ORACLE LOCATOR

Location Features in Oracle Database 11*g* Release 2

ORACLE LOCATOR FEATURES

New features in Oracle Locator with Oracle Database 11*g*:

- Buffer function (SDO_GEOM.SDO_BUFFER)
- Support for annotation text standard
- Support for SQL/MM Spatial types and operators

Other Oracle Locator features:

- Spatial geometry object data type
- Fast spatial R-tree indexing
- Spatial relationship operators; distance, area, and length functions
- Open, standard SQL access to spatial operations
- Whole Earth geometry model - comprehensive treatment of geodetic data
- Function-based spatial indexes
- Long transactions
- Integration with Oracle Fusion Middleware MapViewer map visualization tool
- Coordinate system support based on the European Petroleum Survey Group (EPSG) data model
- Explicit coordinate transformations

Information about the Oracle Spatial option can be found in a separate data sheet at www.oracle.com /technetwork/database /options/spatial/

A detailed listing of Oracle Spatial & Locator features is in the *Oracle Spatial Developer's Guide, 11g Release 2*.

Every Oracle database includes built-in location features that enable any business application – from department to enterprise – to directly incorporate location information and realize competitive advantages. Oracle's open, native spatial support eliminates the cost of separate, proprietary systems, and is supported by all leading geospatial vendors. Only Oracle delivers industry-leading security, performance, scalability, and manageability for mission critical spatial assets stored in Oracle's native type. This data sheet highlights capabilities of the Oracle Locator feature of Oracle Database 11g Release 2 – the industry's leading spatial database management platform.

The Industry's Leading Spatial Database Platform

Industry analyst IDC has found that "Oracle has developed the deepest spatial capabilities among the IT infrastructure players." IDC stated that the integration of spatial capabilities in Oracle Database "simplifies the use of spatial data in business applications and removes much of the cost of using spatial data." Since Oracle's spatial features are accessible through standard languages such as SQL and Java, IDC concludes, "developers can integrate spatial features directly into business and location-based applications at relatively low costs and with minimal training". Because of Oracle's "deep expertise in enterprise integration, the company's spatial capabilities are having a profound, positive effect on the SIM [Spatial Information Management] industry." Oracle maintains a dominant position as the spatial data repository for medium-sized and large spatial systems.* More customers and partners are choosing Oracle for spatial data management to deliver performance, scalability, security, ease of use, and advanced spatial features.

Easily Location-Enable All Your Applications

Most business information has a location component, such as customer addresses, sales territories, and physical assets. Businesses can take advantage of their geographic information by incorporating location analysis into their information systems. This allows organizations to make better decisions and respond to customers more effectively. Oracle Database 11*g* Release 2 provides the foundation for deploying enterprise-wide spatial information systems and location-enabled e-Business applications.

Oracle Locator, a feature of Oracle Database (Express Edition, Standard Edition, Standard Edition One, and Enterprise Edition), provides core location functionality needed by most customer applications and partner solutions. (Locator is not a solution for complex geospatial applications.) Developers can extend existing Oracle-based tools and applications, since with Locator they can easily incorporate location information directly in their applications and services. This is possible because location data is fully integrated in the Oracle server itself. Geographic and location data are manipulated using the same semantics applied to the CHAR, DATE or

INTEGER types that are familiar to all users of SQL.

Specific Locator features include:

- An object type that describes and supports geometries such as points, lines, polygons
- Fast spatial R-tree indexing
- Spatial operators that use the spatial index for performing queries that determine the interaction of geometric features
- Spatial functions for distance, area, and length
- Spatial function for buffering (new to Locator in release 11g)
- Open, standard SQL access to spatial operations
- Whole Earth geometry model that provides comprehensive storage, management and use of geodetic data
- Function-based spatial indexes
- Long transactions (through Oracle Workspace Manager feature)
- Integration with Oracle Fusion Middleware MapViewer map visualization tool
- Coordinate system support based on the European Petroleum Survey Group (EPSG) data model
- Explicit coordinate transformations
- Support for SQL/MM Spatial types and operators** (new to Locator in release 11g)

Note: The Oracle Spatial option extends Locator with features for users requiring more advanced spatial analysis and processing in Oracle Database. Please see the separate Oracle Spatial data sheet for information.***

Manage Critical Spatial Data Assets with Enterprise-Class Security, Scalability, Performance

For your mission-critical spatial data assets, only Oracle can provide the security, scalability, and performance of the industry's leading database, to manage multiterabyte datasets and serve communities ranging from tens to tens of thousands of users. Only by using Oracle's native spatial data type (versus Long Raw or BLOB) can you take advantage of the features below:

- Partitioning support for spatial indexes
- Parallel index builds for spatial R-tree indexes
- Parallel spatial queries
- Replication (some features available with Enterprise Edition only)
- Spatially-driven multi-level security

Use Any Leading Partner Application With An Open Data Management

RESOURCES AND RELATED PRODUCTS

RESOURCES

Oracle.com: www.oracle.com /database/spatial.html

- White papers
- Customer videos, profiles
- News and events

Oracle Technology Network: www.oracle.com /technetwork/database/options /spatial

- Documentation and white papers
- Software, sample code
- Customer profiles
- Technical forum
- Training (Oracle University class schedules, online training, free tutorials)
- Partners

Support: www.oracle.com /support

- Product alerts
- Technical Assistance Request forms
- Technical spatial library

RELATED PRODUCTS

- **Oracle Spatial** is an option to Oracle Database Enterprise Edition that extends Locator. It provides advanced geospatial data models and analyses to support applications in domains such as defense, homeland security, energy, utilities, and business geographics.
- **Oracle Fusion Middleware MapViewer** is a Java map rendering and viewing component used for visualizing geospatial data managed by Oracle Locator or Oracle Spatial.
- **Oracle Workspace Manager** provides long transaction support for Oracle Locator and Oracle Spatial.
- **For more information, visit www.oracle.com /technetwork/database/ options/spatial.**

Solution

Oracle Locator is directly integrated with the leading geospatial, mapping and location services technology vendors. Since Oracle's spatial data type is compliant with open standards, Oracle can serve as an interoperable, central geospatial data repository for providing data to any partner application. Spatial data can be shared more easily between departments and organizations, and across the enterprise, so you can realize increased return on spatial data assets while reducing costs.

The leading geospatial and enterprise IT systems integrators provide Oracle Locator-based services. You have many choices for expert, quick deployment of the right customized solution to meet your specific requirements.

A list of partners is available at oracle.com/technology/products/spatial.

Oracle consistently works to help shape, drive, implement and support the latest open standards in the spatial and location services areas. Oracle is a Principal Member of the Open Geospatial Consortium (OGC) and participates actively on the Technical Committee. Oracle is also committed to supporting the new OGC Geographic Markup Language (GML) as well as Open Location Service interfaces. The object-relational model used for geometry storage by Oracle Locator also conforms to the specifications associated with SQL92 representation of points, lines, and polygons. Oracle Locator also supports SQL/MM Spatial types and functions.[***]

With Oracle Locator, Oracle brings the power and value of location analysis to all your business applications. Only Oracle provides world-class performance, scalability, security, and manageability to your spatial data assets, while reducing costs, with support from every leading geospatial vendor.

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[*] Source: IDC, *Worldwide Spatial Information Management Software 2010–2014 Forecast and 2009 Vendor Shares,* Sonnen and Morris, Sept. 2010

[**] As specified in *ISO 13249-3, Information Technology – Database languages – SQL Multimedia and Application Packages – Part 3: Spatial*. Locator supports all SQL/MM types and operators except four member methods: ST_RELATE, ST_INTERSECTION, ST_UNION, and ST_SYMMETRICDIFFERENCE.

[***] **Oracle Spatial,** an option to Oracle Database Enterprise Edition, extends Locator, and provides a robust foundation for geospatial and business applications that require more advanced spatial analysis and processing in Oracle Database. It includes support for all geospatial data types and models, including vector and raster data, and topology and network models; as well as routing and geocoding engines. It addresses requirements in domains such as public sector, defense, logistics, energy exploration, business geographics, and life sciences. Please refer to the *Oracle Spatial 11g Data Sheet* for more information. **For a detailed listing of the different features in Oracle Locator and Oracle Spatial, please refer to Appendix B of the *Oracle Spatial Developer's Guide, 11g Release 2.***

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