Optimization of Windows-based Geology and Geophysics Applications Project Data through Data Governance

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Abstract

The advent of the Windows-based Seismic Interpretation, Modelling and other geoscience software packages seemed like an actualized dream for the geologists and geophysicist in the oil and gas industry. This is mainly because these applications are Windows-based and easy to use, and they offer multi-disciplinary interfaces. While these features are great and reliable, they also create new data management challenges that often tend to obscure the benefits the platform brings and turn its greatest strength to greatest weakness, if not properly governed.

The objective of this paper is to highlight the transition that Saudi Aramco made to overcome the inherent data management challenges and achieve a well-governed geoscience data management environment and platform through an in-house data governance solution. It discusses our quick evolution into a strategic application data and information management system.

As a world leader in energy production and digital transformation, Saudi Aramco recognizes the role people and technology play in prospect generation and reservoir characterization workflows. Hence, it became necessary to take our data governance model to a best-in-class level, to standardize and institutionalize how the company defines, produces, stores, and uses project data through a newly inhouse developed solution called GRAMS - Geological Resources and Asset Management System. GRAMS, a robust software tool, tracks application projects and associated data inside all the storage devices - local hard drives and network shared drives. In addition, an internal governance committee was established and given the charge to develop and implement world-class standards and procedures.

The committee consists of subject matter experts (SMEs) in geosciences, computing infrastructure, application support, and data management.
The implementation of the new and improved process resulted in accurate management of application projects and data, as well as enhanced security of application projects and their associated data. The process eliminated application project data loss arising from unsupported application versions and minimized the impact on hardware infrastructure due to project duplication.

The implementation of this world-class data governance system brought numerous benefits to the company in terms of time and cost optimization.