

Implementation of an Integrated Multidisciplinary Database System to Provide a Common Working Environment for Collaboration and Asset Protection

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ABSTRACT

Over time, multiple reservoir disciplines have been collaboratively applied to achieve enhanced production with reduced risk. To explore complex traps with detailed reservoir characterization, geoscientists need integrated interpretation workflows with seamless access to multidisciplinary data in a collaborative working environment. A unified collaborative system can dilute the quality of the data because of the massive amount of intermediate data that is accumulated along with the final results. A balance between the automated recycling into asset repositories of intermediate data and result updates needs to be maintained during the interpretation and analysis of streamlined data flow. To achieve this balance, we have developed a strategy to implement a multidisciplinary database system at the core of our collaborative environment with access control, based on data classification and team member roles. In such an environment, asset teams can access qualified multidomain geoscience data and petrophysical data on their desktop applications without accessing corporate repositories. Multiple data sources communicate with each other as a single system, allowing only the required data flow and reducing the chance of data corruption. The system has built-in knowledge capture and collaboration workflows. Smart search has been implemented to locate the data easily and quickly. In our implementation, we have created a petrophysical database that can handle all the industry standard logs. Parallel to this, we have established a geoscience database to handle geological and geophysical information. The system has an access control not only based on projects and different data types. This control helps in segregating and managing access rights to different asset team members and data managers.