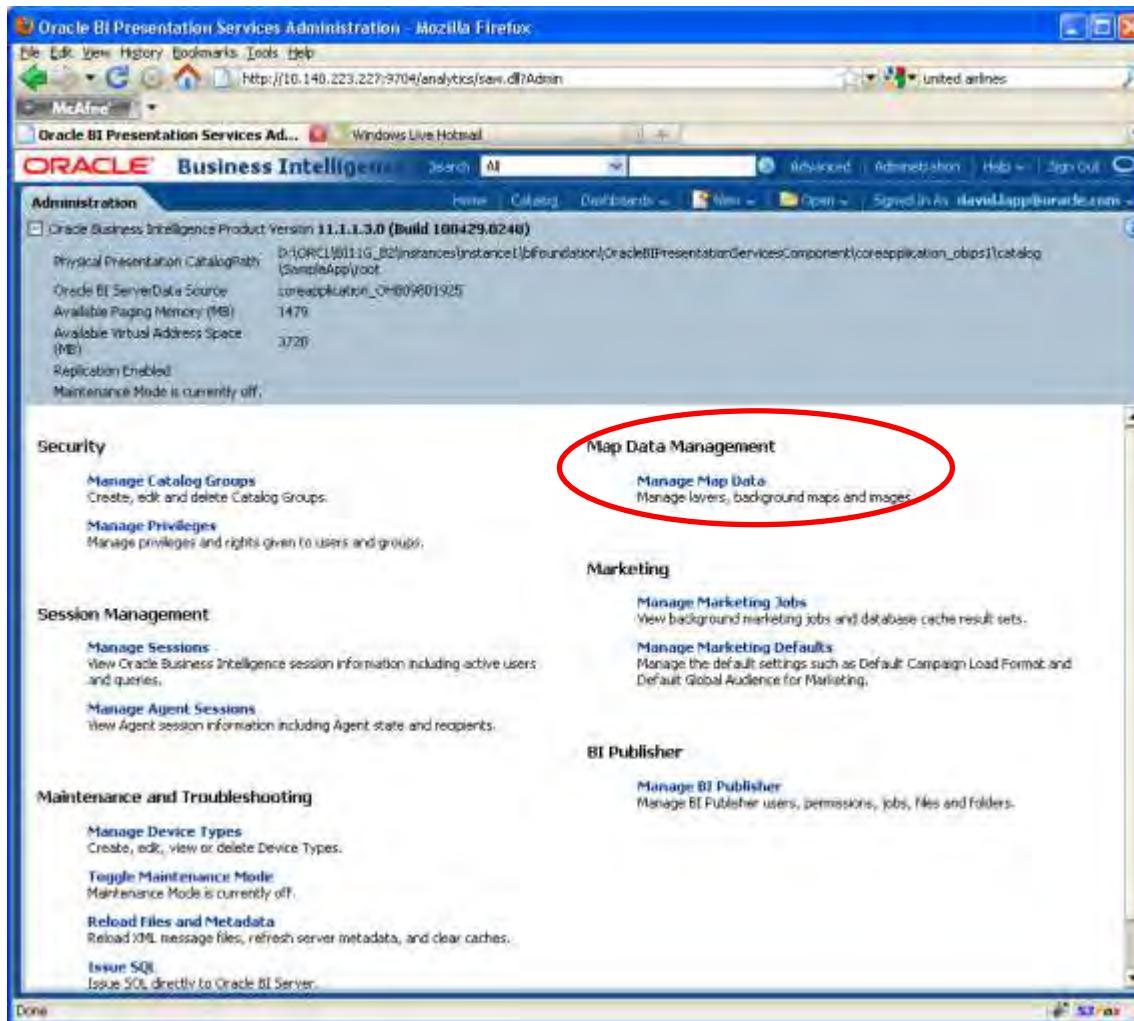
SPATIAL

Define custom map layers

e.g. customers reporting regions, facilities



Configure new map layers for a Map View



May 2011

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Import Layer

The image displays two screenshots of the Oracle Business Intelligence interface, specifically the 'Manage Map Data' feature.

Screenshot 1: Import Layers Dialog

This screenshot shows the 'Import Layers' dialog box. The 'Location' dropdown is set to 'OBIEE_NAVITEQ_Sample'. The list of layers includes:

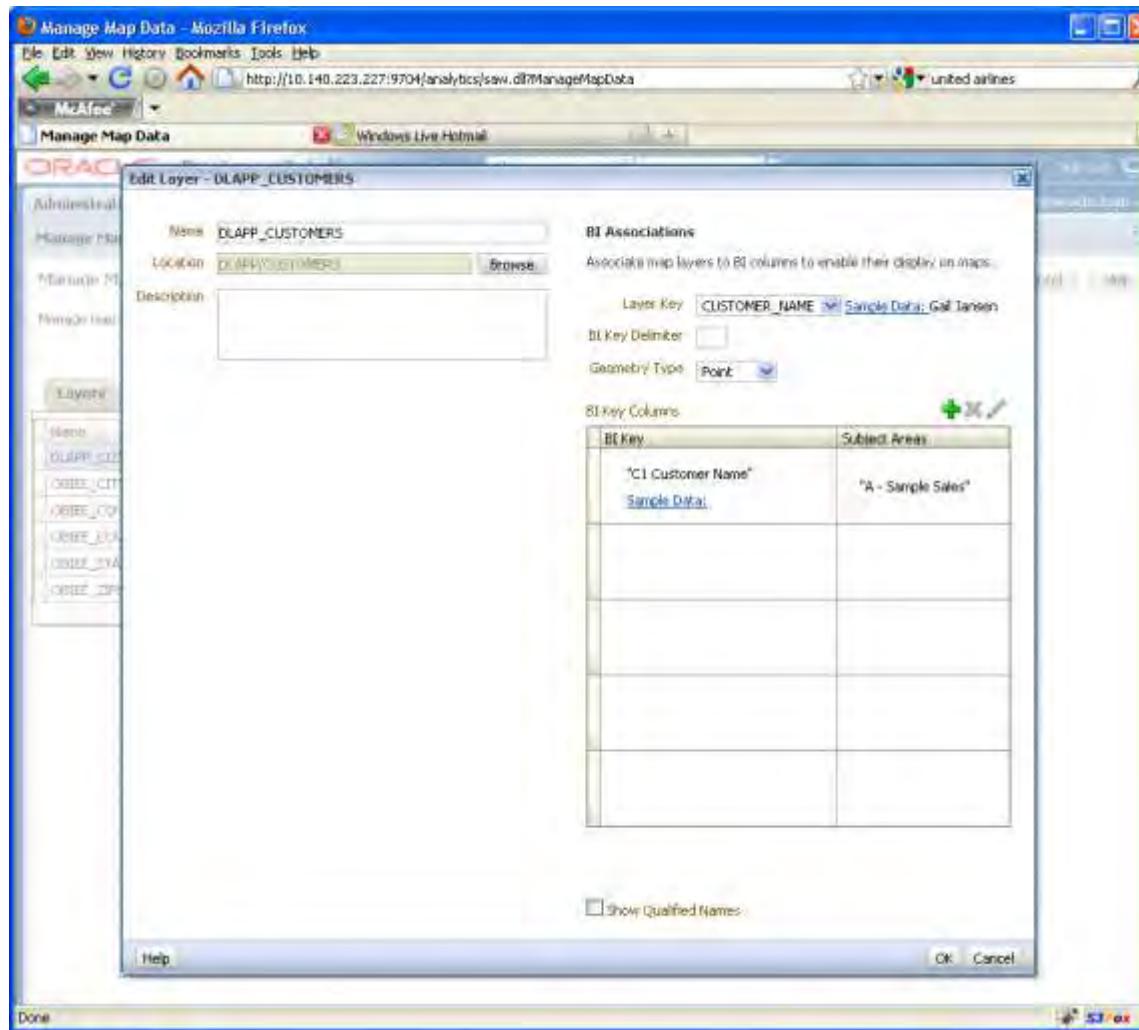
- AGT_POINT
- AGT_POLY
- BLK_GEO_MED_INCOME
- BLK_GEO_POPULATION
- BLOCK
- BLOCK_GROUP
- CITIES
- N_ADMIN_AREA_NAME_500
- N_ADMIN_AREA_NAME_301
- N_ADMIN_AREA_301

Screenshot 2: Manage Map Data List

This screenshot shows the 'Manage Map Data' list. The table displays the imported layers:

Name	Description	Location
BLAPP_CUSTOMERS	BLAPP_CUSTOMERS	OBIEE_NAVITEQ_Sample/OBIEE_CITY
OBIEE_CITY		OBIEE_NAVITEQ_Sample/OBIEE_COUNTRY
OBIEE_COUNTRY		OBIEE_NAVITEQ_Sample/OBIEE_COUNTRY
OBIEE_COUNTRY_30name		OBIEE_NAVITEQ_Sample/OBIEE_STATE
OBIEE_STATE		OBIEE_NAVITEQ_Sample/ZIP5
OBIEE_ZIP5		OBIEE_NAVITEQ_Sample/ZIP5

Define join to presentation column



Define associated background map

The image displays two screenshots of the Oracle Business Intelligence interface, specifically the 'Manage Map Data' feature.

Left Screenshot: A list of map components. The table shows:

Name	Description / Location	Associated Data
OBEE_LONDON_MAP	OBEE_NAITE_SAMP/OBEE_LONDON_MAP	"A - Simple Sales"
OBEE_SF_MAP	OBEE_NAITE_SAMP/OBEE_SF_MAP	"A - Simple Sales"
OBEE_SYDNEY_MAP	OBEE_NAITE_SAMP/OBEE_SYDNEY_MAP	"A - Simple Sales"
OBEE_WORLD_MAP	OBEE_NAITE_SAMP/OBEE_WORLD_MAP	"A - Simple Sales"

Right Screenshot: The 'Edit Background Map' dialog. It shows a map of a geographic area with red circular markers representing data points. The dialog fields are:

- Name: OBEE_SF_MAP
- Description: (empty)
- Interactive BI Layers: A table showing zoom levels for two layers:

Layer	Zoom Level
OBEE_ZIPS	0 1 2 3 4 5 6 7
CLAIM_CUSTOMERS	0 1 2 3 4 5 6 7

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The handshake

Analysis is simply Customer Name, Revenue
We've already told OBIEE how to join Customer Name to map data

