MarkLogic®

Federal Aviation Administration

COMPANY OVERVIEW

The Federal Aviation Administration (FAA) uses the Emergency Operations Network (EON) real-time application for monitoring and tracking severe weather and emergencies to keep passengers, flights and airports safe. As an agency of the United States Department of Transportation, the FAA has authority to regulate and oversee all aspects of civil aviation in the U.S. It is tasked to provide the safest, most efficient aerospace system in the world.

CHALLENGES

To properly manage emergencies on the ground and in the air, the FAA required EON to handle multiple document types and feeds, and make sense of the information as quickly as possible. They needed a solution that provided a backend repository and search for unstructured information–tweets, weather reports, news stories, emails, SharePoint documents, geospatial data, and more that get pulled together for decision-making; and integration with in-house custom built as well as commercially available applications to analyze and share the data rapidly.

WHY MARKLOGIC?

Within a couple of weeks of implementing MarkLogic common repository and information intelligence, the FAA had access to full text, metadata, faceted search, alerts, and complex content that had not been available in over a year of trying with other solutions. As a result, the FAA was able to:

- Create a unified repository of all their content and make sense of it
- Transition seamlessly and rapidly from their beta implementation to a full production environment
- Integrate with their current toolset for more informed situational analysis

"MarkLogic not only provided us with a fast database engine to search content but allowed us to ingest ad hoc data, which during emergencies can't be planned for or schematized, that is then accessed by national headquarters for deconfliction and dissemination. Having a schema-less and flexible data model is a good foundation for our solution."

—Will Lawrence,
Chief Architect, FAA

SUMMARY

The Emergency Operations Network (EON) Dashboard is a fully integrated web based emergency communication system based on the MarkLogic product. It provides a single consolidated view of situational awareness data that allows the system to report and display real-time, emergency information as well as geospatial displays through Google Maps.

The FAA AEO-400 team tried to implement EON with traditional SQL technologies, but found it impossible due to the complex mix of data and unplanned informational needs that are standard characteristics of this environment.

They needed a highly available system that provided quick access to information since people's lives depend on EON in emergencies.

With the only Enterprise NoSQL database, MarkLogic quickly and easily enabled the FAA AEO-400 office to load, search, transform and render multiple unstructured data sources to provide a consolidated view of their situational awareness content.