



## PGS

### PGS Implements Sentinel RMS to Increase Efficiency, While Enhancing Customisation for Customers

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**Morten W. Pedersen**  
Senior Research  
Geophysicist, PGS

#### Overview

Petroleum Geo-Services (PGS) is a leading worldwide geophysical company. PGS provides an extensive range of seismic services and products for the petroleum industry including data acquisition, processing, reservoir analysis and interpretation. The company also possesses the world's most extensive multi-client data library. Customers of PGS include major oil companies, geophysical contractor companies and universities around the world.

To license and protect their software, NUCLEUS, PGS was using a system that had been developed in-house. NUCLEUS is an integrated software package for seismic modeling and feasibility studies. It is modular-based and includes all major seismic modeling methods: full wave field reflectivity, 2D & 3D dynamic ray-tracing, and 2D & 3D visco-elastic finite difference modeling.

#### Business Challenge

PGS delivers NUCLEUS software electronically. When customers download the application, licenses are generated on the fly based on information in the customer database that was developed in-house. It is vital that the software licensing application will be able to easily integrate with this system.

Additionally, customer installations are all highly customised. As each installation differs, the PGS licensing system needed to easily handle a wide range of configurations. The previous, in-house system did not have the ability to node-lock licenses without modifying the software on a per-license basis. As a result, node-locking was rarely used. Additionally, it did not have the ability to track the number of users, which made it difficult to make custom license solutions. This process needed to be simplified. PGS required a software licensing system that could not only offer a wide variety of license models, but was flexible enough to integrate with their existing customer database.

The existing system was also not particularly safe against reverse engineering. PGS sought to increase security to ensure protection of their intellectual property, while continuing to offer a high level of customisation.

## **Solution & Benefits**

After evaluating alternative solutions, PGS selected SafeNet Sentinel RMS to replace their in-house system. Sentinel RMS is currently in use within many organisations in the oil, gas and petrochemical space, further increasing PGS' confidence in the product.

By integrating licensing into NUCLEUS through the Sentinel RMS APIs, PGS was able to gain greater control over their product. With over 250 APIs, every aspect of licensing can be controlled. The RMS Development Kit APIs also supports the widest range of license models in the industry, providing PGS the flexibility they required.

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By implementing Sentinel RMS, PGS has also been able to increase efficiency in their development and fulfillment processes. The Sentinel RMS client library handles all aspects of network communication, so various license models can be generated at fulfillment with no additional development required. Sentinel RMS enables PGS to generate multiple license options from one primary code build, alleviating the need to maintain and synchronise multiple feature builds.

## **Conclusion**

The implementation of Sentinel RMS enables PGS to ensure effective control over the licensing of its high-value software. The ease of integration of RMS proved to be a significant advantage. The quality and speed of SafeNet's support enabled PGS to integrate the Sentinel RMS solution into their products and go to market rapidly.

"We were pleasantly surprised at the speed with which SafeNet technical support responded to our requests," stated Mr. Pedersen.