



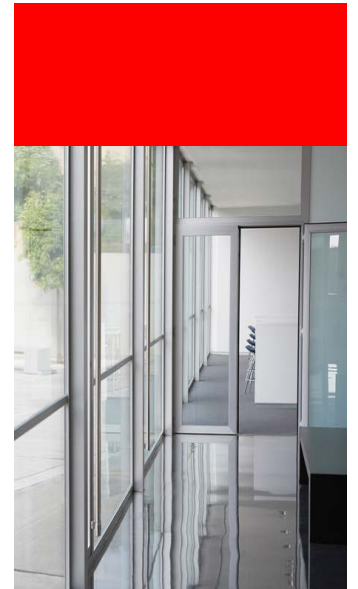
ORACLE®

Introduction to Oracle Spatial 11g

Xavier Lopez
Director, Product Management
Spatial and Semantic Technologies

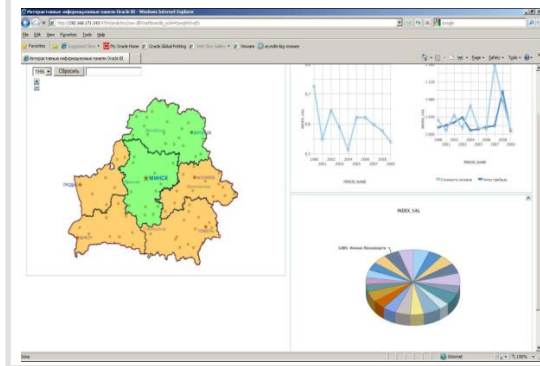
Agenda

- From GIS Analysis to Location Intelligence – Enterprise Geospatial Applications with Oracle
- Overview of Spatial Technologies
 - Oracle Spatial
 - Oracle Mapviewer
 - BI and Apps
 - Exadata
- Discussion
 - Questions

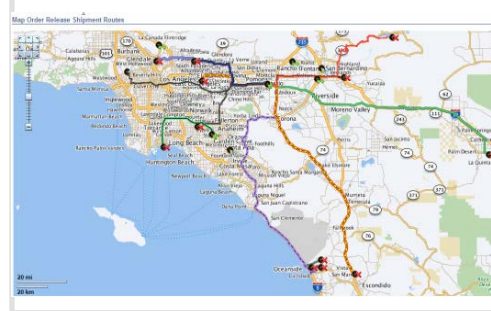


Every Business Application is Location-enabled, not Just GIS Applications

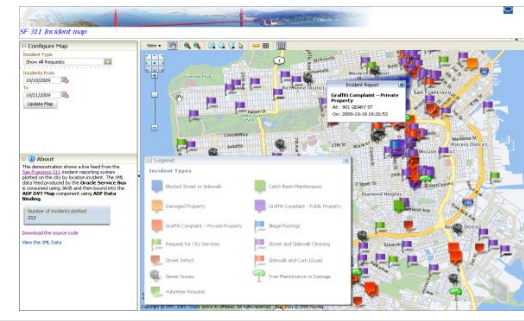
• Oracle BI EE



• Oracle Transportation Management



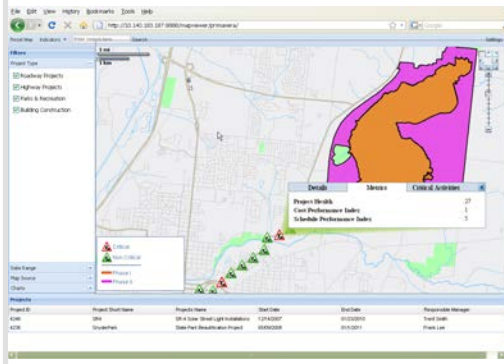
• Phase Forward



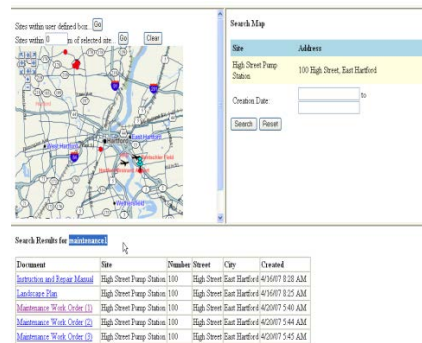
• Mobile CRM



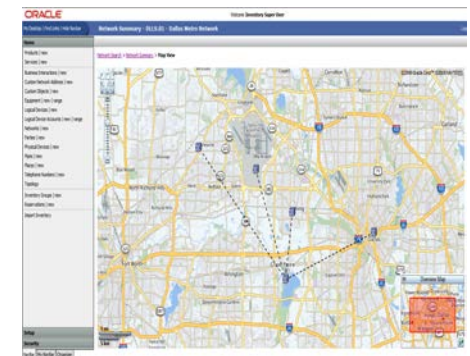
• Primavera P6 Project Management



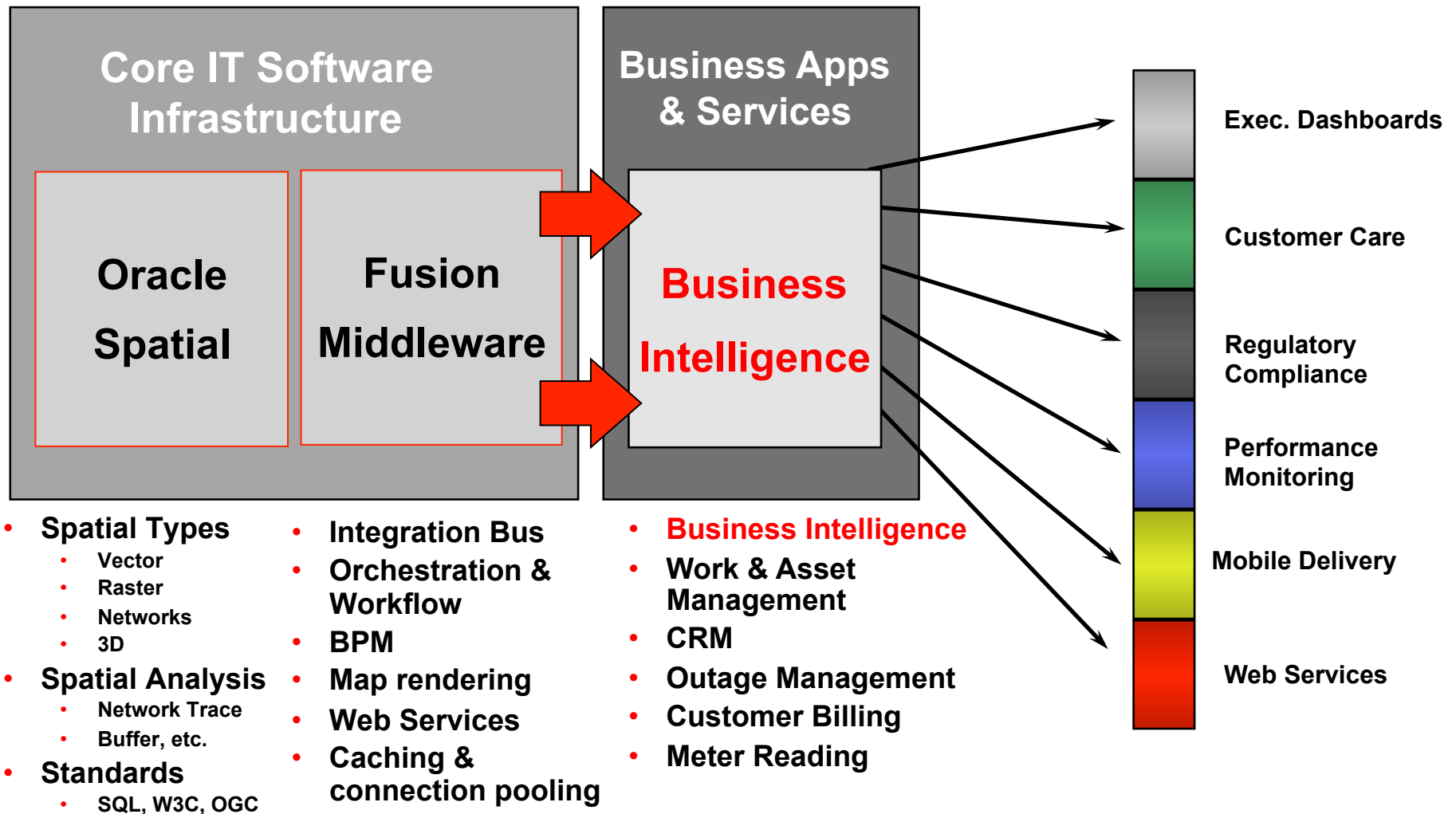
• Oracle Universal Content Management



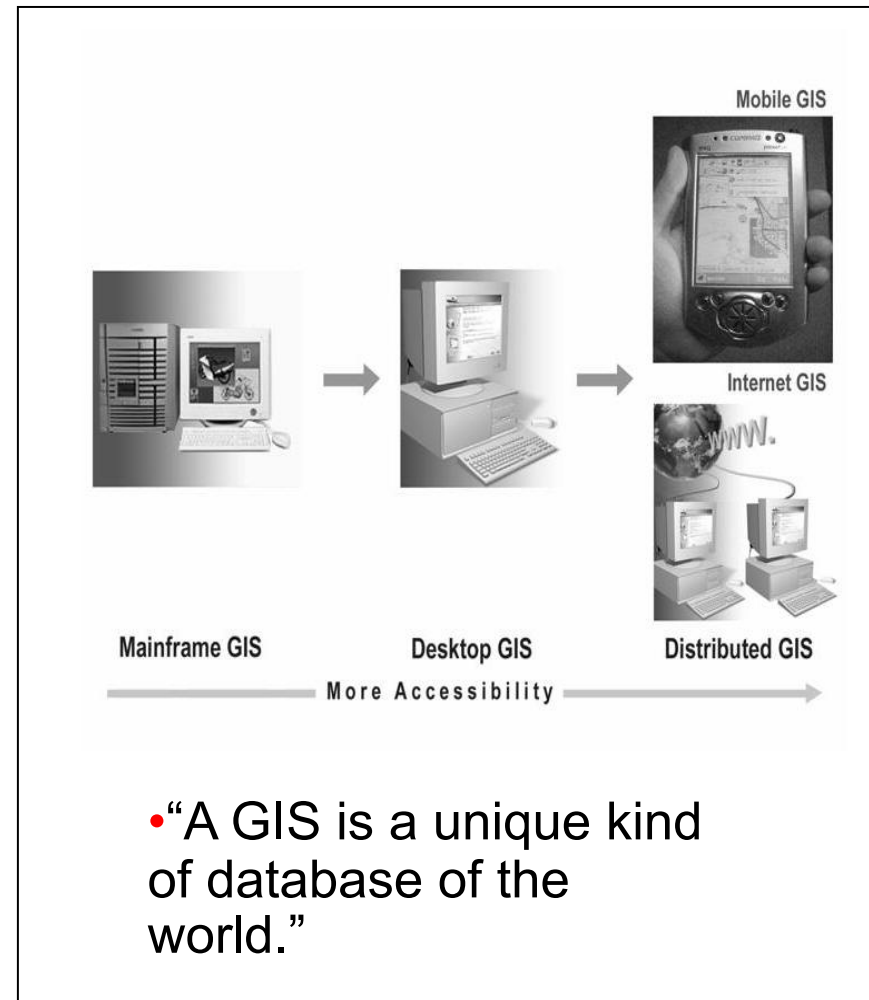
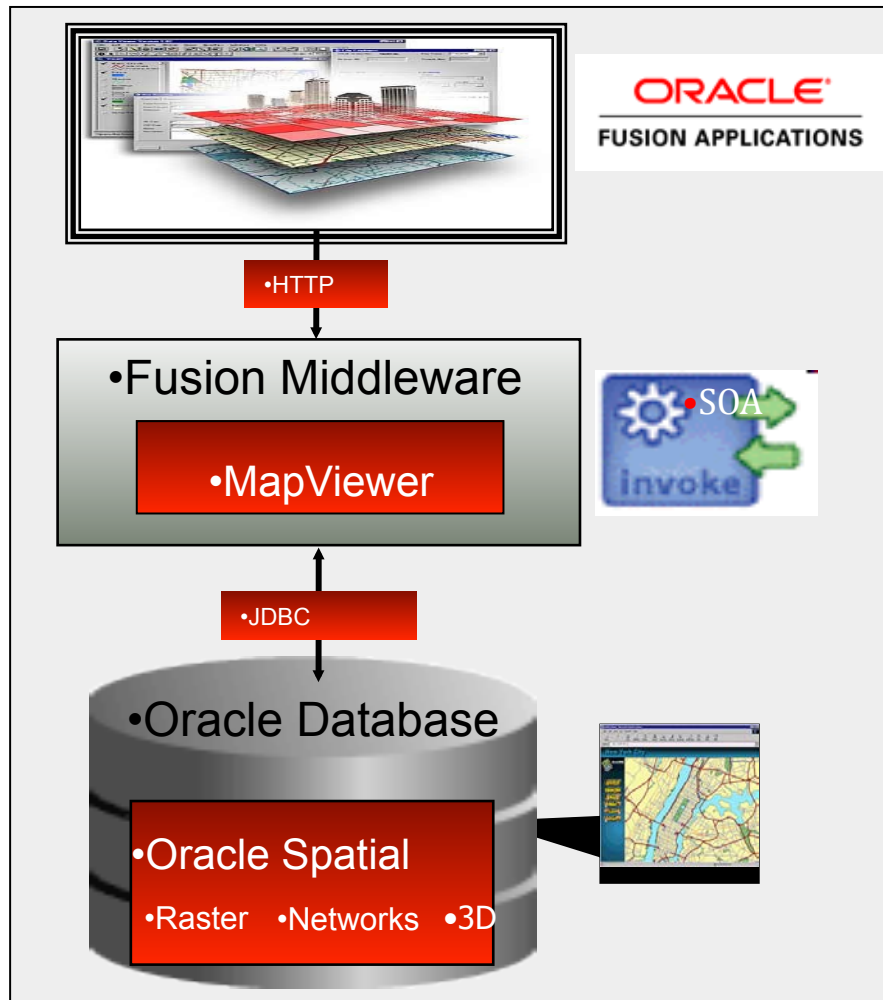
• Oracle Communications UIM



Location-enabled Enterprise IT Architecture



What's the difference between what Oracle has and a GIS?





Analyst View

David Sonnen and Dan Vesset
IDC

#1

“In repeated surveys, IDC has found that Oracle is used in 80-90% of medium-sized and large enterprise spatial information systems.”

“We expect Oracle to continue to expand its presence in both established and emerging SIM markets ”

•Source: Worldwide Spatial Information Management 2007-2010 Forecast and 2006 Vendor Shares

ORACLE®



Oracle Value Proposition

Enhance Oracle Database and Oracle Fusion Middleware Application Server with location analysis and mapping

- Oracle Locator, Oracle Spatial, MapViewer
- Mature technology – 15 years, 5 major releases

Enable enterprise business applications

- CRM, business intelligence, Enterprise Resource Planning, Asset Management, Field Service, Supply Chain, etc.
- Adopt location capabilities already in DBMS and app server

Commitment To Standards

- Open Geospatial Consortium (OGC)

Partner With Leading Vendors

- Integrators: Solutions implementation
- Data suppliers: World wide map and imagery content
- Geospatial software vendors: Specialized tools

Oracle Spatial in Mapping Organizations

 Ordnance Survey www.ordnancesurvey.co.uk	 US Army Corps of Engineers®	 •SLOVENIA	 U.S. Census Bureau	 •ITALY	 NATIONAL GEOSPATIAL-INTELLIGENCE AGENCY	 •NETHERLANDS	 DIGITALGLOBE®
 SLA SINGAPORE LAND AUTHORITY	 BPN RI •INDONESIA	 USGS science for a changing world	 •POLISH CADASTRE	 avepa agenzia veneta per i pagamenti in agricoltura	 Ordnance Survey Ireland National Mapping Agency	 inea Instituto estadual do ambiente •BRASIL	 INTERMAP
 ices INSTITUTO CATASTRAL DEL ESTADO DE SINALOA	 ORDNANCE SURVEY® OF NORTHERN IRELAND	 •RUSSIAN CADASTRE	 •DENMARK	 Idi Landesbetrieb Daten und Information	 Land Registry •UK	 •SWEDEN	 NAVTEQ™
 •CROATIA	 Landesamt für Vermessung und Geoinformation •GERMANY	 •SERBIA	 Bundesamt für Landestopografie swisstopo +++	 •CHINA LAND MAPPING & PLANNING ACADEMY	 U.S. DEPARTMENT OF THE INTERIOR BUREAU OF LAND MANAGEMENT	 A.C.T. ADMINISTRATION DU CADASTRE & TOPOGRAPHIE •LUXEMBOURG	 TOMTOM

Oracle Spatial Partners

Geospatial Tool Providers



Specialty Systems Integrators



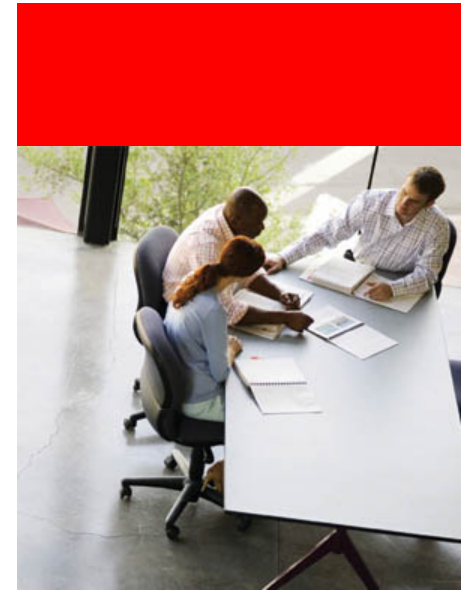
Data Providers



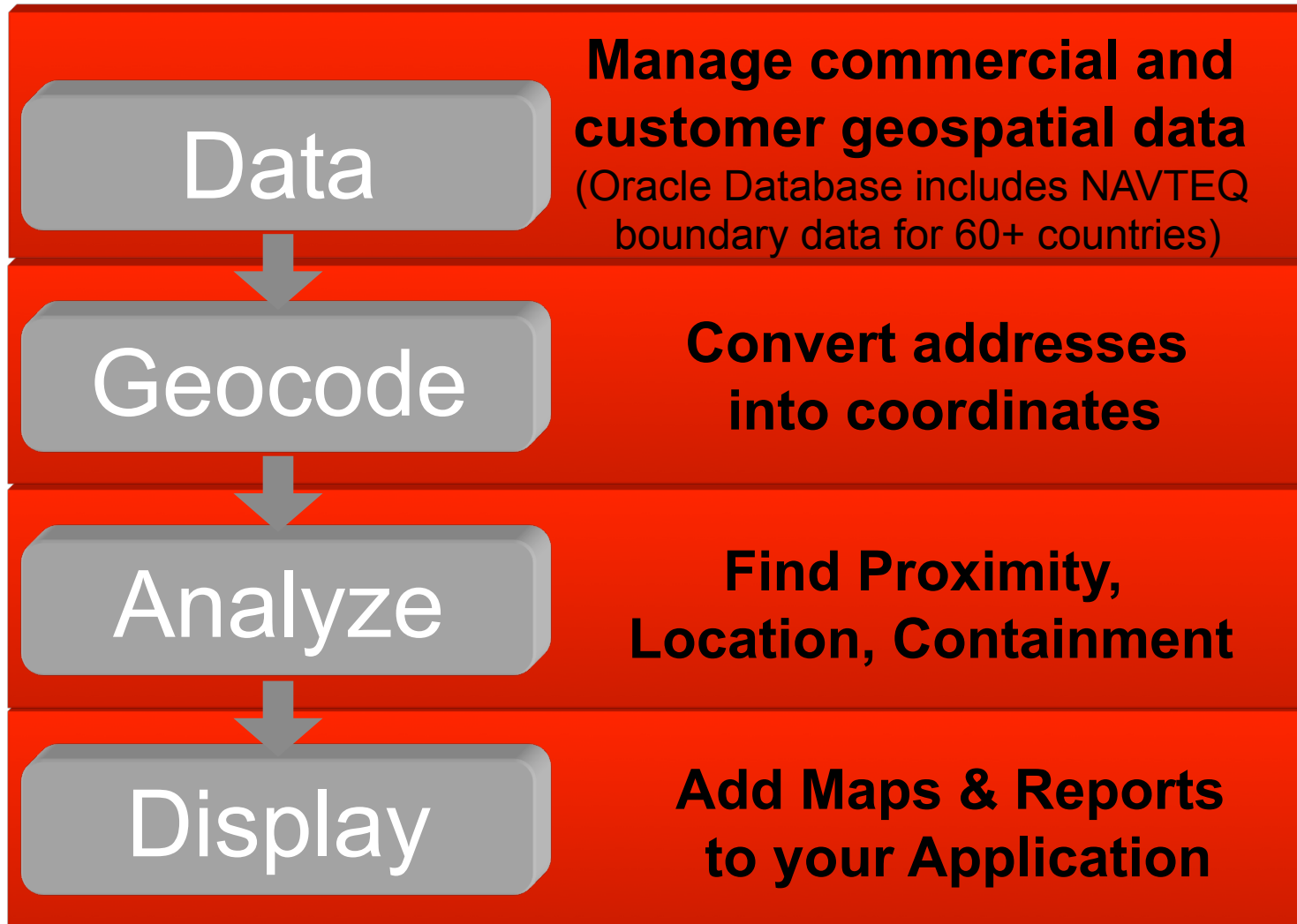
ORACLE



Product Overview



Key Technologies



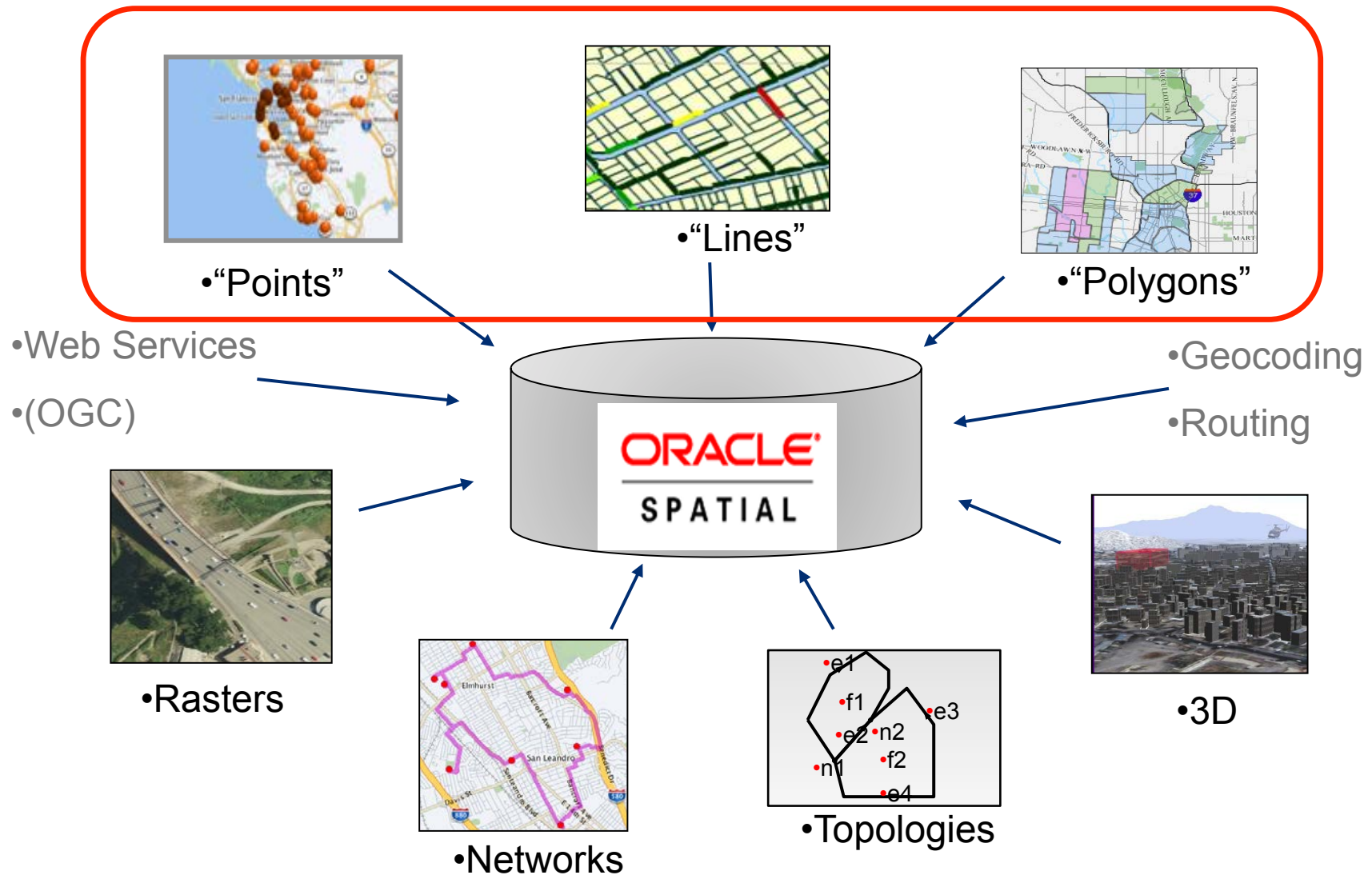
Integrating Rich Data



Geo-spatial Data

- Road Networks
- Administration Boundaries
- Satellite Imagery
- Private, government, and open source data products

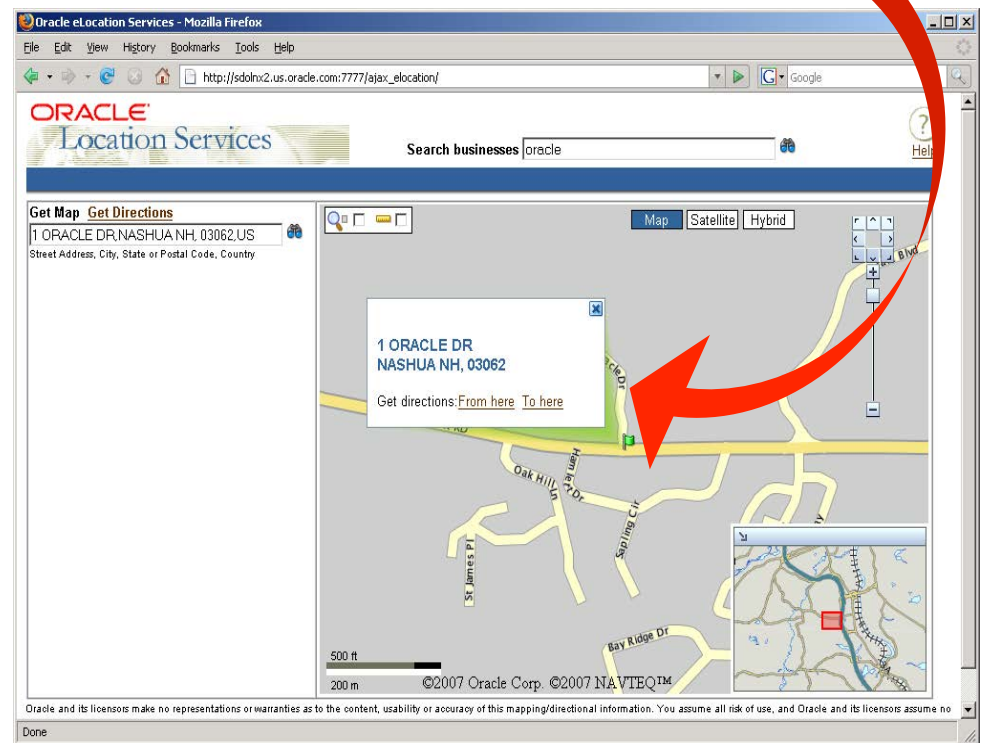
Managing All Your Geospatial Data



Geocode:

- Generates latitude/longitude (points) from address
- International addressing standardization
- Formatted and unformatted addresses
- Tolerance parameters support fuzzy matching
- 100% Java, open and scalable
- Record-level and batch processes
- Data provided by leading data vendors

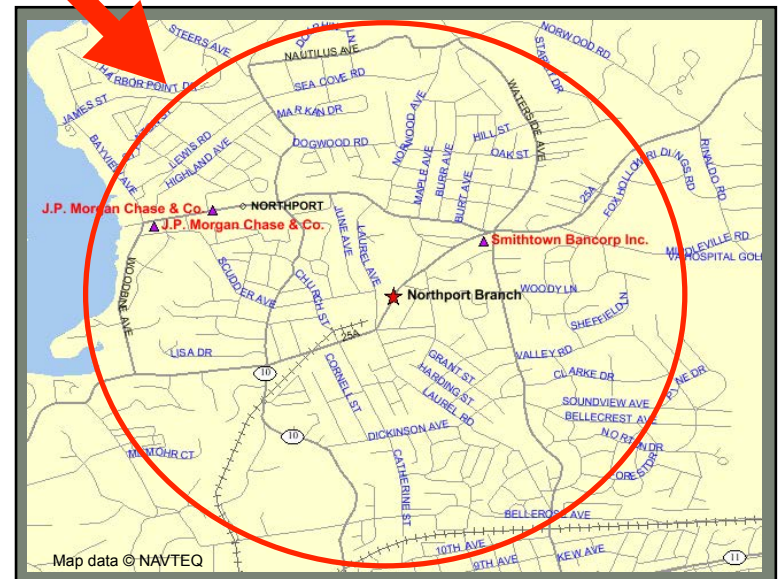
One Oracle Drive, Nashua NH, 03062



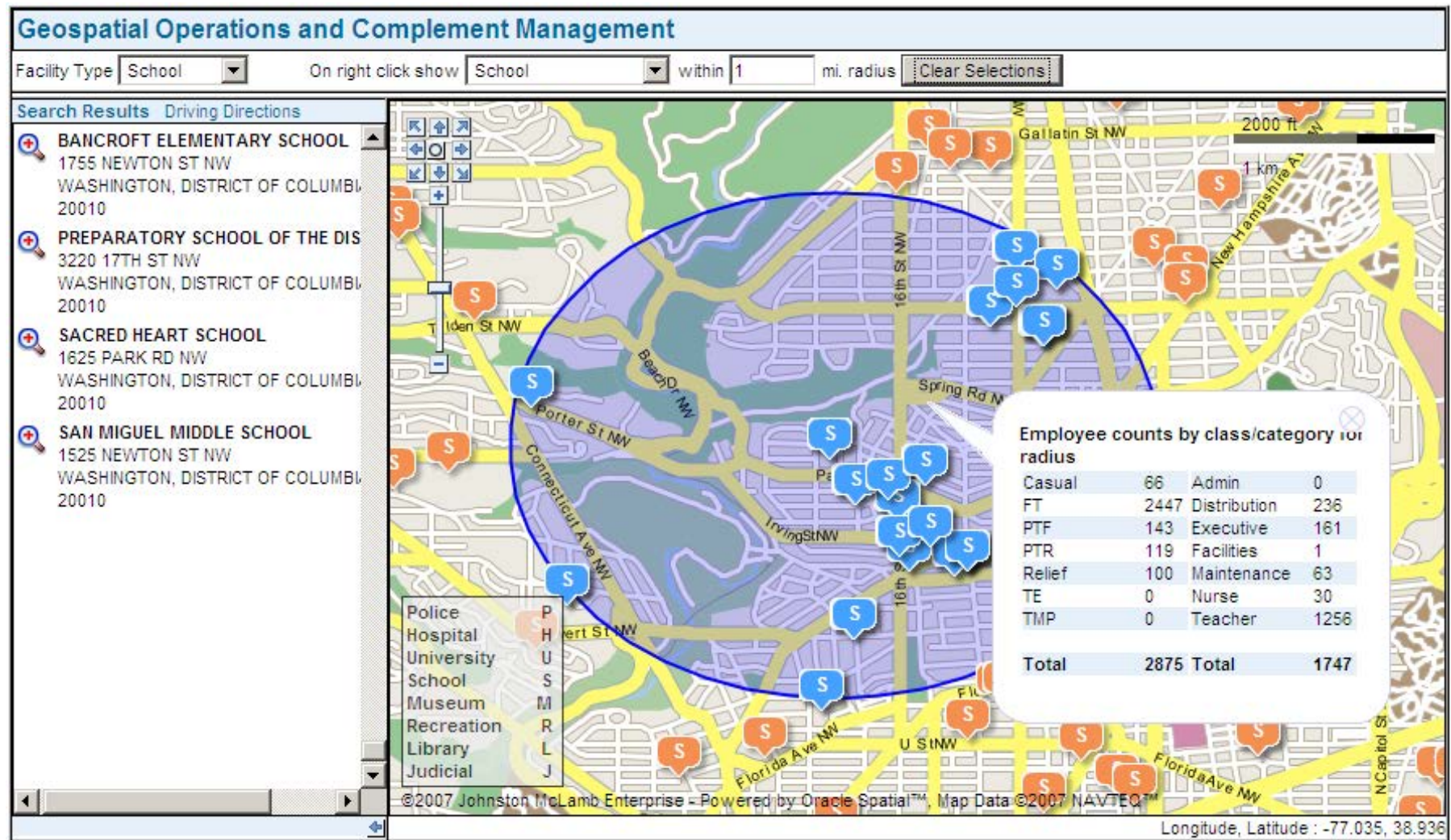
Analyze: Geospatial Data

Find all competitors within 2 miles of Northport Branch

```
SELECT c.holding_company, c.location
FROM competitor c,
     bank b
WHERE b.site_id = 1604
     AND SDO_WITHIN_DISTANCE(c.location,
                              b.location,
                              'distance=2 unit=mile') = 'TRUE'
```



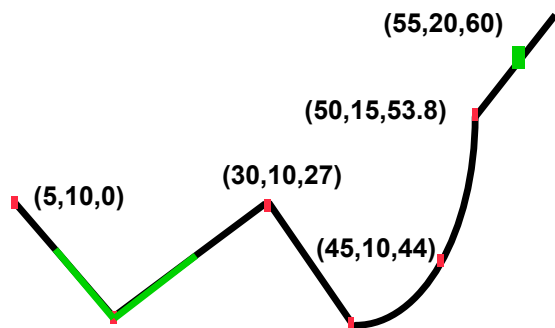
Display: Generate Powerful Maps



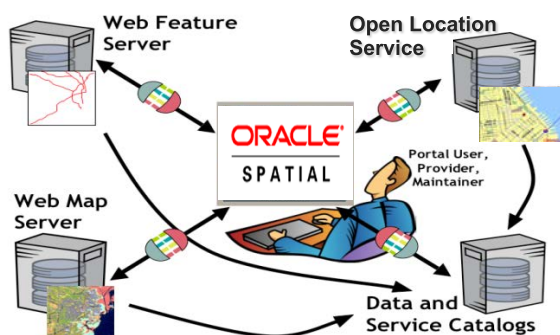
Oracle Spatial 11g

Priced Option of Oracle Database 11g Enterprise Edition

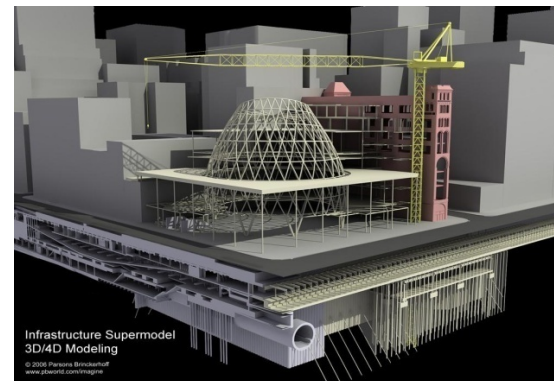
Linear Referencing



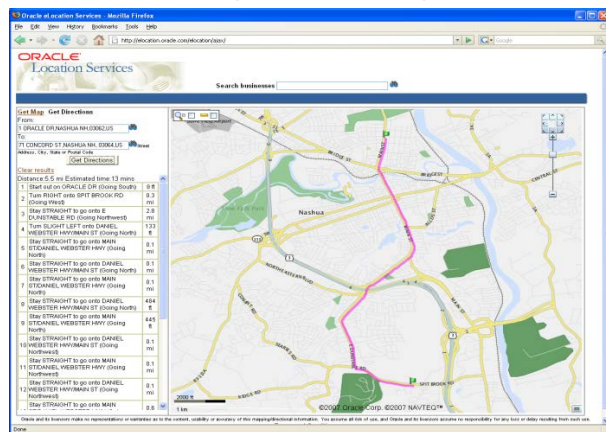
Spatial Web Services



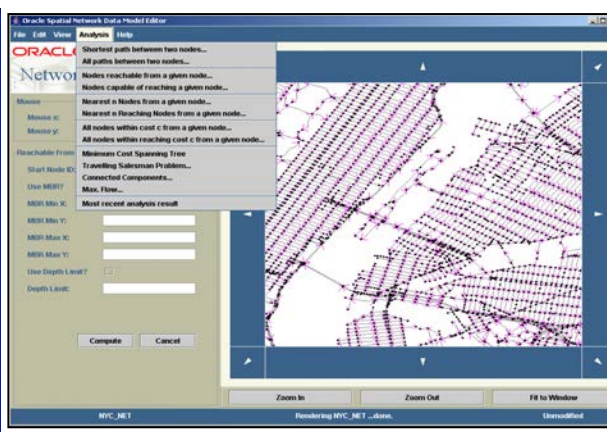
3D, Point Clouds, and LIDAR



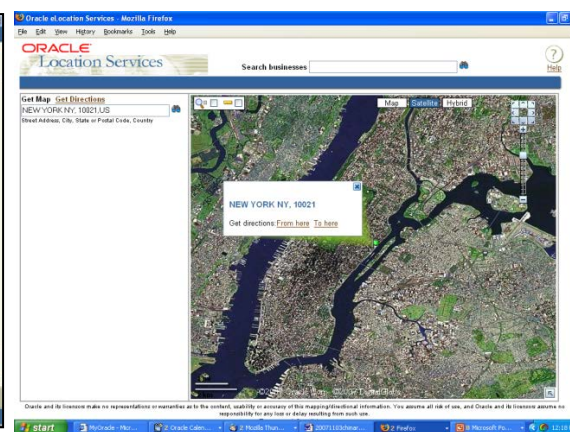
Geocoding & Routing



Planar Networks



Raster Imagery



ORACLE



Oracle Locator

**Included in Oracle Database -
ALL Editions**

Support for all geometry types

- 2D data support
- All Spatial Operators
- Functions such as distance, buffer, validation
- Full Coordinate Systems support
- Spatial Aggregates
- Utility & tuning packages
- Long Transactions
- Parallel spatial query & index builds
- Table Partitioning
- Object Replication

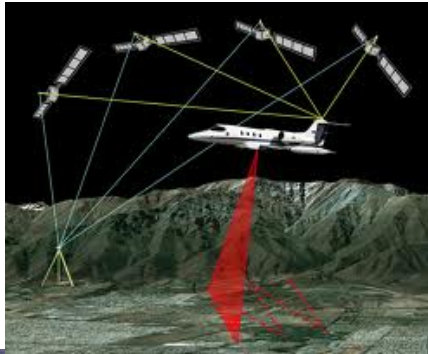
Oracle Spatial 11g

**Priced option for Oracle Database
Enterprise Edition**

- Includes all Locator features
- Additional Spatial Functions
 - union, intersection, difference, etc
- Linear Referencing Support
- GeoRaster Data Type
- Topology Data Model
- Network Data Model
- Geocoding Engine
- Routing Engine
- Spatial Analysis & Mining Functions
- 3D Support
- OGC Web Services
 - Web Feature Server
 - Web Catalog Server

LiDAR Imagery Example

716,800,000
points/sec

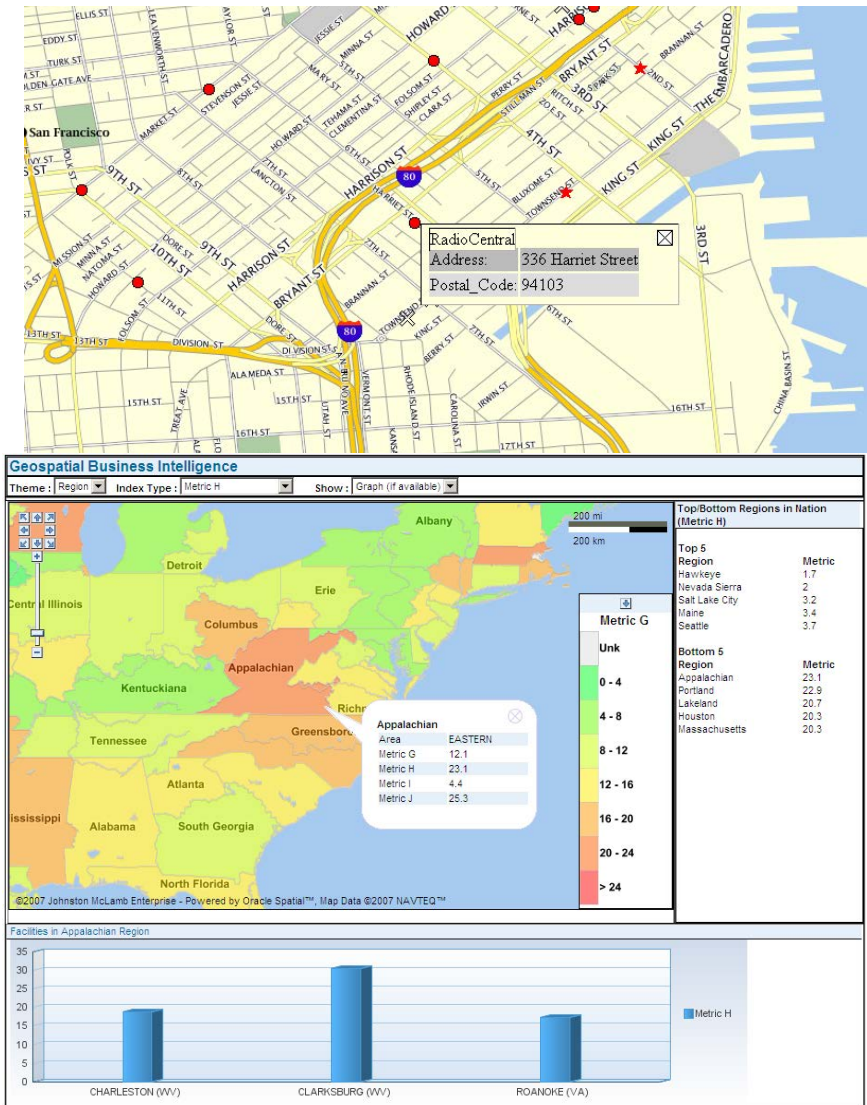


Each point has attributes
and can be visualized in
3D applications



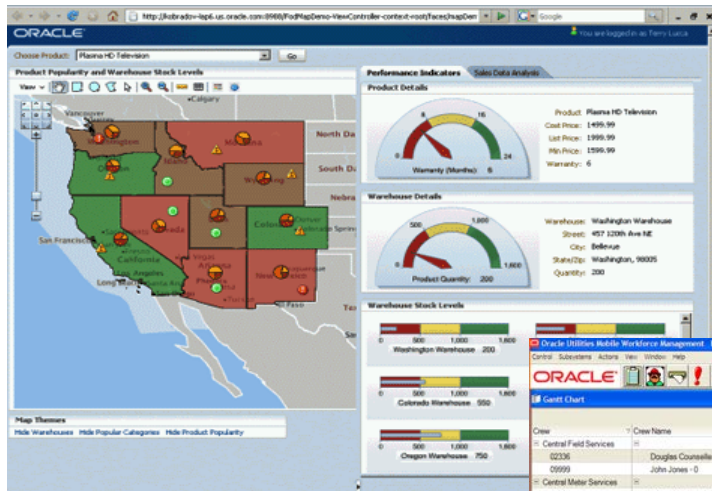
Oracle Fusion Middleware MapViewer

- Feature of all FMW application server products (WLS, OAS, TopLink/ADF deployment option)
- Standards-based J2EE and Java Server Faces component
 - XML/HTTP, Java/AJAX
 - Runs in J2EE containers and Java IDEs
- Publish spatial data to the web
- Map and feature cache provides smooth scroll (pan, zoom)
- Rich Java, XML, JavaScript APIs provide client side interactivity
- Centrally managed map definitions, symbology, and styling rules

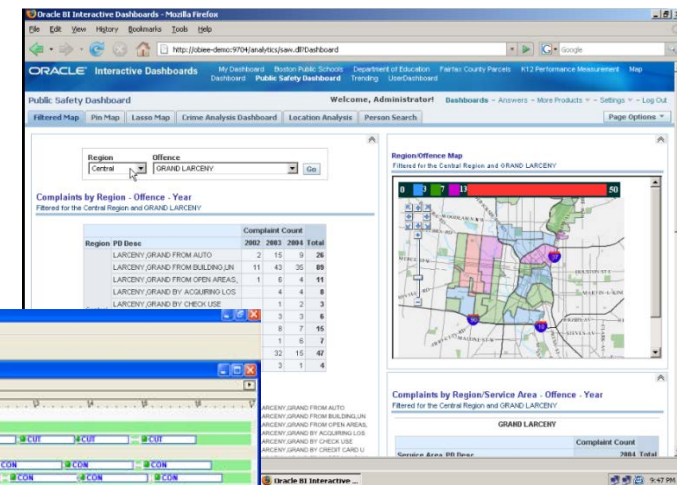


Spatial Analysis and Maps in Oracle Applications, Tools and BI

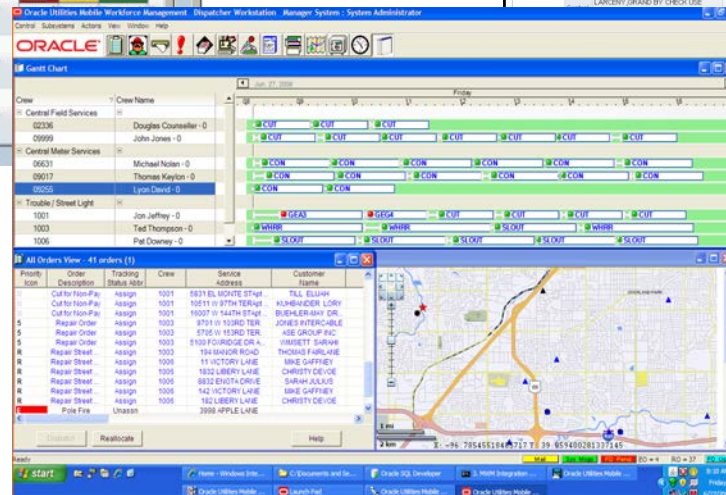
Oracle JDeveloper



Oracle BI EE



Oracle Utilities Mobile Workforce Management



Oracle Exadata

Extreme Performance for Spatial Workloads

- Oracle Spatial is architected to exploit the processing power, bandwidth and parallelism of the Exadata Database Machine
- Spatial operations can be performed in up to 2 Terabytes of Database System Global Area memory per rack
- Exadata Hybrid Columnar Compression of point data sets reduces storage requirements



ORACLE®
EXADATA



Summary

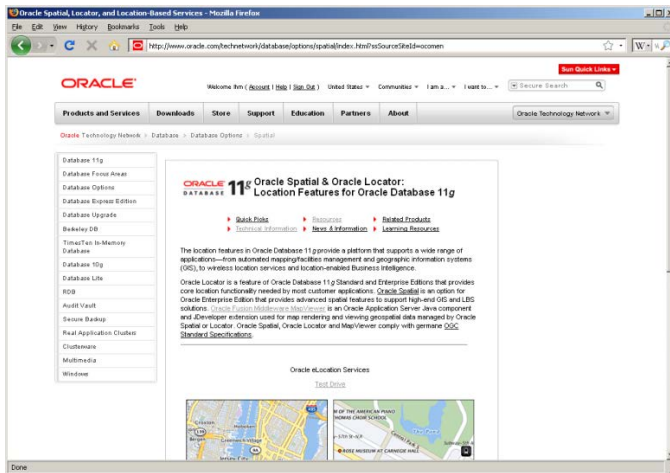
Oracle delivers location analysis and mapping to enterprise applications for better decision making and customer service

- Integrate location information with business data
- Enrich business information with map graphics
- Enhance business processes with location analysis
- Support multiple vendor tools/apps using single valid source of geospatial data and open standards
- Deploy a single IT architecture for your business applications and mapping solutions
- Leverage Oracle scalability, security, and reliability
- Reduce cost & risk, increase productivity & ROI

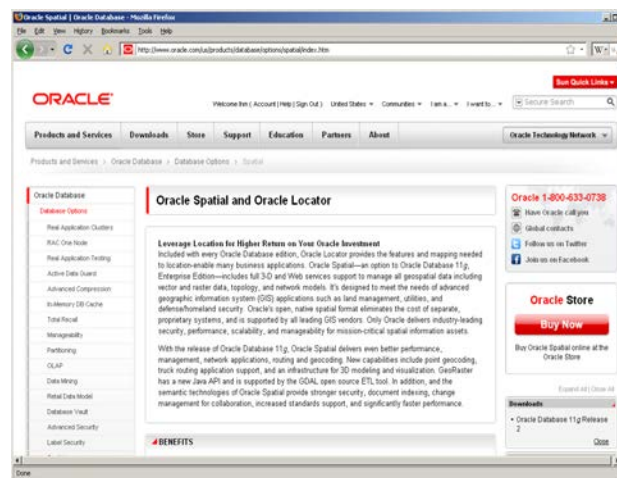
Oracle Spatial Resources

• oracle.com/technology/products/spatial

• oracle.com/goto/spatial

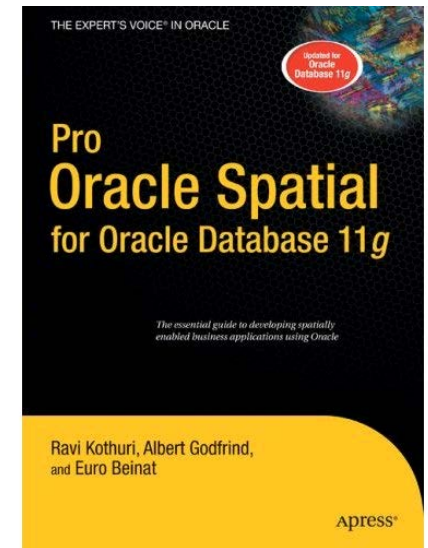


- Oracle Technology Network site
- White papers, downloads, docs, demos, case studies, partners, forum



- Oracle.com
- Customer profiles, podcasts, webinars

• OTN Spatial → Quick Picks or amazon.com



ORACLE®