Challenges for next generation BI with Location Analytics

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April 2019
Oracle Analytics Cloud Service: Smart Analytics for Everyone

ANALYSTS
- Faster time to insights
- Share, collaborate and maximize community’s wisdom

BUSINESS LEADERS
- Easy, timely, proactive business insights
- Empower to go beyond consuming others’ findings

DEVELOPERS
- Develop and deploy analytic applications for people to customize and personalize
- Embed location analytics in any application context
Oracle Spatial Analytics: Natively manage all spatial content in the DB

- **Core Geometry Storage**
  - Points, Lines, Polygons, Collections, etc

- **Specialized Data Storage**
  - Raster/Imagery
  - Topology
  - 3D
  - Lidar

- **Query and Analysis APIs**
  - (SQL, PL/SQL, Java, XML, OGC)

- **Deployable Java Services**

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**Deployable Services**

<table>
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<tr>
<th>Mapping</th>
<th>Geocoding</th>
<th>Routing</th>
<th>Web Services (OGC)</th>
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**Oracle Spatial**

- Polygons
- Lines
- Points
- Networks
- Topologies
- Raster
- 3D / LIDAR

**Oracle Spatial**

- Deployable Services
- Mapping
- Geocoding
- Routing
- Web Services (OGC)
Bring Spatial analytics into the BI
Next Big Opportunity in GeoSpatial Analytics

• Availability of new data
  – high quality, high frequency imagery for monitoring the globe

• Sensors and cameras generating high quality spatial data
  – Phones, cars, LiDAR, etc.

Source: GeoSpatial Media and Communications
Challenges for Modern BI

Organizations need to Cope with Diverse Data

Specialized Skills in Short Supply

Emerging Technologies are Fragmented and Complex

One solution to access all types of data

Empower Business users to achieve their goals by making it simple to use

Leverage emerging technologies like AI and ML using single unified platform
Data Management as a Service

1. The abstraction of storage and compute enables the logical data store
   - Maximize value of data

2. The cloud vastly accelerates the adoption of this architecture by customers
   - Minimize costs without compromising performance

3. Mature technology needed at each layer to deliver this architecture today
   - Each engine requires extensive optimization and integration
Data Management as a Service

Unified Data Management

Processing Plane

Data Plane

Platform Services: Metadata, Workload Mgmt, Security/Auditing

Interface

SQL  node.js  REST  R  php  Java  Python

SQL  Hadoop & Spark  Machine Learning  Search  Graph  Spatial

Streaming

Event Hub (Kafka)  Internet of Things

Data at Rest

Storage

Block Storage  Object Storage  ExaScale  HDFS

Database

GraphDB  NoSQL  MySQL  Oracle
Self Service Spatial Analytics

- Self-service spatial analysis operations
- Visual query builders
- Automated Dataset geo-enrichment and preparation
- Data/context-sensitive map canvas and visualization
- Publish and share results as web page or REST end points
- Make it easy to integrate into data flows
Find Hidden Patterns with Smart Data Discovery

**Automatic detection of data patterns**
- Guide users towards strongest correlated factors and variances from norm

**Auto-blending, intelligent visualizations**
- Easy blending of data sets with the most appropriate handling to avoid double counting
- Auto-default to the appropriate visualization for a given data set

**Search enablement everywhere**
- Type ahead in expression editor, data set browser etc.