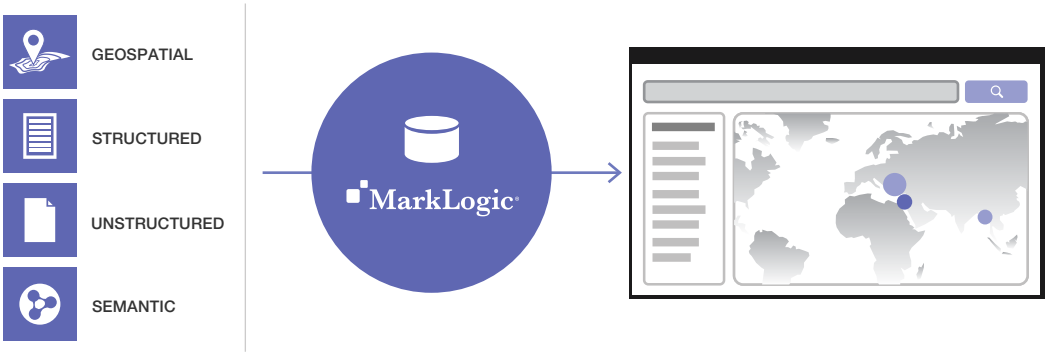
MarkLogic®

DATASHEET

Geospatial

"Who, what, when, and where?" That frequent question is the basis for organizing military operations, analyzing land use, mapping assets and utilities, and even figuring out daily things like dinner plans. MarkLogic® is the leading NoSQL database for geospatial applications, providing the ability to answer the "where" question in the context of any other operational data—all inside a platform designed with the security, scalability, and performance that organizations require.



Location Awareness in Context

MarkLogic provides a single platform to natively store, manage, and search geospatial data—including points of interest, intersecting paths, and regions of interest. MarkLogic also handles other data about entities (people, places, and things), relationships (semantics, or "linked data"), imagery and video (large binaries), and time (temporal data). With MarkLogic, the data is all in one place. This means analysts avoid wasting time collecting data and keeping it consistent so they can explore the data in new ways and make faster decisions.

- **Enterprise Grade Database** - MarkLogic is the only NoSQL database that has enterprise features organizations require, including security certifications, high availability and disaster recovery, and transactional consistency
- **Trusted by Customers** - For more than a decade, customers have relied on MarkLogic to run mission-critical geospatial applications, even in situations where resources are considered inadequate to process, exploit, and disseminate data
- **Ideal for "Imperfect" Data** – MarkLogic has a flexible data model that, unlike traditional relational databases, is ideal for handling various geospatial data types in combination with other specialized or varied data that is constantly changing
- **Ideal for Unstructured Data** – MarkLogic has built-in search that allows queries to search any free-text that may be tied directly to geospatial data. For example, there may be notes attached to an entity displayed on a map that now become searchable because MarkLogic indexes that content
- **Integration with Leading Geospatial Vendors** – Leading geospatial mapping vendors including Esri Arc GIS*, OpenGeo Suite, Berico Rivium*, OGC-compliant GIS tools, and SPARQL-compliant semantic visualization tools are proven to integrate with MarkLogic, providing robust visualization capabilities and real-time access for users to put multi-dimensional geospatial data to work within a web interface

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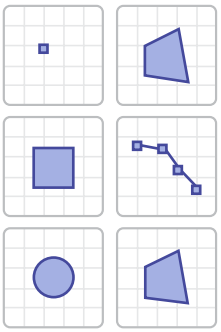
Supported Features

Geospatial Types

- Point
- Box
- Circle
- Polygon
- Complex Polygon (WKT)
- Linestring (WKT)



Formats

- GML
- KML
- GeoRSS
- Metacarta
- GeoJSON

Operations

50+ geospatial operations in JavaScript or XQuery, including:

- Point query
- Box query
- Radius query
- Polygon query
- Intersection
- Containment
- Distance
- Shortest distance
- Destination

Complex Geospatial Searches

When it comes to handling geospatial data, most databases fall short when additional complexity is added. Below are some examples of more sophisticated queries and how MarkLogic handles them:

- *"Show me a list of hospitals that fall within the boundaries of this certain set of coordinates"*
  This search looks for documents that mention "hospital" and then narrows the list down in order to return only those schools located within the specified polygon.
- *"Show me a closer look at this hospital, and tell me its various uses at different times of the day and any other relationships"*
  This search shows the specific shape of the building, and returns metadata showing the building is a hospital during the day, and a meeting place for "bad actors" at night. Other links to blueprints and aerial footage are also provided.
- *"Show me the path taken during the last supply transport, and provide an alert when the route is safe again"*
  This search analyzes linestrings to see if they cross through polygons that designate hostile territories at a certain time. This query is setup as an alert (reverse query) so that the user can be notified when when the route is safe.

Real-Time Geospatial Alerting

MarkLogic can push real-time alerts when new data is ingested that matches a saved query, providing a stream of information that can alert users of new information as soon as it arrives. The time it takes to check new information stays constant as the number of alerting queries increases, giving MarkLogic the ability to handle millions of different alerts simultaneously.

About MarkLogic

MarkLogic is the world's best database for integrating data from silos, providing an operational and transactional Enterprise

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