Fugro-Jason selects Objectivity/DB to develop a new common data management platform

“Time-to-market is a critical business requirement we were determined to improve upon. We selected Objectivity/DB after an extensive evaluation, and we have achieved this goal, plus feel we have a more technically advanced and competitive solution going forward”

Brad Woods, General Manager, Applications Engineering, Fugro-Jason
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Fugro-Jason Introduction

In the world of oil and gas exploration and production, Fugro-Jason is the world’s leading and fastest growing company in quantitative reservoir characterization and modeling. Fugro NV headquartered in Amsterdam, the Netherlands is the parent company of Fugro-Jason and is listed on the Euronext NV. Fugro has more than 13,500 staff and a permanent presence in over 50 countries.

Fugro-Jason products include the Jason Geoscience Workbench (JGW), Powerlog and EarthModelFT. JGW is a complete, integrated suite of tools for seismic reservoir characterization, including the world’s leading 3D seismic and geostastical inversion, model building and advanced seismic interpretation and 3D visualization. Powerlog is a Windows® based software suite that incorporates petro-physics, rock physics and statistical mineralogy interpretation. EarthModelFT provides geological modeling capabilities integrated with seismic reservoir characterization.

Goal: Improve product, lower costs

Fugro-Jason undertook a strategic initiative to significantly upgrade its product architecture to meet two primary goals; first to build a more integrated platform for its three primary product lines, so that customers could expand their product use and maintain a single, integrated suite of products. The second major goal was to improve the internal development platform, with the goal of improving costs and time-to-market capabilities.

In order to achieve these goals Fugro-Jason viewed the data management layer as a key to meeting their objectives. In fact if done correctly, this would provide them better product development and competitive advantages.

“Our strategy going forward was to have a fully integrated product suite built on a common platform. We felt that when we got the data management layer right, we would have a long-lasting foundation for building better products. And even more importantly this would help us deliver on the time-to-market benefits, which requires us to have a technically superior approach to application development. ”

- Brad Woods, General Manager Applications Engineering
Data management redesign key to time-to-market

Fugro-Jason’s product objectives were to build a common platform for its three major product lines. But the real benefits would come from designing a platform where they could build products faster, and improve their time-to-market advantage. The data challenge comes from having to integrate geoscience data such as geophysical, geostatistical, petrophysical data, and then provide reservoir modeling and simulation data on top of that. Building this algorithmically intensives software to interpret the data and model the complex relationships creates a very challenging data integration environment. To meet their goals they knew building a better data management layer would be critical to their long term goals.

The first step towards re-architecting their product platform started with data management where they would have the most impact to their development environment. As they began their selection process they wanted to look at multiple technical solutions to data management solutions, and putting each product through an extensive evaluation process.

Along with time-to-market benefits, they had additional requirements for the vendor they would choose; 1) product reliability/maturity, 2) minimal administration burden on their customers, 3) performance as needed for geoscience data, 4) vendor support and 5) cost.

Selection process; multiple technologies, both open source and commercial

Fugro-Jason opened up the evaluation to different technologies, including relational, object/relational and object oriented systems. This included both open source and commercial products, giving them a broad range of vendors with various technical approaches to choose from.

Fugro-Jason narrowed it down to Objectivity, an open source vendor and another object oriented vendor. Soon they narrowed it down to two products, eliminating the open source relational product. The development team was able to determine that it would not meet the needs for fast development. An assessment of the cost to build and maintain the mapping layer between their application and a relational database was simply too complex and too costly to seriously consider as a long-term solution.

The final vendors both had very mature and solid products, but Objectivity won out by virtue of several differentiators, including the distributed architecture, performance, platform...
flexibility and ease of integration even though the price of Objectivity was higher than its competitor.

**Selecting Objectivity/DB – keys to selection**

Objectivity proved to be the best fit for Fugro-Jason in critical areas. In order to provide a faster development environment the integration of Objectivity/DB into the Fugro-Jason applications had to be very straightforward. Objectivity provided a very flexible and simple integration of Fugro-Jason’s object oriented application into Objectivity/DB.

The fact that Objectivity delivered very high performance with the type of data Fugro-Jason’s solutions persists also helped. It allowed the development team to focus on functionality without having to solve data management performance problems. Fugro-Jason data was too complex for relational technologies. With applications that have challenges such as data objects that can be up to a gigabyte in size, Objectivity/DB passed all tests.

A significant differentiator for Objectivity/DB was its distributed architecture. As systems grow, and the product line evolves the Fugro-Jason team expects to need to support a federated system. Objectivity not only supported this architecture, but was the only distributed data management system being used in production prior to Fugro-Jason’s selection of Objectivity/DB.

Objectivity/DB was also required to demonstrate ensure minimal administration overhead at the customer site. Fugro-Jason determined that there was virtually no need for database administration at their customer site, helping them achieve a key objective in this major product upgrade.

**Implementation of Objectivity/DB**

Often times it is during the implementation of a complex product that customers often learn what they missed during a time-consuming and difficult competitive bake-off. And while this can cause decision makers anxiety, in Fugro-Jason’s case it turned out to be a significant positive. As they got up to speed on the capabilities of Objectivity/DB, the discovered that they could create an integration strategy that had numerous product integration benefits.
The product development team determined that with Objectivity/DB they could build a higher level API to give them access to data objects stored in Objectivity/DB. This layer provides both a C++ and a C# interface which they call the Common Data Model (CDM). Most of the CDM code is automatically generated from their own CDM definition files. This includes the Objectivity/DB DDL’s, C++ implementations and the managed CLI wrappers that give them access to the CDM from C#.

This approach allows the Fugro-Jason development team to create database schema extensions in very little time. They can very easily create multiple prototypes and test these different approaches before deciding on the final implementation. This approach is true validation of their selection, because it allows them to be highly productive with a very small team. And they also knew that if they had selected a relational technology they would not have been able to implement such an elegant approach.

Today Fugro-Jason uses Objectivity/DB and the CDM with the PowerLog3, StatMin and RPM products. They store petrophysics data in Objectivity/DB, including well data, curves, core data, formation tops and other interpretations. They also use Objectivity/DB for all application specific data such as user settings. Their goal is to continue to expand Objectivity/DB into the other products in the near future.

**Benefits of using Objectivity/DB**

In summary Fugro-Jason has benefited from partnering with Objectivity in the following ways;

- Time-to-market goals have been met in the development group as they use Objectivity/DB within their application stack.
- Lower costs have been achieved as they’ve utilized the CDM and Objectivity/DB to deliver high-quality products with a very lean and effective development team.
- Fugro-Jason now has a DBMS solution that has the capability of providing them the backbone of their entire product line, and to achieve the integrated portfolio they are striving for.
- Cost savings are being realized as they see that their implementation architecture allows for rapid development and testing to turn into faster product implementations.
- Finally they found that they could get excellent support from the Objectivity team. The Fugro-Jason development team has built a very good working relationship with Objectivity’s support team. They know that any issue will be dealt with in a very timely manner.
About Objectivity

Objectivity, Inc. is the leader in distributed, scalable data management technology. Our patented distributed data engine and persistent object store is the enabling technology within many markets and sectors, powering some of the most complex applications and mission critical systems used in government, business and science organizations today.

Objectivity, Inc. has offices and representatives worldwide, and works directly with organizations, integrators and technical teams to recommend solutions and support options specifically tailored to your project and technical requirements. Contact us to schedule a consultation.

For More Information

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