

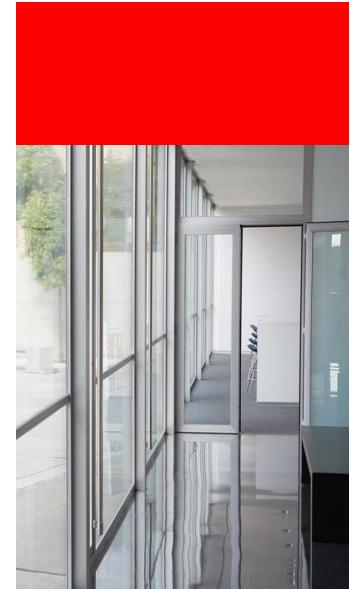
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Introduction to Oracle Spatial 11g

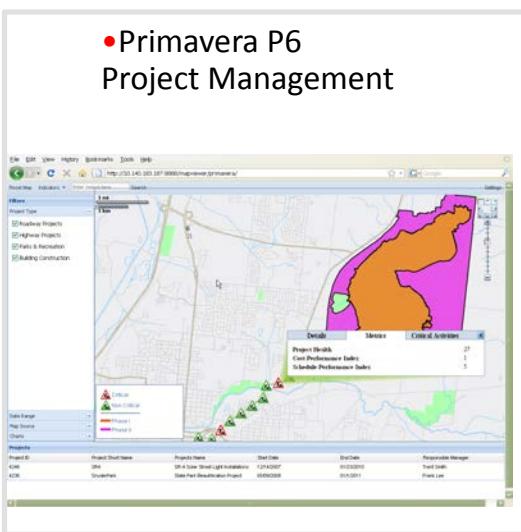
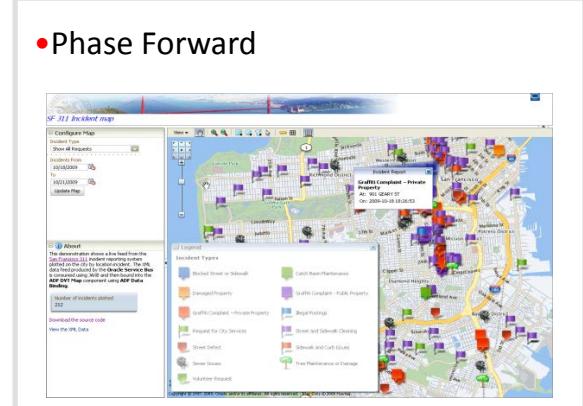
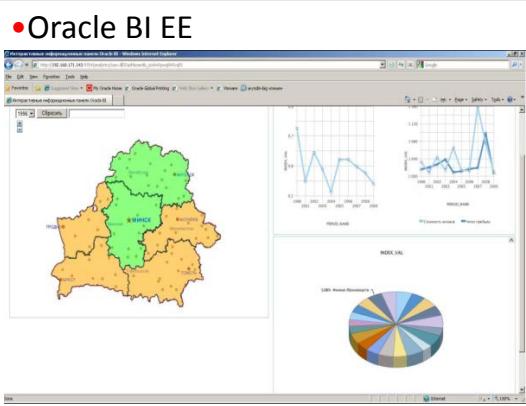
Xavier Lopez
Director, Product Management
Spatial and Semantic Technologies

Agenda

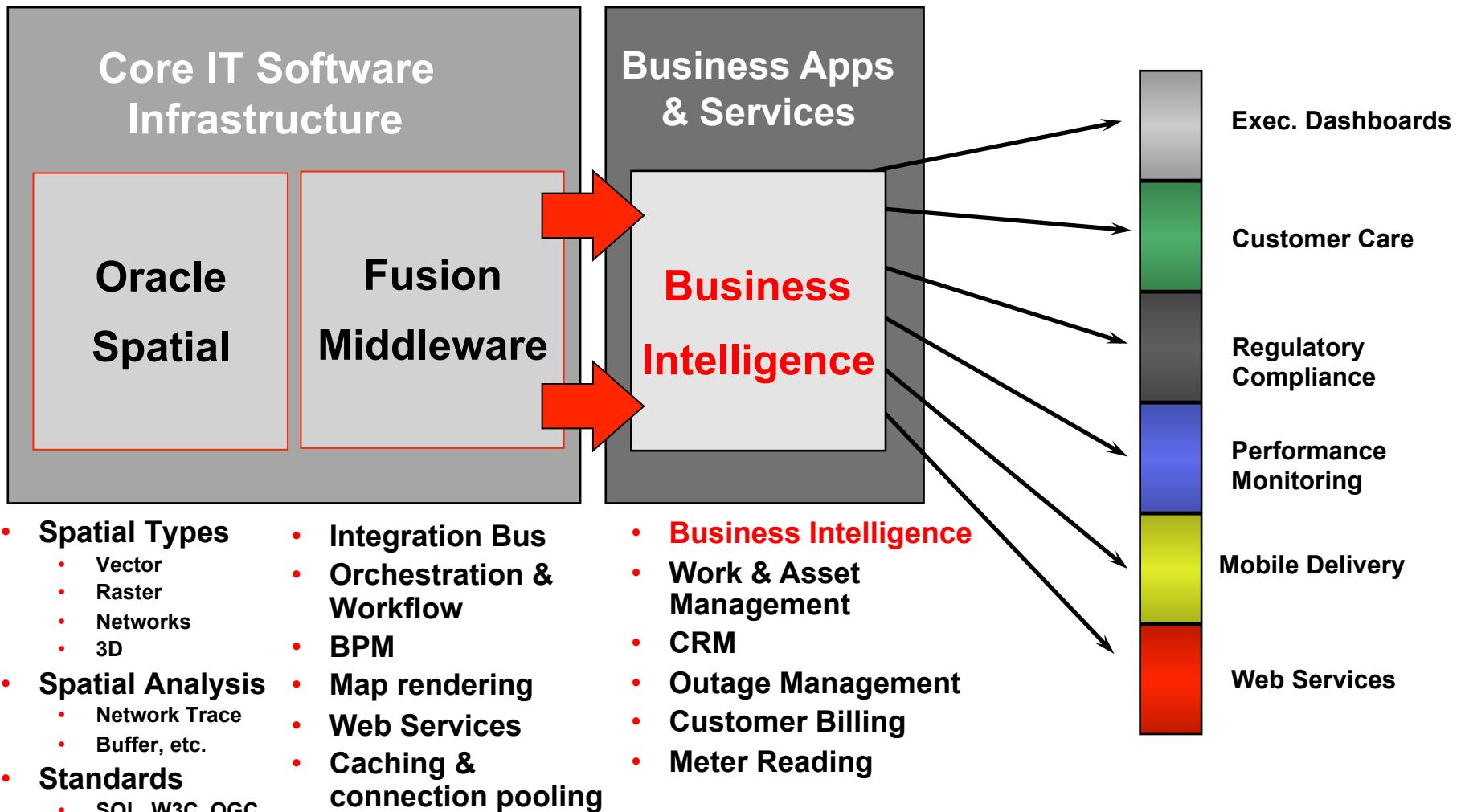
- From GIS Analysis to Location Intelligence – Enterprise Geospatial Applications with Oracle
- Overview of Spatial Technologies
 - Oracle Spatial
 - Oracle Mapviewer
 - BI and Apps
 - Exadata
- Discussion
 - Questions



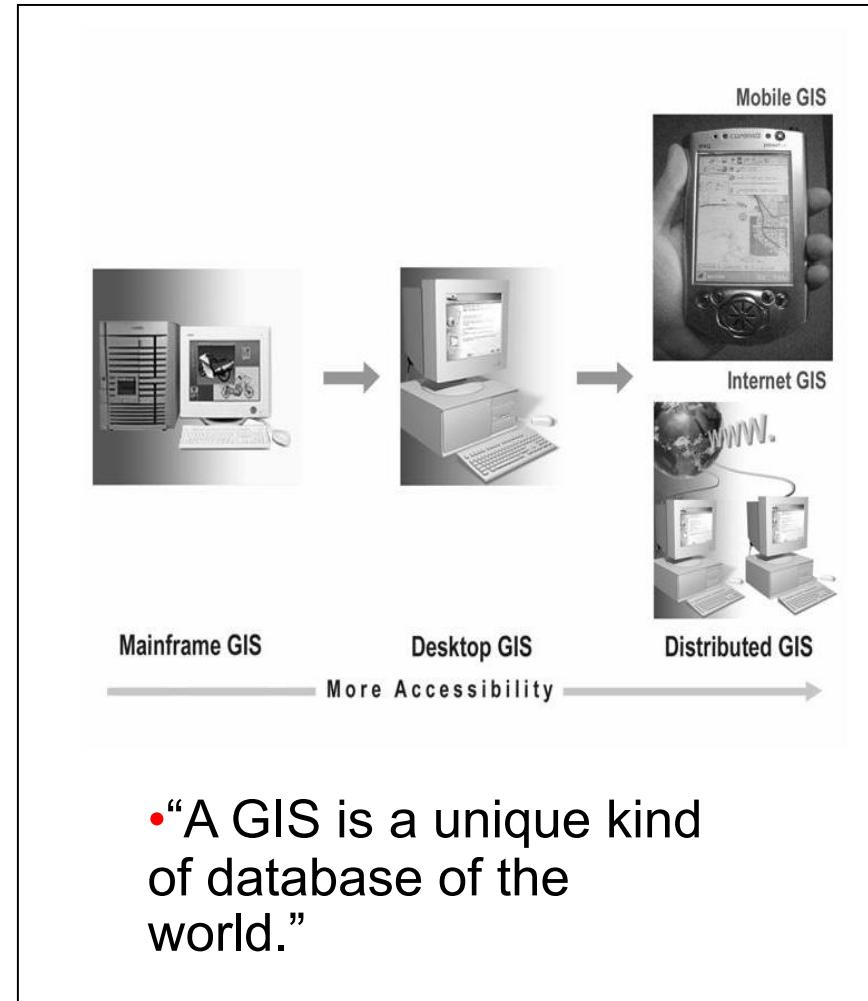
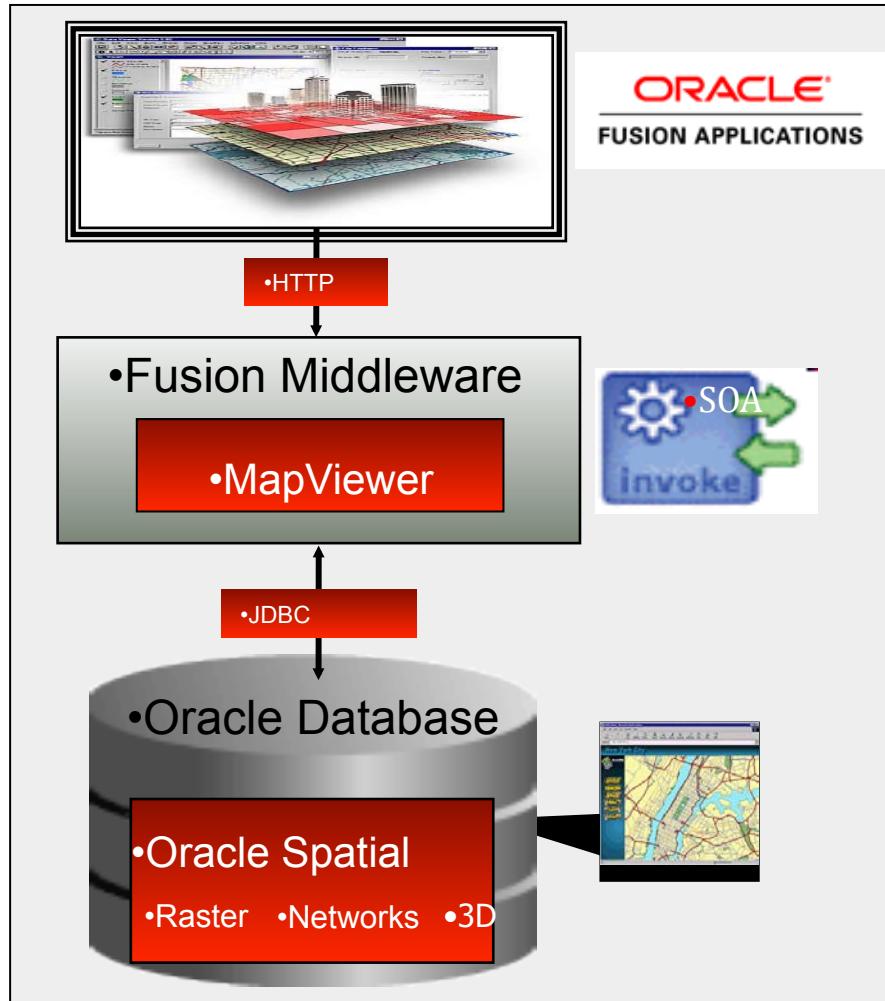
Every Business Application is Location-enabled, not Just GIS Applications



Location-enabled Enterprise IT Architecture



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





Analyst View

David Sonnen and Dan Vessel
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

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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

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

Oracle Spatial Partners

Geospatial Tool Providers

Autodesk

 **Pitney Bowes**
MapInfo

 **BENTLEY**

 **manifold.net**

 **INTERGRAPH**

 **eSpatial**

 **caris**

 **cadcorp**

 **GE**

Energy

 **SAFE SOFTWARE**

 **ABACO**

 **Leica**
Geosystems

 **ESRI**

 **PCI**
Geomatics

Specialty Systems Integrators

 **Baker**

 **FARALLON**
GEOPHYSICS INC.

 **FICHTNER**
CONSULTING & IT

 **Geodan**

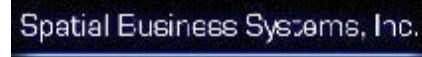
 **Geomatic Technologies**

 **JOHNSTON**
MCLAMB

 **TKOREM**

 **NAVIGATE**

 **Realworld**
Systems

 **Spatial Business Systems, Inc.**

Data Providers

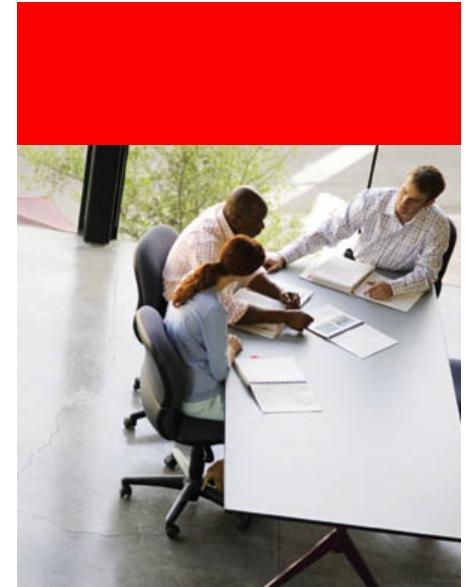
 **NAVTEQ**

 **DIGITALGLOBE**

 **Tele Atlas**

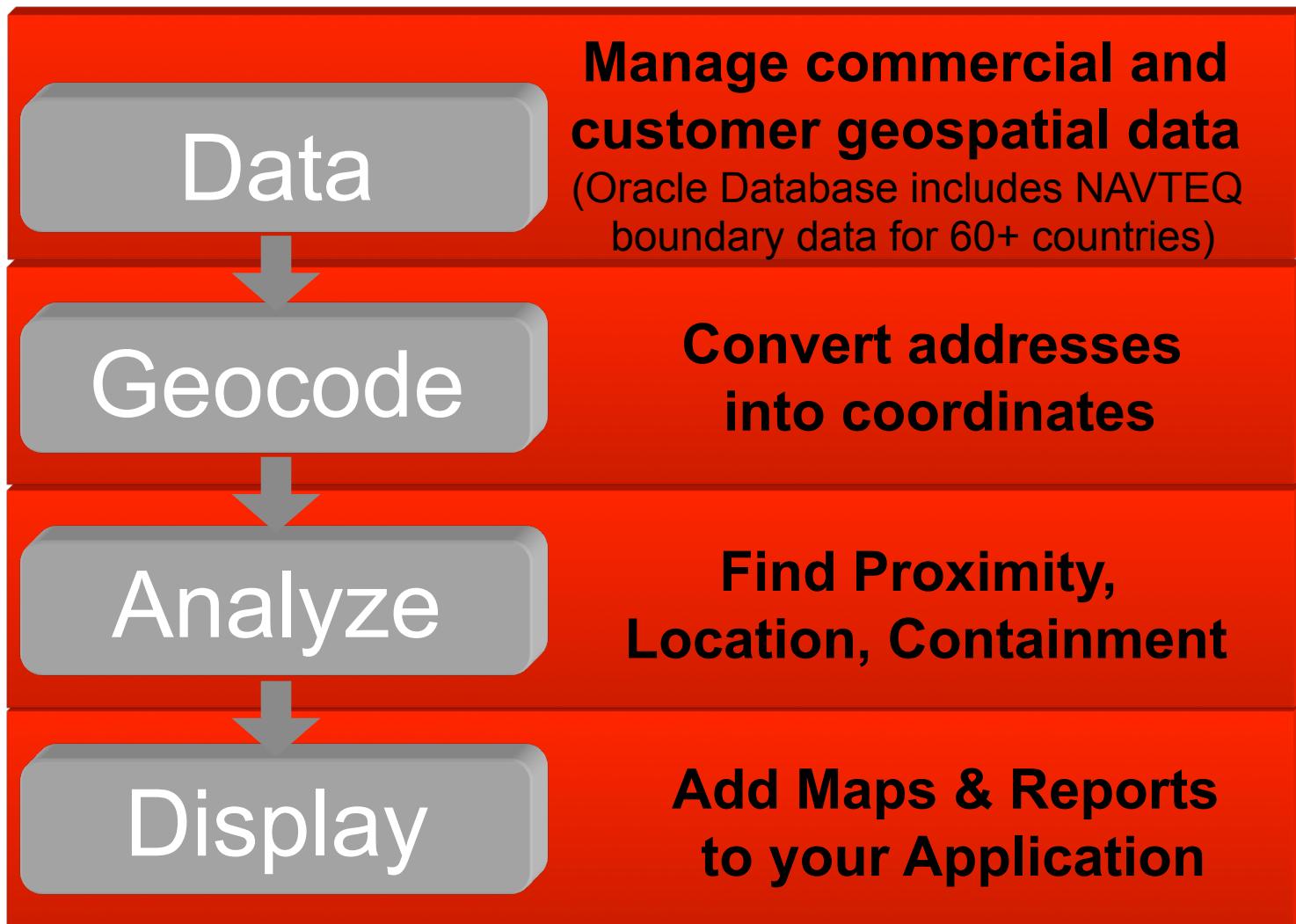
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Product Overview



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Key Technologies



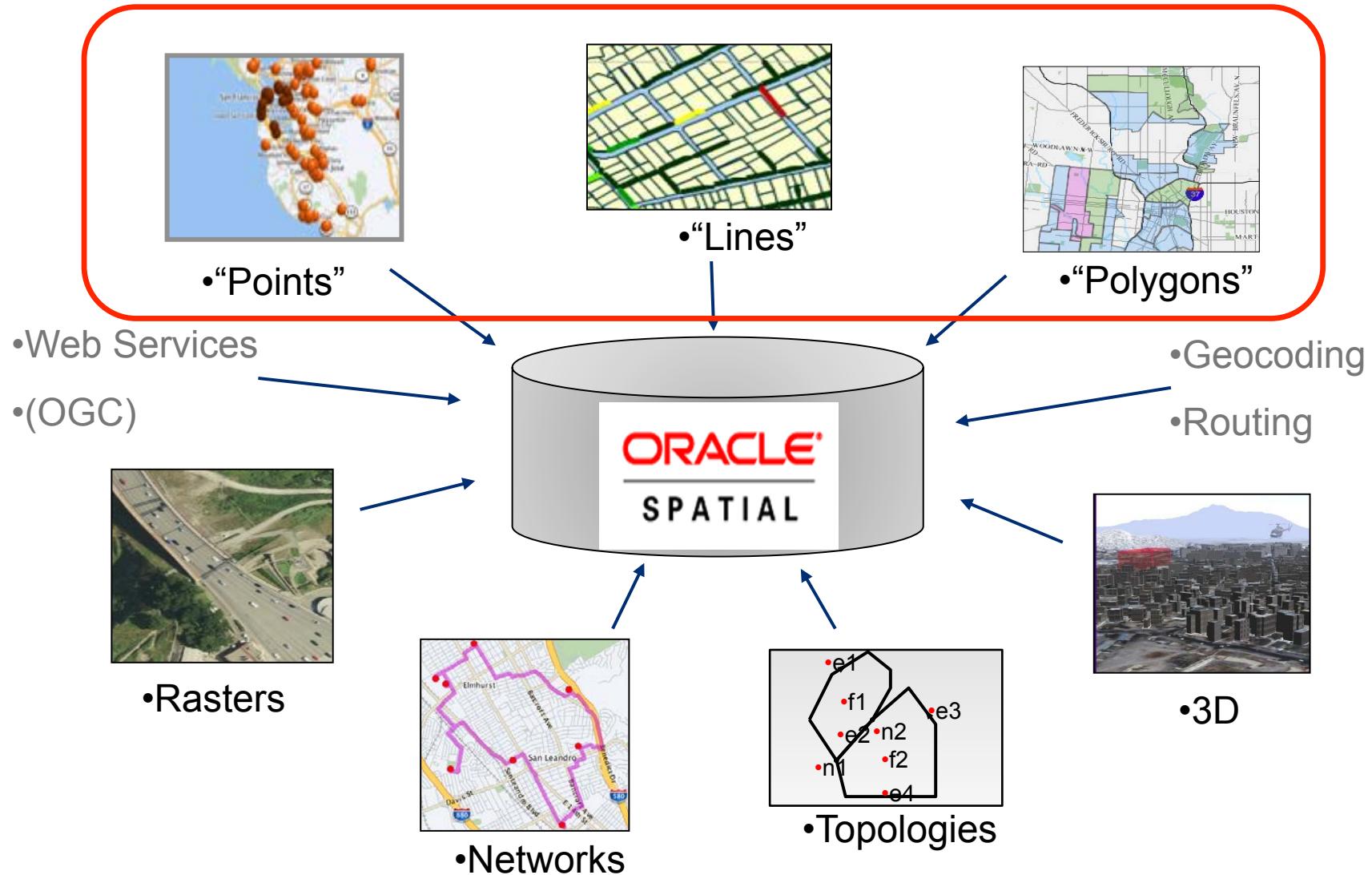
Integrating Rich Data



Geo-spatial Data

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

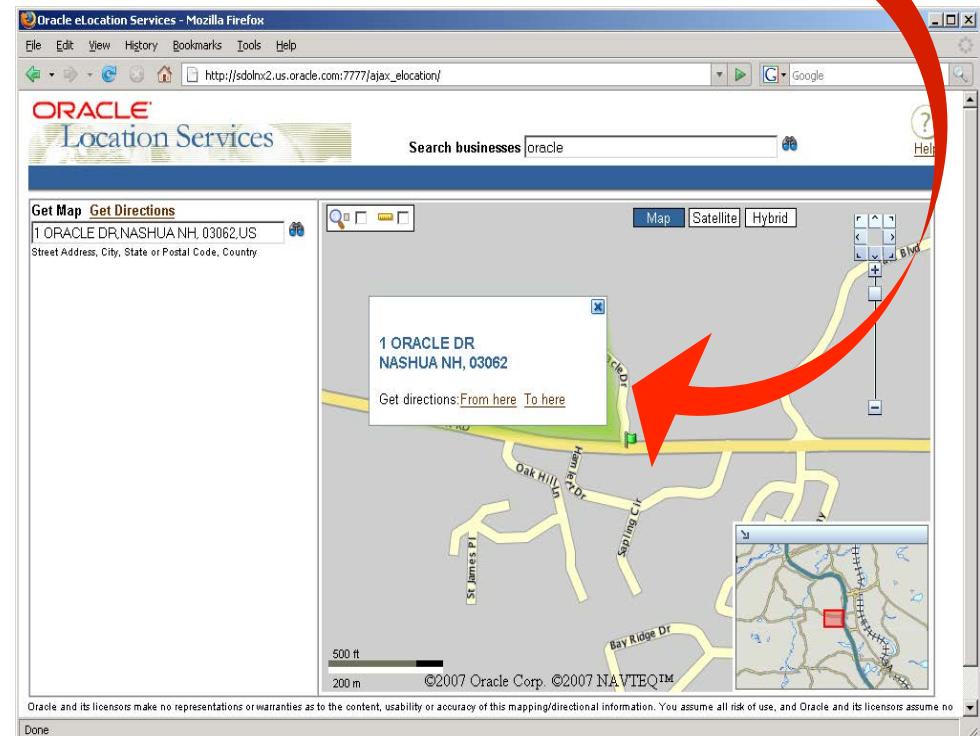
Managing All Your Geospatial Data



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

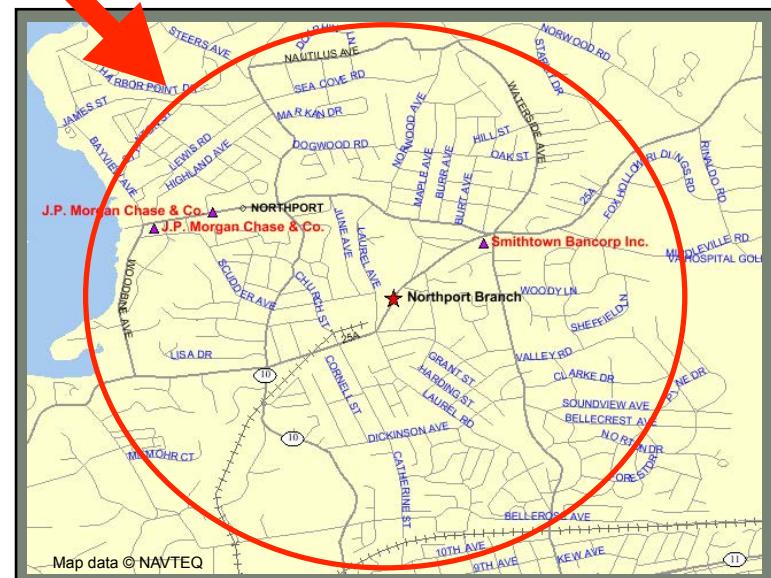
One Oracle Drive, Nashua NH, 03062



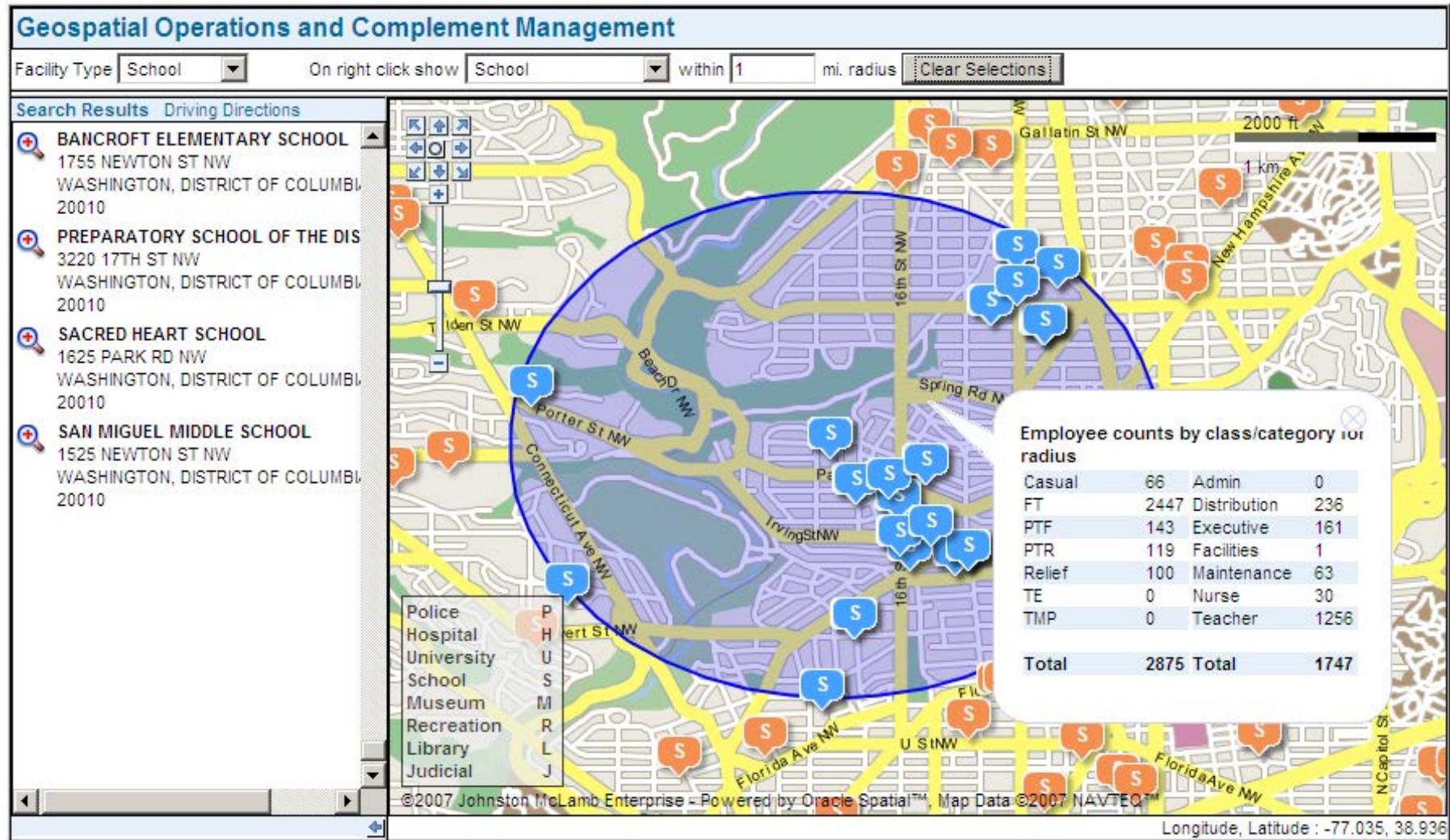
Analyze: Geospatial Data

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'
```



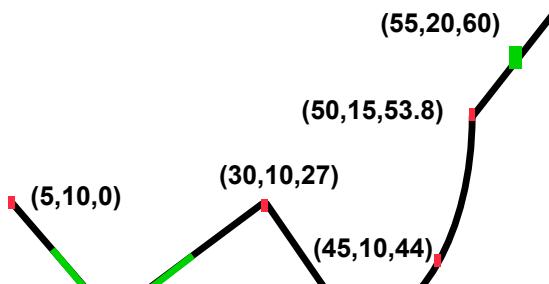
Display: Generate Powerful Maps



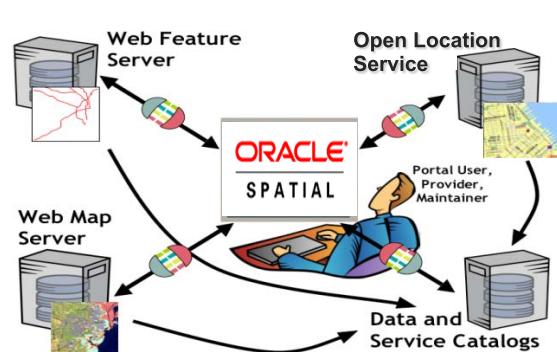
Oracle Spatial 11g

Priced Option of Oracle Database 11g Enterprise Edition

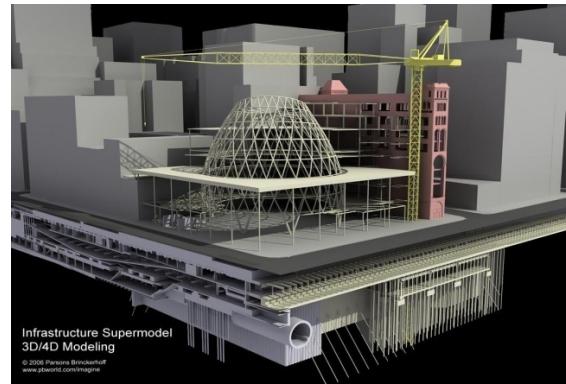
Linear Referencing



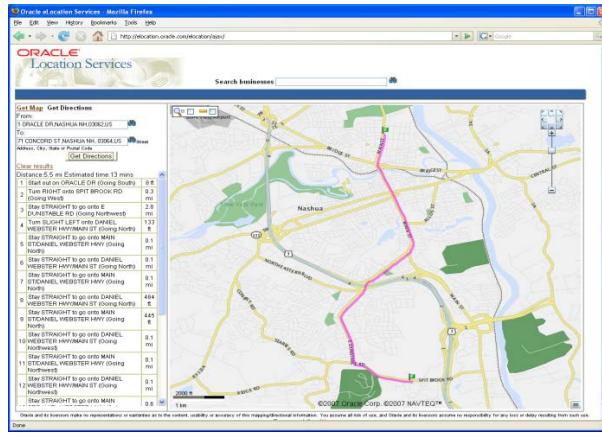
Spatial Web Services



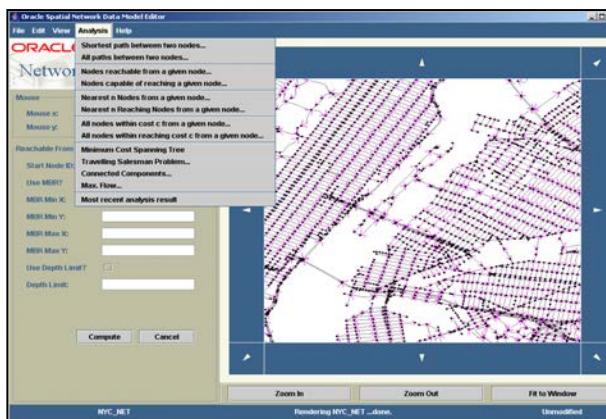
3D, Point Clouds, and LIDAR



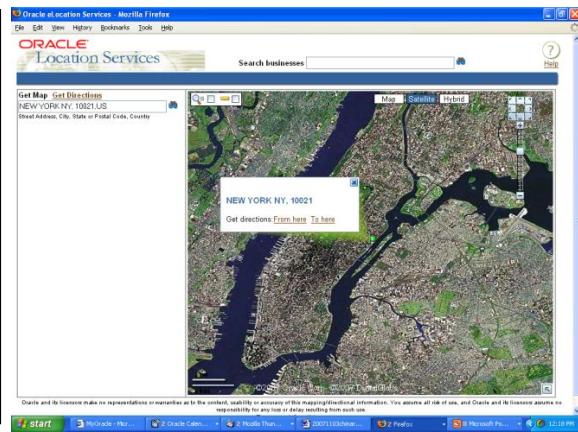
Geocoding & Routing



Planar Networks



Raster Imagery



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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

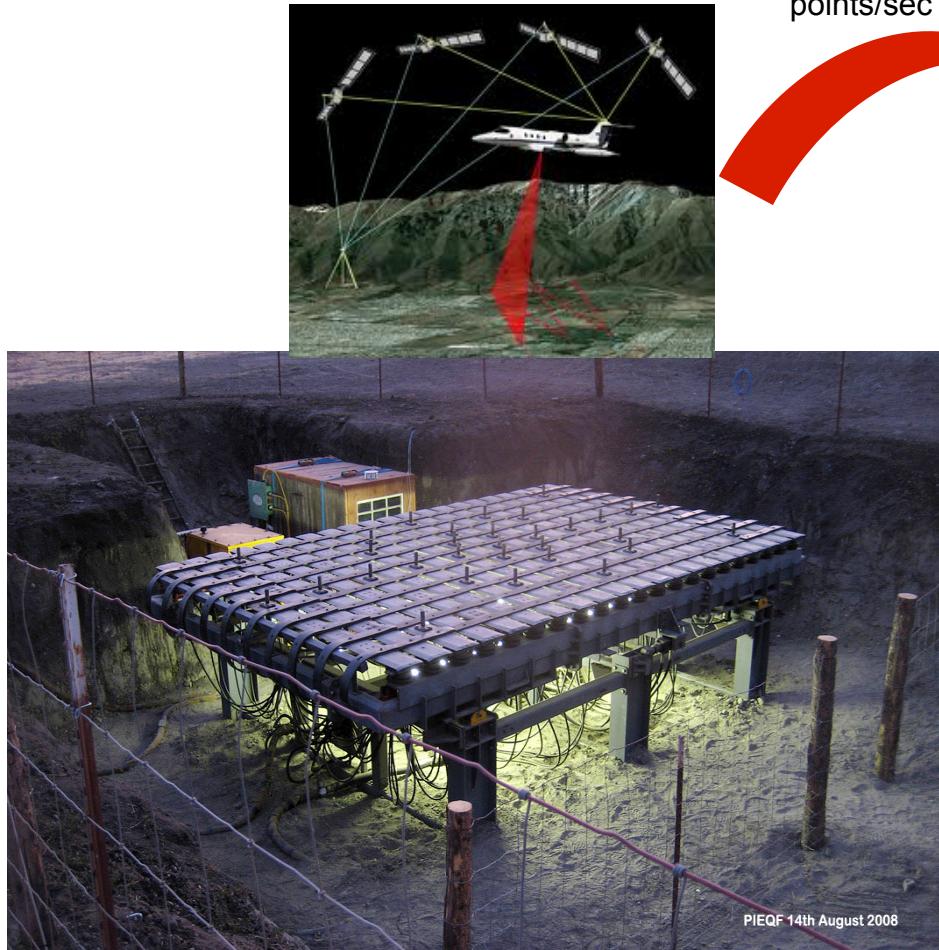
Oracle Spatial 11g

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

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LiDAR Imagery Example

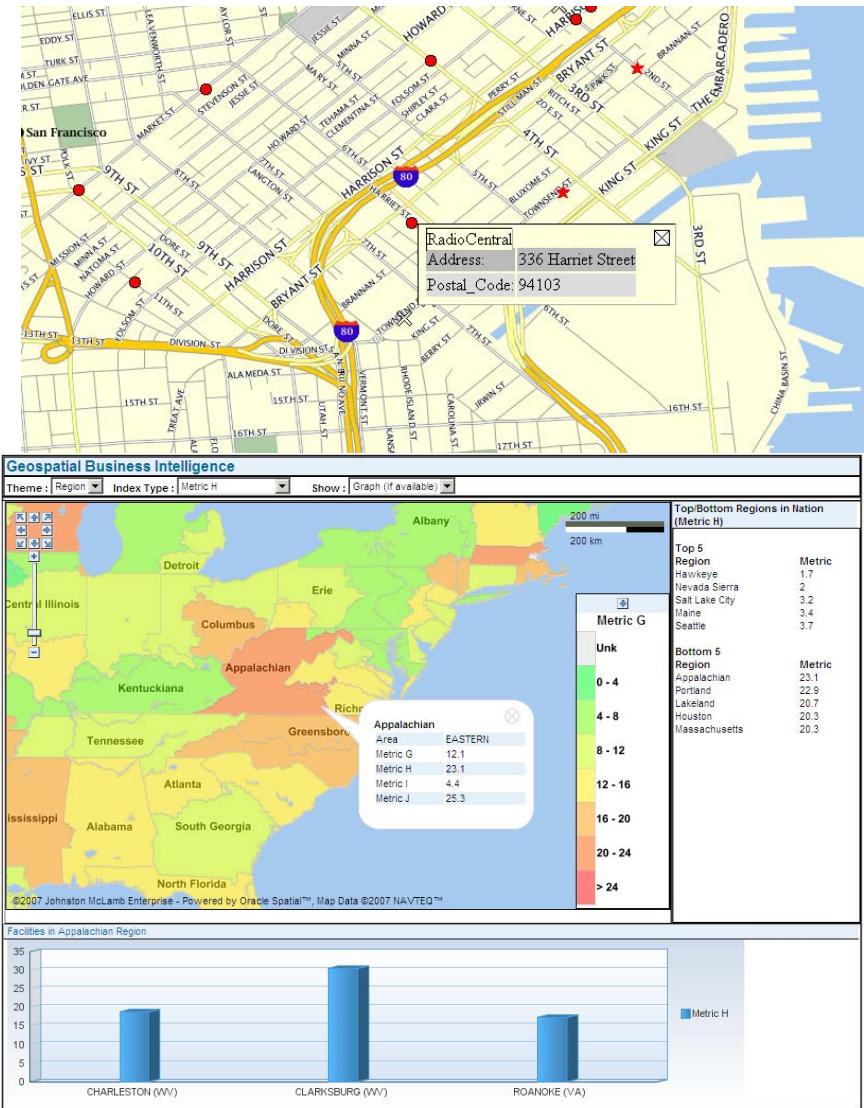


Each point has attributes and can be visualized in 3D applications



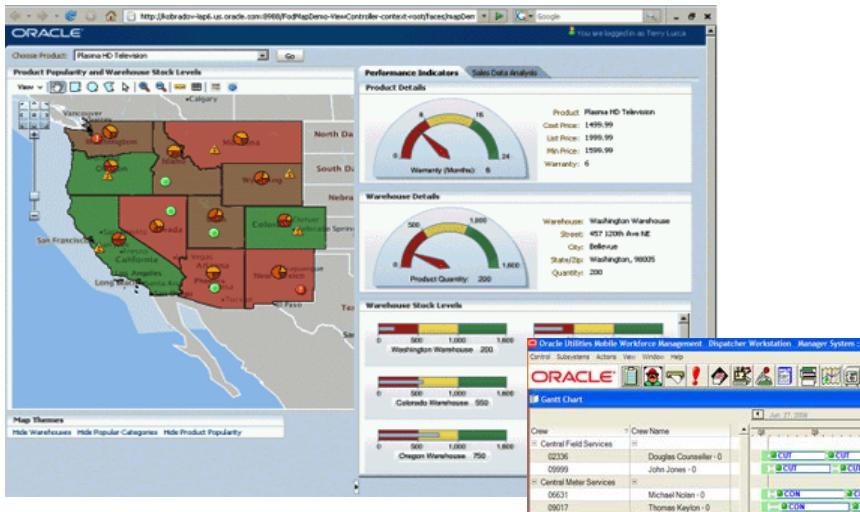
Oracle Fusion Middleware MapViewer

- 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

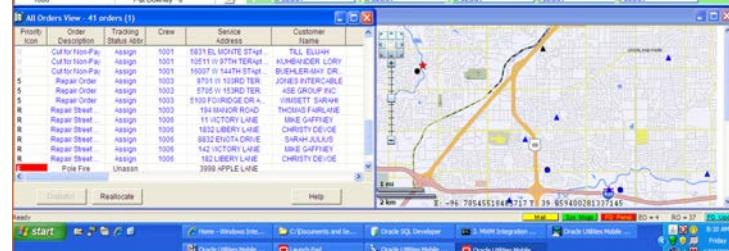


Spatial Analysis and Maps in Oracle Applications, Tools and BI

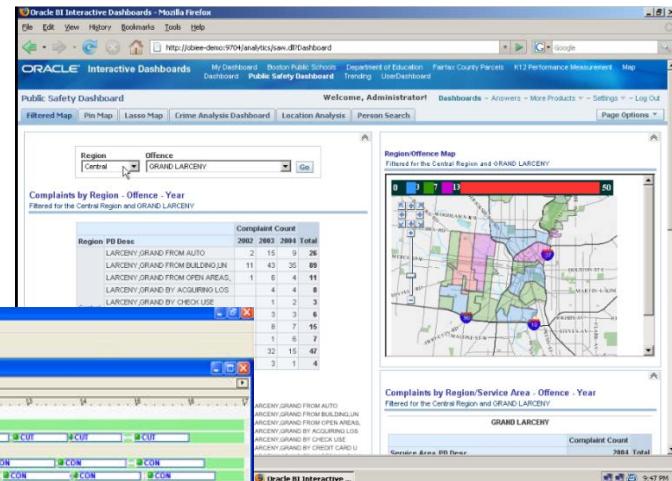
Oracle JDeveloper



Oracle Utilities Mobile Workforce Management



Oracle BI EE



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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



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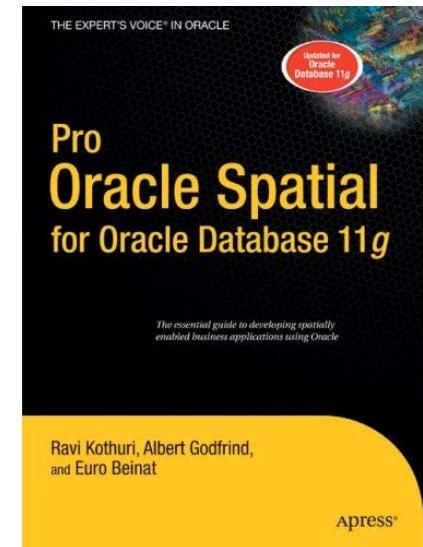
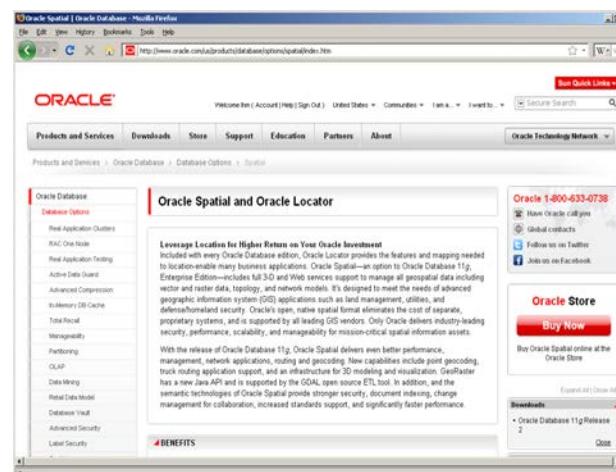
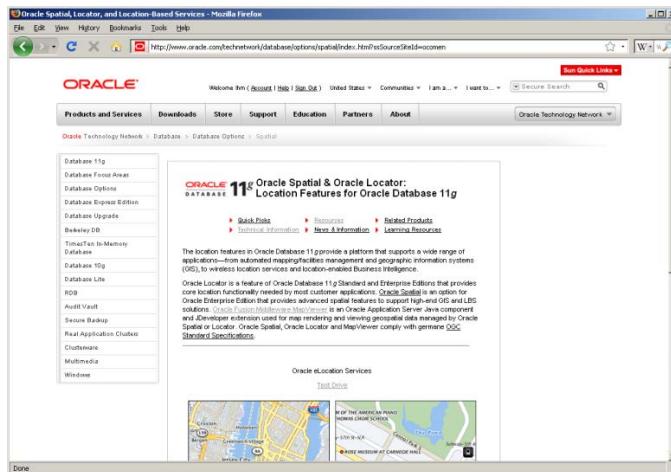
Summary

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 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

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