Case Study

Lockheed Martin Space Systems

From Scientists to Satellites: LMSS Tackles Disparate Life Cycle Data with a Neo4j Product 360 System

With years-long product life cycles to build intricate space equipment, Lockheed Martin Space Systems was producing galactic amounts of data that was siloed and disconnected. With Neo4j, they created a product 360 solution to easily access once-tribal information and reveal unseen data relationships critical for meeting project deadlines and business objectives.

The Company

Lockheed Martin Space Systems (LMSS) is a division of Lockheed Martin Corporation that builds satellites to explore the solar system as well as space vehicles that drive around planet Mars. They also manufacture equipment to conduct other explorations that aid in predicting the weather, delivering precise GPS, detecting and defeating missile launches and more. As the premier government contractor, LMSS has built more interplanetary spacecraft than all U.S. companies combined.

The Challenge

LMSS was in dire need of a solution to support digitizing and integrating all of their processes and data across the entire lifecycle of products. With a wide expanse of disparate data they had no flow across multiple systems.

Ann Grubbs, Chief Data Engineer for LMSS, said they'd built a few interfaces to connect data, but that “it cost us a kazillion dollars to build the interface between our data storage systems, and it’s not very scalable if you want to look at the entire life cycle of a product.”

Most equipment LMSS builds has a very long development life cycle. From engineering to launch, every facet of the manufacturing life cycle correlates with and affects each other. Redesigns done today could have a big impact on something that’s being put together years later.

As technology moved forward, LMSS amassed far more data than a human could ever understand or manage.

“All I can tell you is there are hundreds, maybe thousands of data systems, and tens of thousands of datasets,” Grubbs said. “We create a lot of data around here.”

Though a lot of information was residing in the heads of very smart people, tribal knowledge was too unreliable. Instead of a customer 360 solution – because they only have one customer, the government – they needed a product 360 solution.
Neo4j is the leader in graph database technology. As the world’s most widely deployed graph database, we help global brands – including Comcast, NASA, LMS, and Volvo Cars – to reveal and predict how people, processes and systems are interrelated.

Using this relationships-first approach, applications built with Neo4j tackle connected data challenges such as analytics and artificial intelligence, fraud detection, real-time recommendations, and knowledge graphs. Find out more at neo4j.com.

Questions about Neo4j?
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