Advanced Dashboard Design in OBI 11g

Collaborate 2013
Session 726

Tim Vlamis

Vlamis Software Solutions

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http://www.vlamis.com

Vlamis Software Solutions

- Vlamis Software founded in 1992 in Kansas City, Missouri
- Developed more than 200 Oracle BI systems
- Specializes in ORACLE-based:
  - Data Warehousing
  - Business Intelligence
  - Design and integrated BI and DW solutions
  - Training and mentoring
- Expert presenter at major Oracle conferences
- www.vlamis.com (blog, papers, newsletters, services)
- Developer for IRI (former owners of Oracle OLAP)
- Co-author of book "Oracle Essbase & Oracle OLAP"
- Beta tester for OBIEE 11g
- Reseller for Simba and Nokia map data for OBIEE
- HOL Coordinator for BIWA Summit 2013
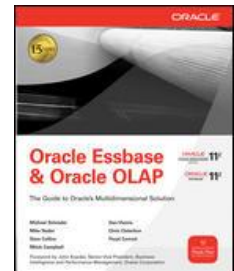
Tim Vlamis Bio

- 20+ years experience in business modeling and valuation, forecasting, and scenario analyses
- Expert in principles and elements of design
- Expert in curriculum development and pedagogical theory
- Professional Certified Marketer (PCM) from AMA
- Active Member of NICO (Northwestern Institute on Complex Systems)
- Adjunct Professor of Business Benedictine College
- MBA Kellogg School of Management (Northwestern)
- BA Economics Yale University

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Mark Your Calendars <u>Now</u>!

BIWA Summit 2014, Jan 14-16

Oracle HQ Conference Center

Business Intelligence, Warehousing and Analytics
IOUG Special Interest Group

Join the community

- IOUG Oracle Spatial and Graph SIG
  - Signup on the membership/interest list today
  - Talk to board members (Steve Lytle & Steve Pierce)
  - Email: oraclespatialsig@gmail.com
  - *Increased interest from business/BI communities
- SIG 2013 Events
  - May 21-22: Location Intelligence & Oracle Spatial and Graph User Conference, Washington DC
  - Fall: Oracle OpenWorld San Francisco

ORACLE

Dashboard Definition

A Dashboard is a visual presentation of current summary information needed to manage and guide an organization or activity.

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BI Dashboards are Different

- No mechanical systems needed to move indicators.
- Decisions are not typically made on a second-to-second basis.
- Data selection and filtering are hugely important.
- Dashboards are typically not single situation or single person devices.

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BI Dashboards

- Role-based.
- Data selection and filtering are extremely important.
- Dashboards support evidenced-based decision making.
- Shared understanding of business situation is a key benefit.
- Content may be individualized.
- Design should be standardized.

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OBIEE Dashboard Overview

- Designed with columns and sections (containers).
- Presentation server is often separate from BI server.
- Dashboards are web-based and are viewed with browsers.
- HTML, XML, and Java coding skills are useful, but not required.

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Dashboard Principles

- Promote user interactivity
  - Prompts
  - View and column selectors
  - Hierarchical column drills
  - Column sorts
  - Guided navigation and action links
- Promote data transparency
  - Prompts
  - Filter views
  - Narrative views
  - Master detail linking
- Establish design guidelines for consistency

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OBIEE Intro Demo

Good dashboards require good analyses and good visualizations!

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Analysis Questions to ask

- What context is being provided?

- What comparison is being made?

- Is the data selection process transparent?

- What visualization methodology best illustrates the key insights in this analysis?

- Are key insights exception related?

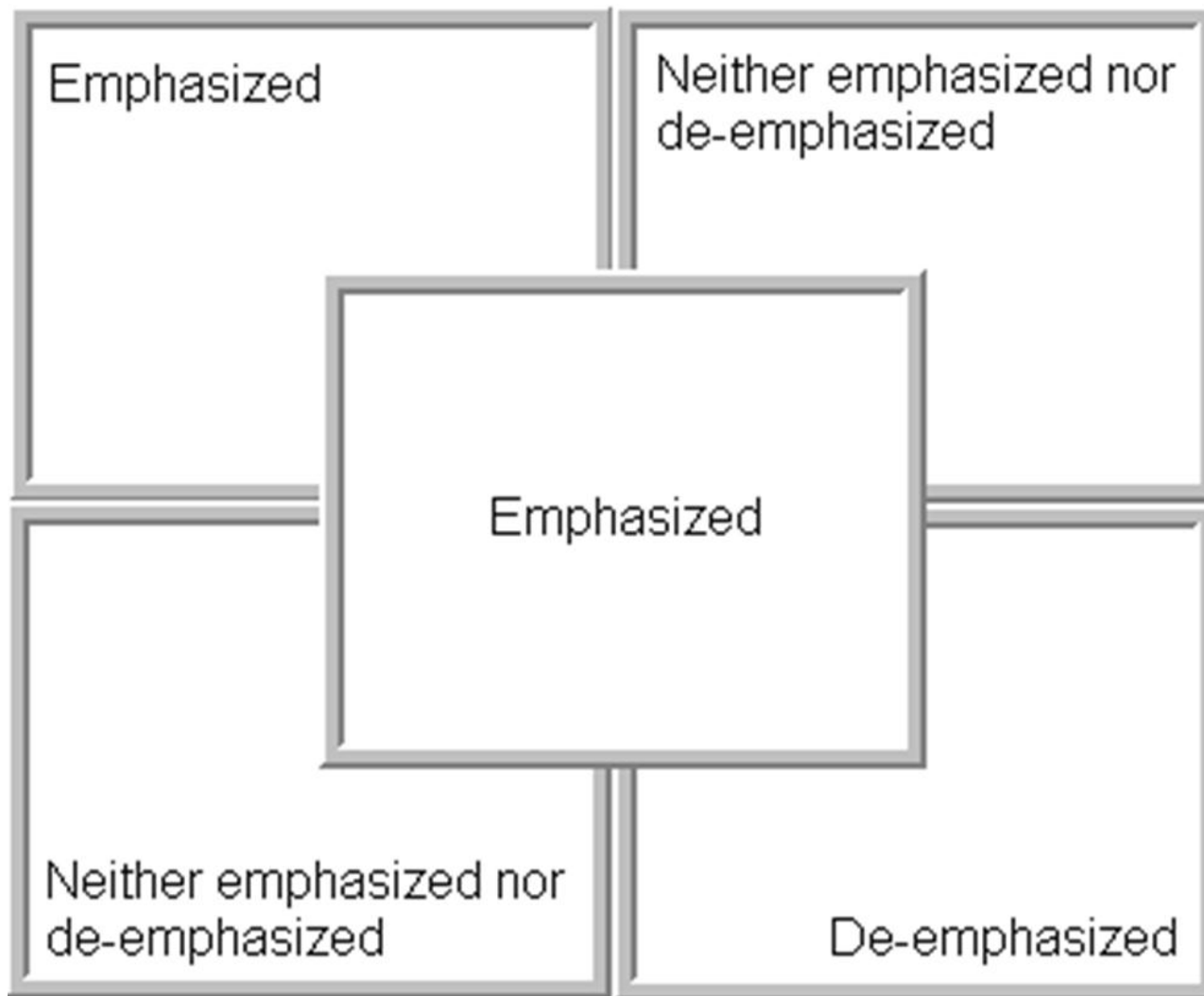- Is a narrative explanation useful?

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Dashboard Layout Guidelines

- Look and feel determined by
  - Skins
  - Styles
  - Cosmetic formatting

- Understand visual prominence
  1. Motion
  2. Color
  3. Size
  4. Position

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BI Dashboard Layout Guidelines

Emphasized	Neither emphasized nor de-emphasized
	Emphasized
Neither emphasized nor de-emphasized	De-emphasized

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BI Dashboard Tips

- Minimize size of logos.
- Put prompts in a consistent place (top or left)
- Use DB Column position to align dashboard content.
- OBI resizes columns and sections depending on analyses results.
- Don't require complex parameters (>1) for navigation.
- Always provide navigation aids.
- Always organize catalog objects and directory structures.

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Prompts, Selection Steps, and Selectors

- Prompts promote user interactivity and transparency.
- Are a key sign of sophisticated and efficient dashboards.
- Prompts act as filters (SQL "where" clause) and impact query requests.
- Selection Steps edit presentations and do not impact query requests.
- Column Selectors edit presentations and do not impact query requests.

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Four Types of Variables

- Presentation Variables
  - Allow for interaction with dashboard users. SampleApp is full of them.
  - Used with dashboard prompts or column prompts.
- Session Variables
  - Initialized when user logs in to OBI.
  - Either system (name reserved by OBI) or non-system (developer designated)
  - Useful for providing context (date, time, etc.)
- Request Variable
  - Used to overwrite the value of a session variable with a column prompt.
- Repository Variable
  - Either dynamic or static.
  - Set in OBI repository (.rpd file)

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OBIEE Demo

Trellis Charts

- Trellis Layout of Smaller Charts in a grid with Consistent Scales

- Great for finding structures / patterns in complex data

- Use 2D Layout to View Multidimensional Data (like a timeline –*mental animation*)

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Trellis View - Simple

- Single type of inner visualization
- Common synchronized scale across all graphs
- Has scale showing by default (can turn off)
- Lots of graph types
  - Vertical Bar
  - Horizontal Bar
  - Line
  - Area
  - Line-Bar
  - Pie
  - Scatter
  - Bubble
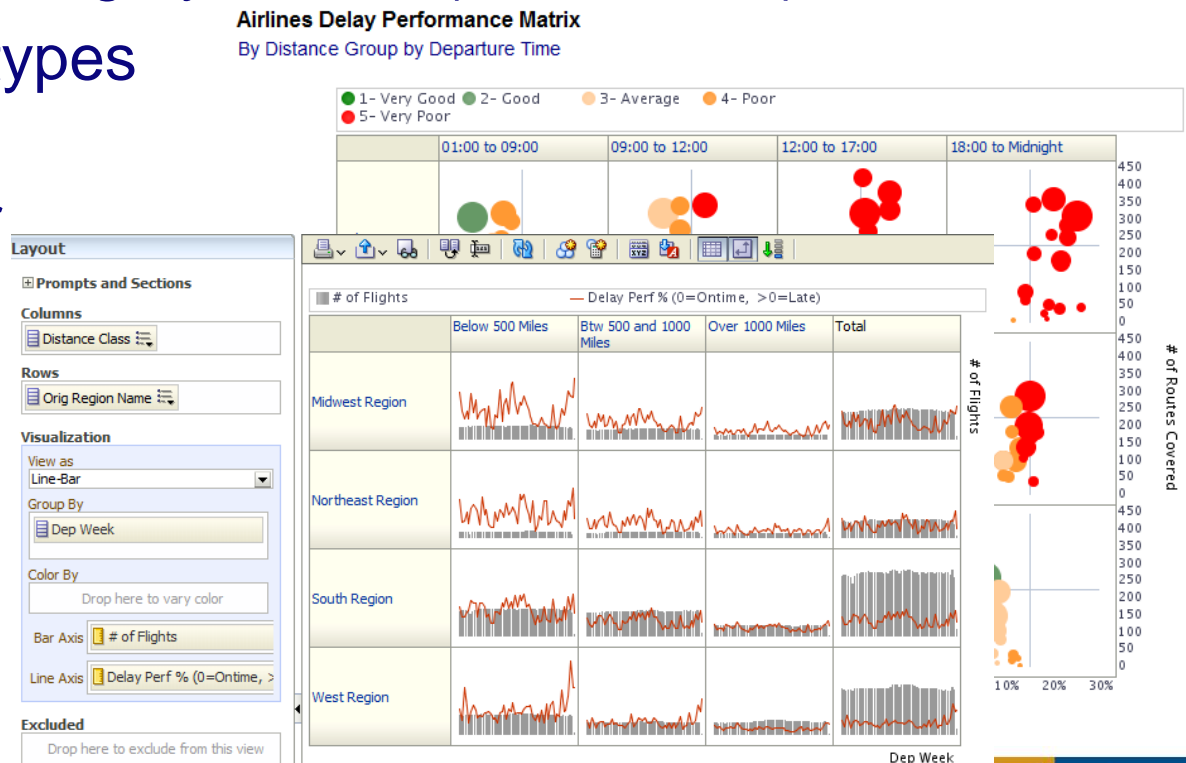
Trellis View - Advanced

- Pivot table with numbers or graphs in cells
- Each microchart has its own scale and not shown
- Most often used to see trend lines
- No axis description, so across should be time
- Can have different visualizations for different measures
  - Spark bar
  - Spark line
  - Spark area
  - numbers

New Trellis Views

- Does not require Exalytics but need fast Pres Server
- Can display LOTS of data in compact form
- Capable of dense visualizations
  - Great for snapshot of trending
  - Great for comparing patterns across dimension values
- Two types
  - Simple (shows full graphs per cell)
  - Advanced (sparklines – no scales per cell, separate scales)
- Need to think what you're trying to show on a trellis

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OBI Scorecard & Strategy Management

- Integrated toolset in OBIEE

- Follows "Balanced Scorecard" methodology

- Enables corporate goals and objectives to be monitored and managed

- Includes strategy maps, strategy trees, KPI watch lists, and cause and effect maps
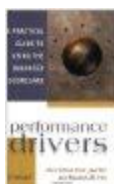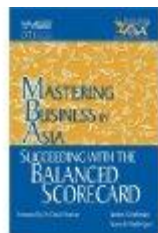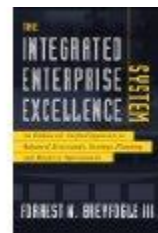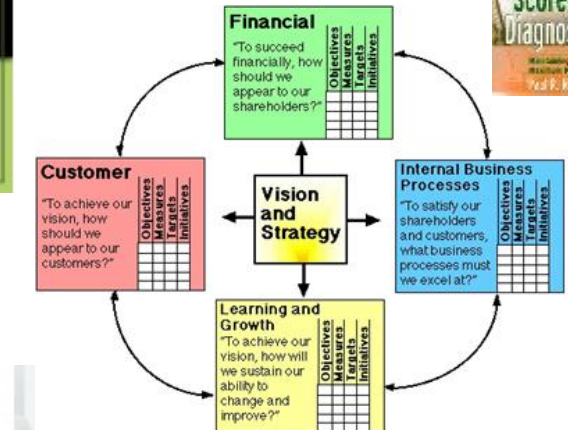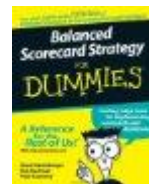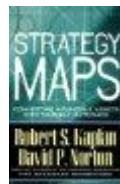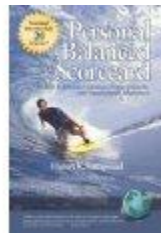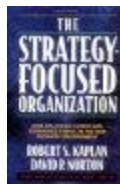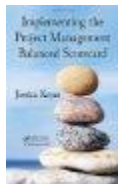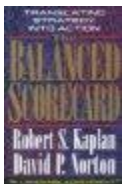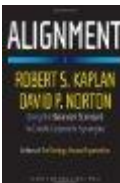
New Contribution Wheel Visualization

Strategy Tree View
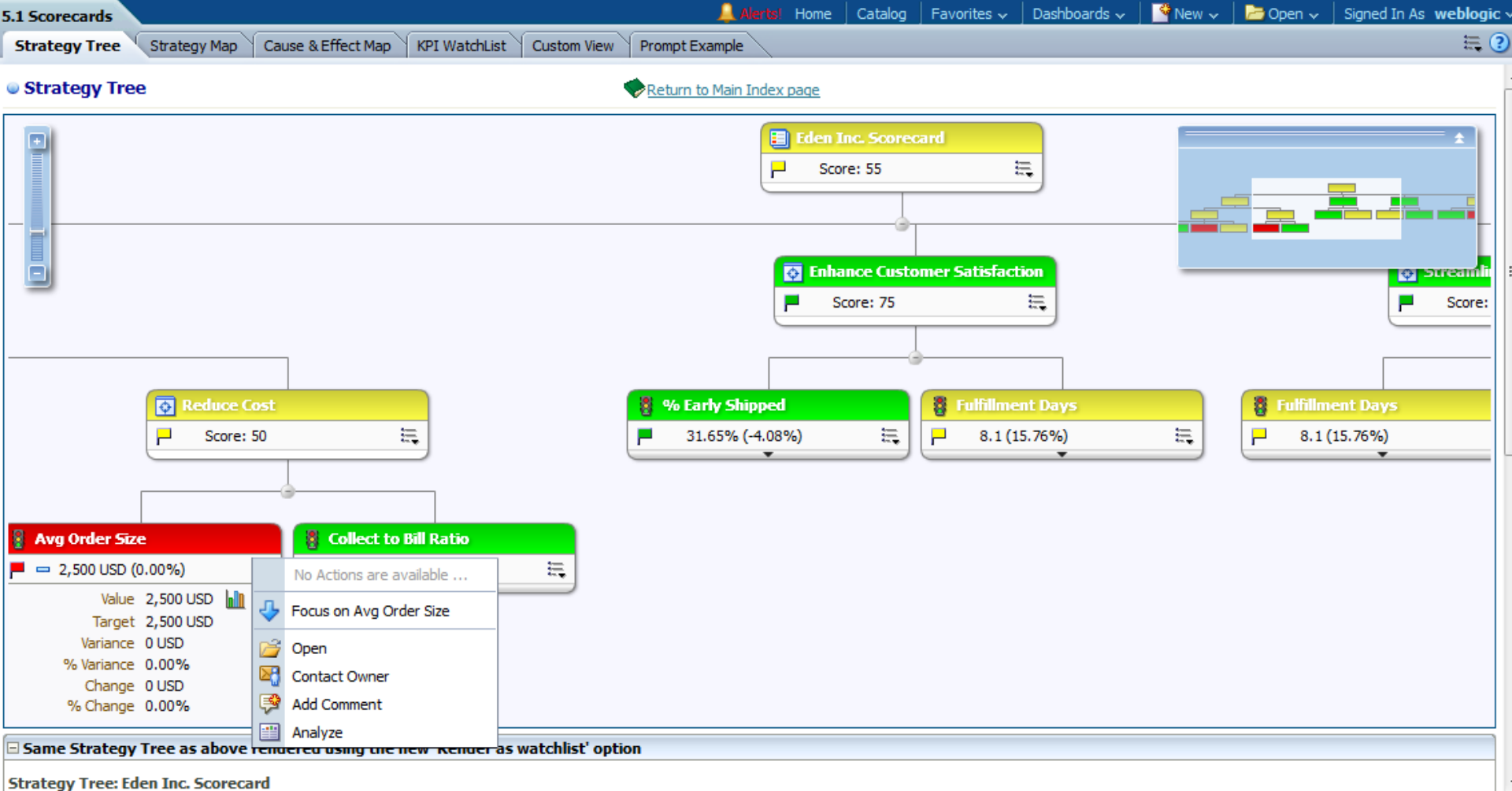
Strategy Map View
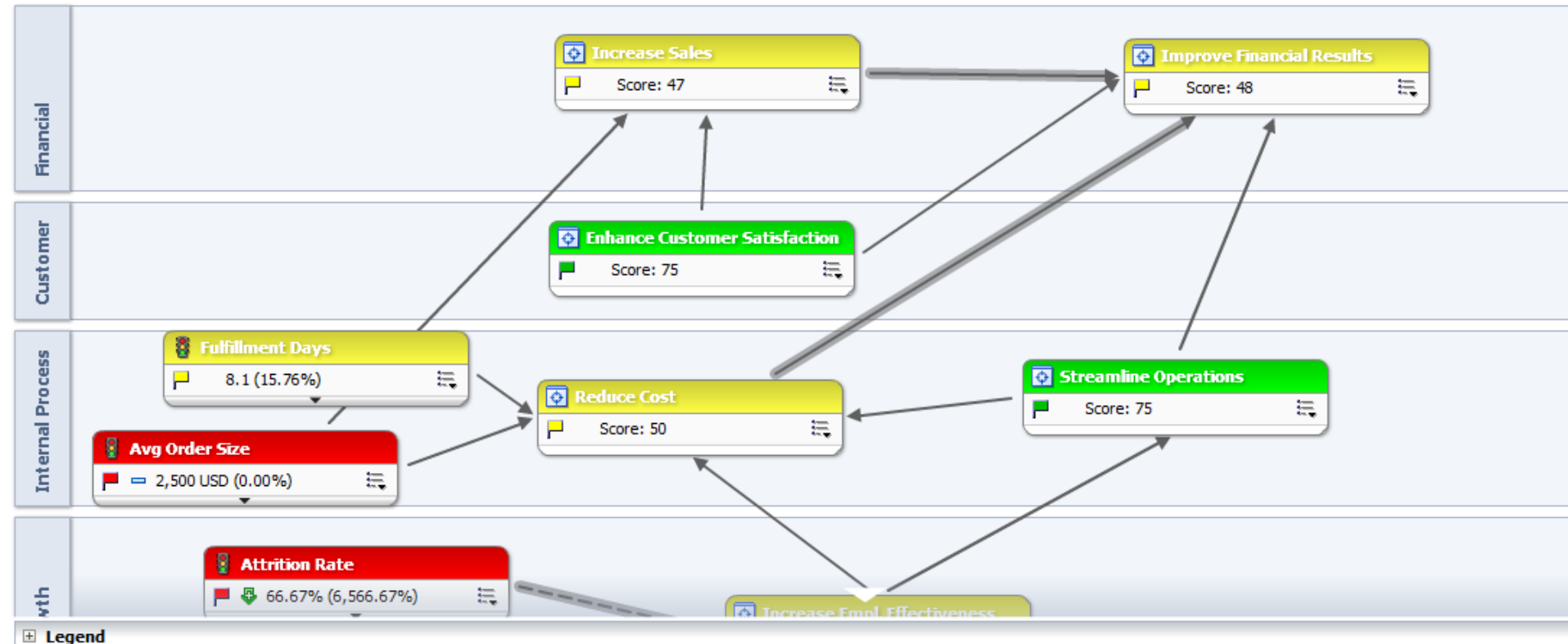
Sparklines

This page is better rendered by using Firefox browser

Sparklines Types (JQuery)
Time run: 5/15/2012 7:43:22 PM

As Of : **2010 / 10**

Dimension	1- Revenue	Line	Chart	Tristate	Discrete	Pie Charts	Box	Bullet	
Assembled Dept.	92,556								
Entertainment Dept.	189,100								
Equipment Dept.	186,291								
Local Plants Dept.	193,843								
Manufactured Dept.	190,268								
Operations Dept.	190,225								
Surplus Dept.	92,343								
Technology Dept.	279,962								
Test Programs Dept.	187,073								
Translated Products Dept.	288,014								

Analyze - Edit - Refresh - Print

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Pivot Heat Map

	Grand Total	Games	TV	Communication	Electronics	Services	Digital △▽
Figueroa Office	3,842,927	914,978	729,734	681,729	701,586	407,924	406,975
Guadalupe Office	3,724,904	862,523	693,361	664,967	707,356	406,223	390,474
Madison Office	3,717,168	825,439	779,666	739,256	611,821	446,599	314,387
Spring Office	3,709,488	858,879	717,308	667,767	685,675	422,997	356,863
Eiffel Office	3,686,688	823,046	728,679	676,979	682,524	405,847	369,613
Morange Office	3,641,103	811,852	721,242	665,251	663,154	418,867	360,736
Perry Office	3,619,566	855,577	683,439	644,954	665,790	409,505	360,299
College Office	3,585,299	819,437	694,455	651,687	657,574	405,017	357,129
Copper Office	3,580,654	839,416	687,128	646,676	635,637	410,738	361,058
River Office	3,492,079	818,428	680,394	623,420	619,194	407,964	342,679
Montgomery Office	3,408,826	759,058	682,610	645,294	577,336	448,314	296,214
Mills Office	3,403,649	781,304	642,323	626,079	605,688	404,210	344,045
Sherman Office	3,402,840	755,860	664,127	657,163	600,825	418,788	306,077
Blue Bell Office	3,381,098	736,555	663,794	674,607	586,915	417,255	301,973
Casino Office	3,375,885	748,299	667,646	650,591	585,134	427,806	296,409
Eden Office	3,339,479	736,841	647,572	675,796	559,997	424,357	294,916
Foster Office	3,315,059	739,504	658,783	638,605	570,621	416,816	290,730
Tellaro Office	3,296,487	739,693	665,197	633,022	558,079	409,549	290,947
Merrimon Office	3,267,813	736,837	636,913	623,980	568,846	407,850	293,386
Glenn Office	3,208,987	722,666	626,456	611,952	556,473	412,547	278,894

Legend:
- Top
- Top 5
- Top 10
- Top 15
- Top 20
- Top 25
- Top 30

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Humans Think Spatially

Why Maps are Powerful

Maps convey dense, multi-dimensional relationships in data faster and more intuitively than any other graphical display methodology.
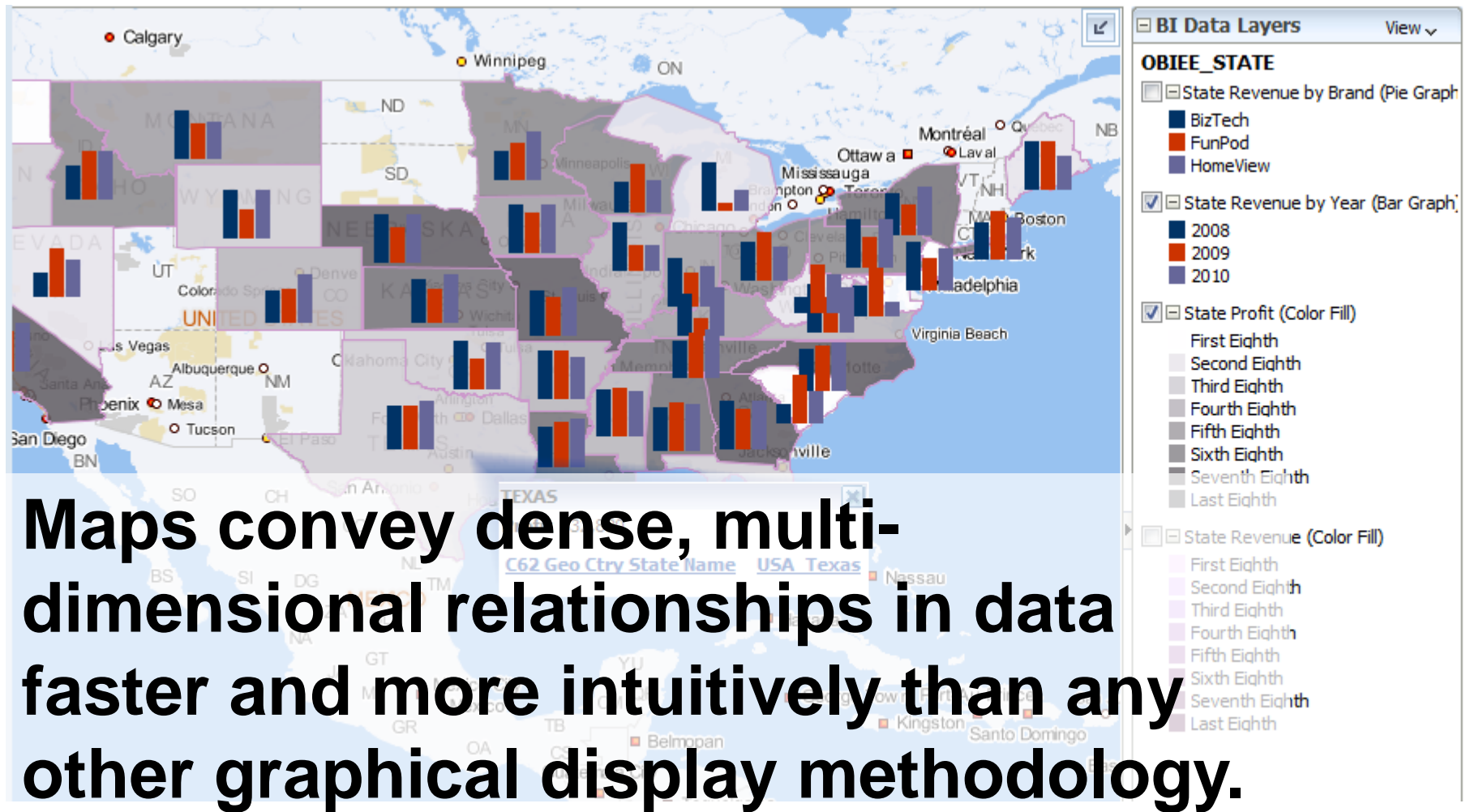
What is Spatial Data?

- Business data that contains or describes location
    - Street and postal address (customers, stores, factory, etc.)
    - Sales data (sales territory, customer registration, etc.)
    - Assets (cell towers, pipe lines, electrical transformers, etc.)
    - Geographic features (roads, rivers, parks, etc.)
- Anything connected to a physical location

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When Are Map Views Useful?

- Visualizing data related to geographic locations.
- Showing or detecting spatial relationships and patterns.
- Showing lots of data in a relatively small area.
- Drilling down from a (map) overview to a detailed report, chart, or graph.
- When is location important? Can the dimension be plotted on a map?

Map View Tips

- Think about what scale to use. Different map scales will reveal different patterns and insights.

- Use Variable marker to display two measures on a map at a point – size and color.

- Avoid overlapping shapes too much.

- Be aware of spatial distortions E.g. Texas is larger than Connecticut.

- Look at color palette. www.colorbrewer2.org

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Map Definitions

- FEATURE
  - Provide a spatial context: cities, highways, rivers, etc…
  - Features of Interest: store location, postal boundaries, pipelines, etc…
- STYLE
  - Define rendering properties for features
  - Can control fill color, border color, line thickness, line style and more
- THEME
  - Collection of features
  - Typically associated with a spatial geometry layer
  - County/state boundaries, major highways, etc…
- BASEMAP
  - A grouping of themes to create a map
  - Maps can share themes
  - When associating a theme with a map, can specify min scale and max scale (sometimes known as zoom control)
- MAP
  - Basemap with additional themes overlain

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Map Interactivity in OBIEE 11g

- Display BI data on top of maps
  - Color fill
  - FOI point display
- Interact with other Dashboard Elements
  - Drive map content with dashboard prompts
  - Drive map content through drilling and navigation
  - Drive other dashboard elements through map interactions
- Reveal additional information on maps through mouseovers
- Drill to map detail

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Map View Formats

- Color Fill (choropleth)
  - Percentile, Value, Continuous binning
  - Dashboard user run-time slider
- Graphs – Bar, Pie
  - Adjustable graph size
  - Series by second dimension
- Bubble (variable sized)
  - Min-Max size specification
  - Color specification

- Variable Shape
  - Circle, Triangle, Diamond
  - Customizable
- Image
  - Imported via MapViewer
  - More can be added from MapBuilder
- Custom Point Layer
  - Uses Lat / Long
  - Does not require a Layer Def

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NAVTEQ Data

- NAVTEQ is the leading global provider of digital map, traffic and location data that enables navigation and location-based platforms around the world.

- NAVTEQ data is licensed direct or through a reseller.

- Licenses are use specific.

- NAVTEQ data resides inside your own Oracle Database.

- NAVTEQ publishes an ODF (Oracle Data Format) version of its data designed specifically for use in an Oracle Database.
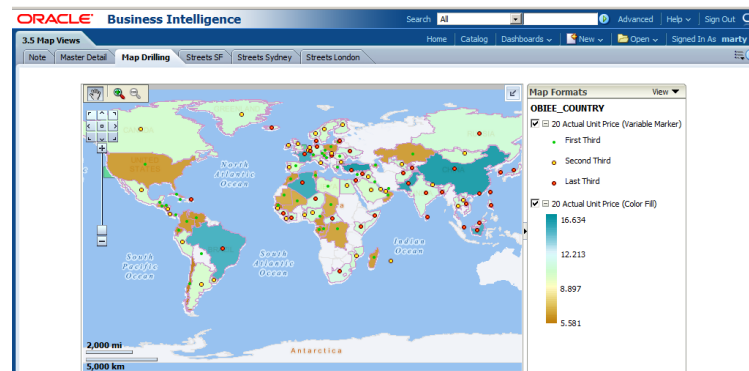
Demo of Oracle BI 11g Maps
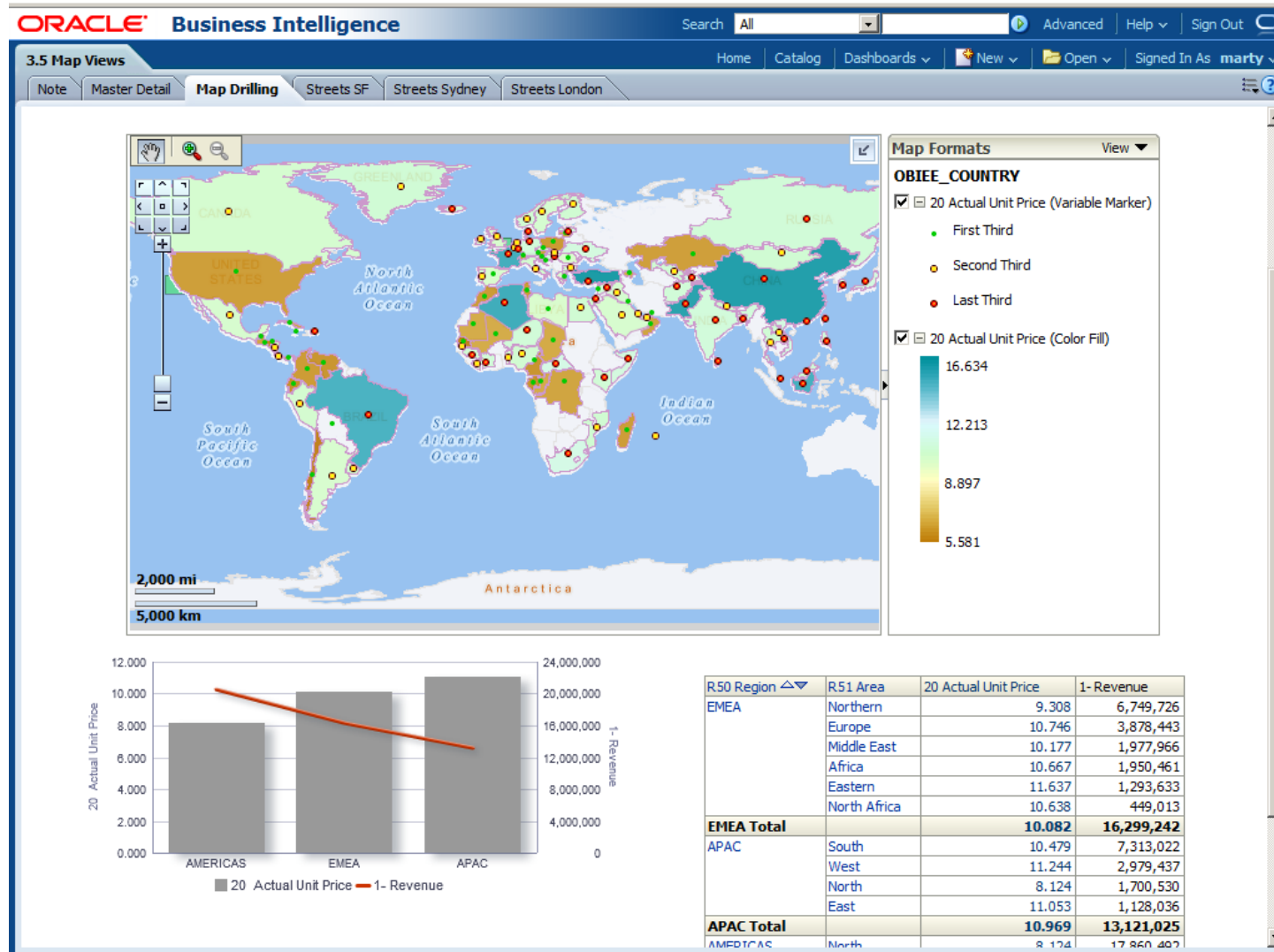
Extended Visualizations

- Use narrative views to run javascript visualizations.

- Use column formulas to run javascript visualizations.

Customizing OBI

- Why?
  - Many of the visuals in OBI contribute to the look and feel and *effectiveness* of your dashboard
    - Branding Elements
    - Customization for different analyses
- How?
  - Two aspects:
    - Personalization directly from the Browser
      - Chart types / Colors
      - Dashboard Look and Feel
    - Skinning and Styling by Altering Configuration Files
      - Change Logos
      - Alter the color and style of elements

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Customizing from the browser
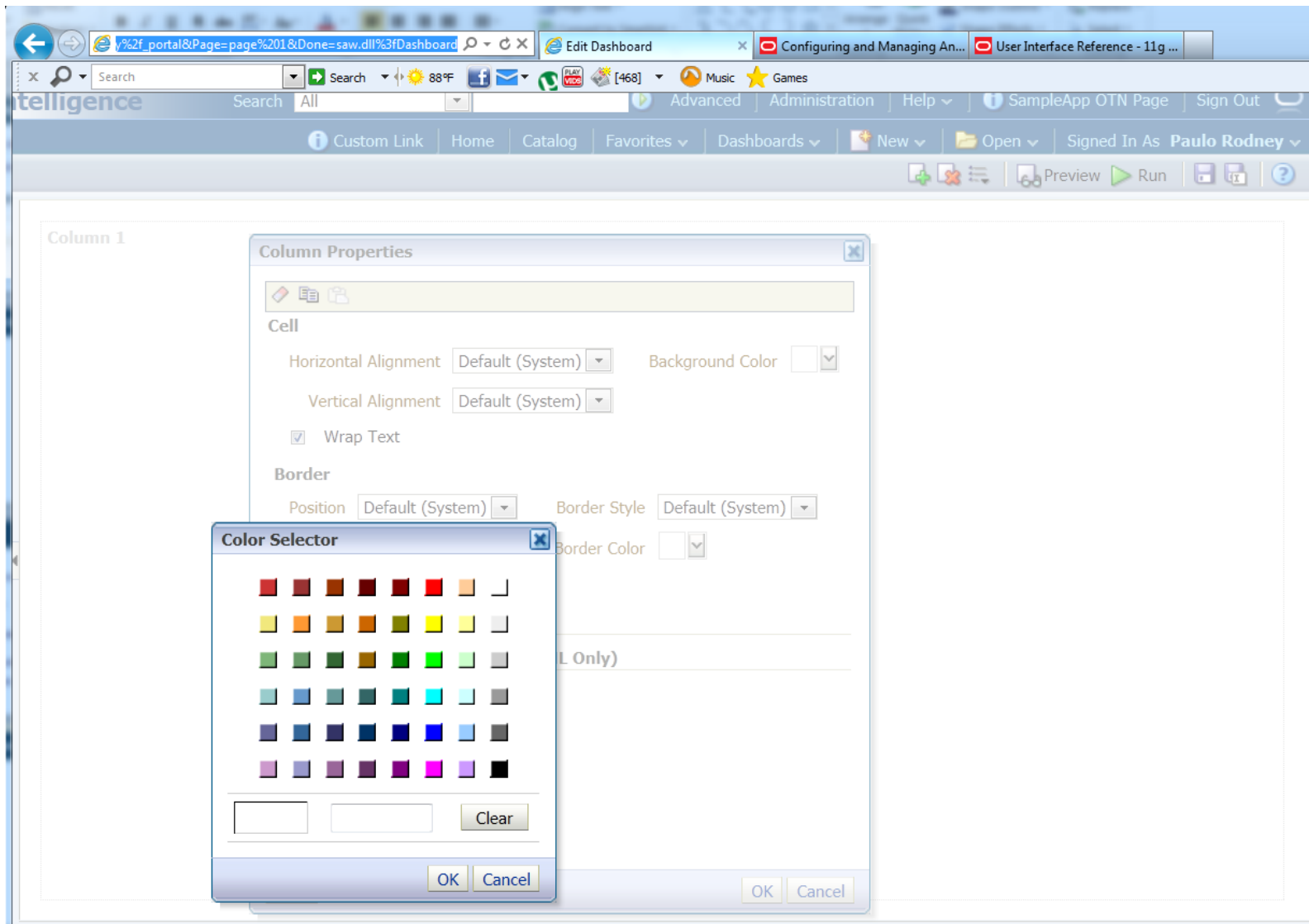
# Customize Existing Dashboard Pages

Customizing Skins and Styles

NOTE: Don't attempt this without proper research and always BACKUP your original directories

- Two directory trees of interest:

  s_blafp (styles) *--actual location may vary by installation*

  $BI_HOME/Oracle_BI1/bifoundation/web/app/res/**s_blaf/…**
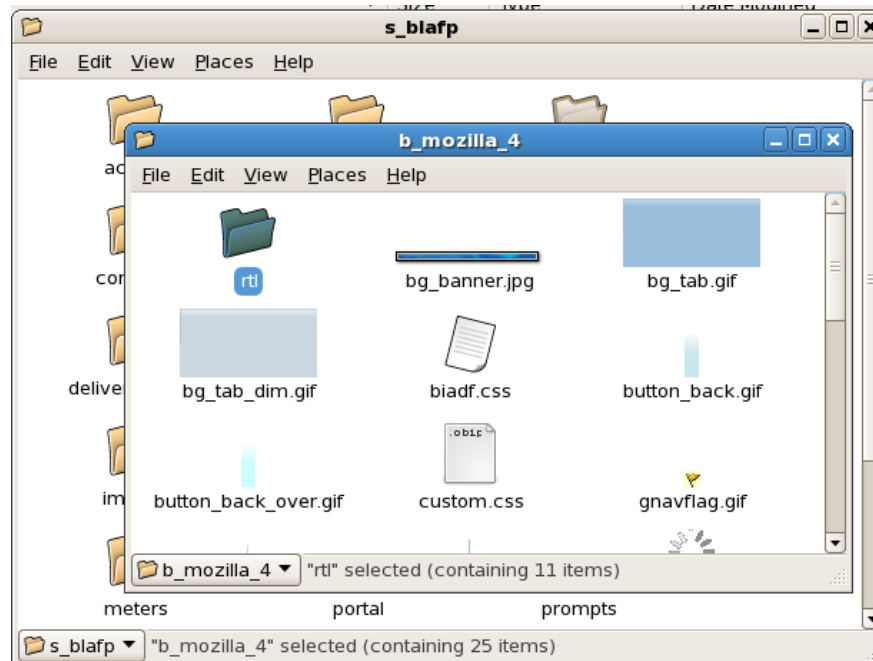
Customizing Skins and Styles

- You can also set an env. variable
- Two directory trees of interest:
  sk_blafp (skins) *--actual location may vary by installation*
  $BI_HOME/Oracle_BI1/bifoundation/web/app/res/**sk_blaf/…**
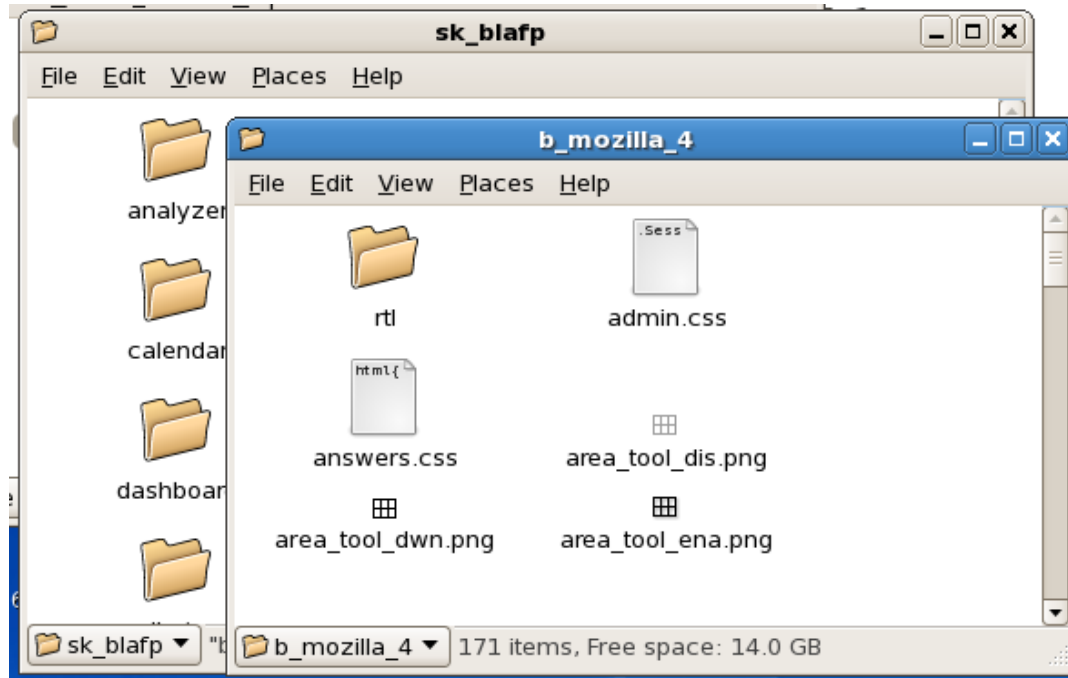
Overview of Steps (read the whitepaper)

- Locate and BACKUP the s_blafp / sk_blafp directories
- Rename the "s_<name>" and "sk_<name>" directories for your mods
- Update the **instanceconfig.xml** with your "<name>"

  example:

  <UI><DefaultSkin>name</DefaultSkin></UI>

  <UI><DefaultStyle>name</DefaultStyle></UI>

- Make modifications to the images and .css files in your sk_<name> directory
- Once complete. Restart the Oracle BI Presentation Services and clear the browser cache to see the changes

Want to get your hands dirty? Take the OBIEE Test Drive (free)

- Hosted on Amazon Web Services Cloud (AWS)
- Full *dedicated* OBIEE environment with a hands-on lab
- Provisioned within minutes of request
- Available for 5 hours before shutting down
- You access this with Remote Desktop (RDP)
- Tool to support –
  - Experimentation
  - Education   **www.vlamis.com/testdrive_registration**
  - Evaluation
  - Demonstration
  - MicroPOC

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Oracle Test Drive

- Free to try out Oracle BI
- Go to www.vlamis.com/testdrive-registration/
- Runs off of Amazon AWS
- Hands-on Labs based on Collaborate 2012 HOLs
- Test Drives for:
  - Oracle BI
  - BI Publisher
  - Microsoft Excel against Oracle OLAP
  - Oracle Data Mining
- Once sign up, you have private instance for 5 hours
- Available now

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Join Us at Our Collaborate 13 Presentations

IOUG Presentations

- Advanced Dashboard Design in OBI 11g

- Advanced OLAP: Making the Hard Stuff Easy

- Blazing BI: The Analytic Options to the Oracle Database

- Map Views and Geospatial Analytics in OBI 11g

- Mobile BI: Using BI When and Where You Need It

- Vlamis Process and Maturity Model: BI Project Best Practices

OAUG Presentations

- Data Visualization Best Practices in Oracle Business Intelligence Applications

- Mobile BI: Using When and Where You Need It

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Thank You!

Thank You for Attending Session **726 Advanced Dashboard Design in OBI 11g**

Presenter Information

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