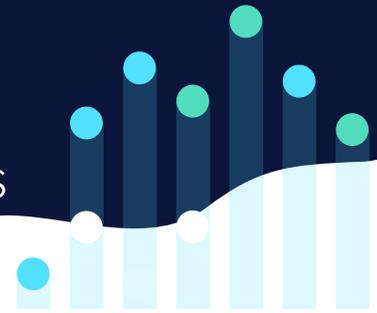


DataStax Enterprise as a Scalable Substructure for Information Fusion System from Saab Medav Technologies



THE CHALLENGE

The mobility and availability of data are among the most important success factors for individual companies in the modern, highly digitalized economy. The public service sector depends on data being stored centrally from different sources as well. This is the only way to get an idea of the current situation.

Saab Medav Technologies addresses these challenges with the Information Fusion System (IFS), a solution that analyzes, stores, and displays data from various sources in individually customizable reports. The basic version of this solution realizes this with several parallel databases. However, this structural complexity means increased administration overhead and prolongs the integration processes for subsequently added system elements, such as additional sensors or visualizations.

So, the challenge with the next generation of products was to design a highly scalable and modularly extensible database model based on a single manufacturer's technology. In addition to performance and security, simple expansion options as well as intuitive operation and administration were an absolute priority in order to address the central role of data merging and processing in the age of big data analysis. The databases used by Saab Medav Technologies thus far could not offer the necessary performance in view of the large data volume.

THE SOLUTION

Because of these requirements, Saab Medav Technologies decided to transition to a modern, high-performance open source database as part of implementing the new product line. After testing several approaches, the Apache Cassandra™ based DataStax Enterprise database system was chosen. A little later, use of the DataStax Graph package was added. Graph databases are ideal for the management of complex and ever-changing data due to their high scalability. These allow you to easily analyze data packages that are highly networked with each other to reveal similarities or anomalies and thus provide valuable insights. DSE Graph provides enough performance for modern apps with high scaling requirements and is optimized for storing, tracking, and querying complex graph data in real time. It also integrates seamlessly with DSE Analytics and DSE Search.

“What ultimately convinced us is the Graph database's capacity to start from a node and quickly query relationships and connections from there,” explained Bernd-Otto Wolf, Product Manager of the New Product Family at Saab Medav Technologies as to why that

SAAB MEDAV TECHNOLOGIES

USE CASE:

Database integration at Saab Medav Technologies

INDUSTRY:

Information technology and signal processing

CHALLENGES:

- Consolidation of multiple databases
- Intuitive operation
- Compatibility with graph databases and indexes

SOLUTION:

- DataStax Enterprise (DSE), DSE Search, DSE Analytics, DSE Graph

RESULTS:

- Scalability
- Uniform web interface
- Comprehensive analysis functions and graphical reporting
- Future security

ABOUT SAAB MEDAV TECHNOLOGIES:

Saab AB is a leading global provider of military defense and civil security products, services, and solutions. The Swedish company employs more than 16,000 people worldwide. Saab Medav Technologies GmbH which is part of the Saab Group and headquartered in Erlangen, has high-tech expertise in signal processing and analysis. It covers radio monitoring solutions (RMS) and business information systems (BIS) and supplies the global market with suitable state-of-the-art solutions.



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choice was made. “We will continue to expand this topic this year.” Graph databases really demonstrate their strengths when it comes to large volumes of data or real-time queries. In addition to the aforementioned scalability, the support services and the simultaneous indexing with the Solr index of DSE Search were decisive factors.

The new product line was developed by Saab Medav Technologies using the Scrum method. The company was supported by application engineers from DataStax. In addition to support meetings for the conception of the solution, it was also integrated and tested in close cooperation. The goal was to create a base framework that Saab Medav Technologies could tailor to the specific needs of various clients in government and civil security sectors.

THE RESULT

In the past, Saab Medav Technologies had to rely on multiple services from multiple vendors to meet customers’ increasingly complex needs. DataStax Enterprise, the foundation of the new product line, supports both search, analytics, as well as graph and accesses the services through a common database platform. As a result, the company benefited twice since complexity and administration costs sank as well as the hardware and manpower required.

The customers of Saab Medav Technologies and the users of the new product line feel the benefits of the new solution too: They can evaluate millions of records daily. The results are presented clearly and graphically in a graph view, based on which they can make well-founded and strategic decisions. The straightforward extensibility of the solution also ensures that, with the new product, users can make a future-proof investment in their IT infrastructure, even with exponentially increasing data volumes.

DSE Search as a new component also supports complex queries with substring, fuzzy and full-text search, making it easier for users of the new product line to find their required data. The indexing engine also provides comprehensive support for real-time aggregation, faceting, and filtering. Another important advantage of the integrated search is that the indices are immediately maintained when changing or adding new data. In addition, the search indexes of DSE Search are automatically saved multiple times with the same replication factor as data tables, so they are equally distributed and highly available.

Since all services and software solutions come from a single source, users will have a uniform, web-based interface after installation. “Ultimately, the users only see the interface. They will never even notice that the DataStax database platform is behind it as long as everything runs. This is our common success,” said Mr. Wolf.

A veteran in the security IT market, Saab Medav Technologies recognizes the enormous importance of highly scalable and high-performance data processing, providing users with an overall solution that meets the needs of the Information Age.

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The new generation of products is our answer to the increasing requirements of our customers in the areas of information merging and processing. DataStax Enterprise technology provides the necessary scalability.

—Bernd-Otto Wolf,
Information Fusion Systems Product
Manager at Saab Medav Technologies

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ABOUT DATASTAX

DataStax helps companies compete in a rapidly changing world where expectations are high and new innovations happen daily. DataStax is an experienced partner in on-premises, hybrid, and multi-cloud deployments and offers a suite of distributed data management products and cloud services. We make it easy for enterprises to deliver killer apps that crush the competition.

More than 400 of the world’s leading enterprises including Capital One, Cisco, Comcast, Delta Airlines, eBay, Macy’s, McDonald’s, Safeway, Sony, and Walmart use DataStax to build modern applications that can be deployed across any cloud. For more information, visit www.DataStax.com and follow us on Twitter [@DataStax](https://twitter.com/DataStax).

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