

Doing More with Your GIS

MarkLogic® and Esri® Integration Delivers Location Analytics for ALL Your Data

The volume, variety, and complexity of data sources and real-world events residing in multiple systems bring new challenges to GEOINT and all source analysts. Defense, intelligence, and national security organizations push analysts to constantly switch back and forth between multiple systems to gain retrospective analysis and real-time situational awareness.

To solve these challenges, GIS must support the integration of real-time information feeds, with the expectation of periodic analysis to generate timely, useful all-source intelligence products. It must also provide context to rapidly evolving situations, which improves information quality and decision-making.

The integration between Esri ArcGIS® and MarkLogic helps to address these obstacles by combining best-in-class GIS capabilities with multi-model integration of any type of data, including structured, unstructured, variable, semantic, real-time, and geospatial.

MarkLogic integrates with Esri via the MarkLogic Esri Connector which consists of two primary components: the MarkLogic Add-in for ArcGIS Pro®, and the MarkLogic Feature Service Connector for ArcGIS.

This powerful integration enables the ingest, storage, search, and visualization capability for heterogeneous sources of information, allowing defense and intelligence organizations to apply location analytics to ALL of their data.

The Esri ArcGIS Pro has baseline capabilities that are enriched with near real-time search functionality powered by full-text query entry and easy-to-use faceted navigation UI enhancements using the MarkLogic Add-in for ArcGIS Pro. Complex searches against unstructured content can then be visualized as feature layers to provide deeper context to geospatial content.

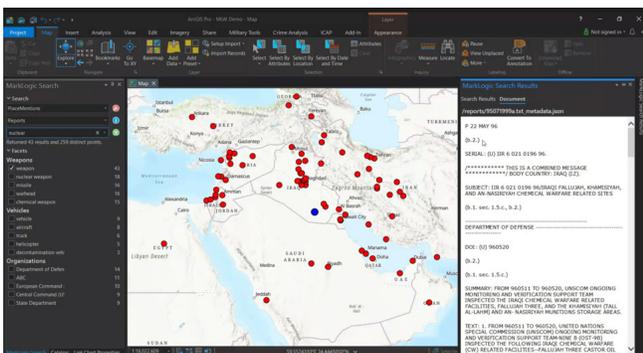


Figure 1. Perform complex searches against unstructured content

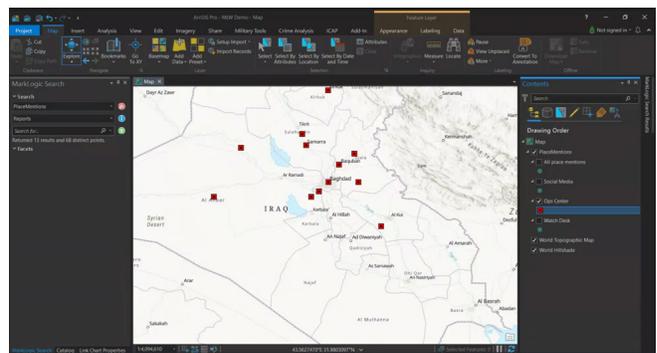


Figure 2. Faceted navigation streamlines analyst workflow

The MarkLogic Feature Service Connector for ArcGIS allows data integrated into a MarkLogic Operational Data Hub to be selectively exposed as a feature layer to be consumed by Esri tools regardless of the data size, format, or structure. The result is the ability to create dynamic views that enable location analytics for all the data in the enterprise.



Figure 3. The Connector enables the MarkLogic Esri integration

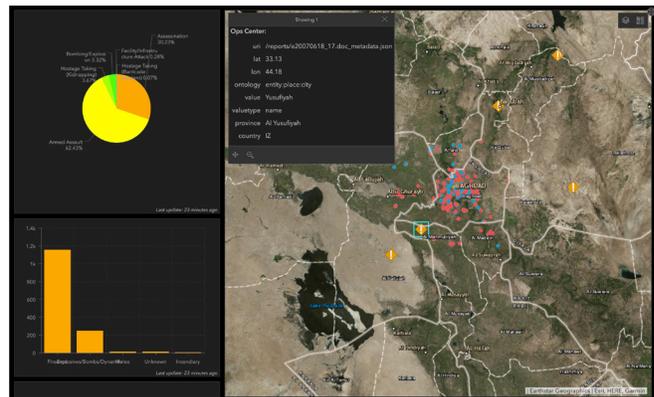


Figure 4. Screenshot of an Ops Center dashboard

Analysts can move between maps, faceted search, link analysis, objects, and raw content – to identify patterns, discover relationships, and reveal anomalies quickly. They also have the advantage of highly scalable search, discovery, real-time alerting, and data sharing, while having a new way to capture, exploit, and securely disseminate ad-hoc observations and knowledge.

- **A user can combine an object or entity with a geospatial feature** – providing multiple ways to store data in a geospatial context, while also associating temporal information, and semantic relationships.
- **Data can be created or updated – without any downtime** – to record real-world events as they occur and can capture the different states of geographic features and the objects and entities associated with them over time.
- **Multiple locations can be stored as features** – along with objects, attributes, values, and metadata – in one flexible database.

By integrating MarkLogic with Esri, organizations in defense and national security can gain accurate representations of the real world, increase trust and security, as well as significantly decrease the cost of systems by combining file servers that store information about features and the geospatial system, allowing analysts to directly capture and relate their geographic knowledge in one system.

About MarkLogic

Data integration is one of the most complex IT challenges, and our mission is to simplify it. The MarkLogic Data Hub is a highly differentiated data platform that eliminates friction at every step of the data integration process, enabling organizations to achieve a 360° view faster than ever. By simplifying data integration, MarkLogic helps organizations gain agility, lower IT costs, and safely share their data.

Organizations around the world trust MarkLogic to handle their mission-critical data, including 6 of the top 10 banks, 5 of the top 10 pharmaceutical companies, 6 of the top 10 publishers, 9 of the 15 major U.S. government agencies, and many more. Headquartered in Silicon Valley, MarkLogic has offices throughout the U.S., Europe, Asia, and Australia. For more information, please visit www.marklogic.com.



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