Hydrocarbon Accounting Implementation Meets Complex Allocation Needs

Business Scenario

The complexity in production-sharing contracts in the oil and gas industry has increased drastically over the last few years, giving rise to complex allocation and reporting needs. Hydrocarbon accounting and production allocation applications are now playing a vital role in operations to allocate accurate revenues, hence delivering business value.

Client Situation

Our client, one of the leading players in the energy industry, with exploration and production activities in several geographies around the world, works in collaboration with other energy players. The company needed a platform that would provide an accurate allocation of processed oil and gas from its various industry partners, pro-rated as per their ownership in the production fields. It was looking for a customized, auditable and Sarbanes-Oxley-compliant solution that could address its hydrocarbon accounting challenges, as its current accounting system was not suitable for such complex production allocations.

We partnered with the company to address the situation through implementation of Energy Components (EC), one of the leading hydrocarbon accounting (HCA) software suites for production management in oil and gas.

Challenges

Because of the evolving field of production management, the client faced a host of challenges, including:

- **Lack of control over modifications to historical data** that could not be locked, which was a deterrent to mandatory SOX compliance in the area of access controls.

- **A cumbersome manual entry process,** in which a large number of manual entries resulted in a high risk of incorrect data in the system.

- **Mixing of production data and operational data,** regardless of what the data was used for, requiring a lot of clean-up activity within tight timeframes.

- **Risk of inaccurate allocations** due to incorrect data in the system, leading to faulty revenue calculations.

- **Highly complex calculations** to allocate the day's production back to the wells, resulting in a challenging atmosphere and a steep learning curve.

- **Limited configurabilit**y of custom applications.

Solution

We worked with our client to identify strategic fit customizations for off-the-shelf EC software. The key activities included:

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- **Requirements gathering:** Capturing the end-to-end requirements for the production field.

- **Product fit analysis:** Documenting the gaps between the requirements and the standard product and analyzing how EC could best meet the requirements.

- **Customization of the EC package for the client's needs:** Modification of the EC package with the identified gaps and satisfying all the functional and non-functional requirements.

- **Exhaustive unit/integration/user acceptance testing,** user training, parallel run and documentation for the EC implementation.

In addition to providing a solution for the EC implementation and addressing all the challenges to meet client objectives, the team also recommended the following initiatives, which delivered vital business benefits to our client:

- **A daily workflow to align processes:** After analyzing all the daily, weekly and monthly processes, the team developed daily workflows that automated many of the required tasks, incorporated the jobs into the workflow and prompted users on next steps, thereby improving user productivity for day-to-day activities.

- **Automated and standardized reporting mechanisms:** The team redesigned the daily reports to contain only production data and send it out automatically to relevant stakeholders following completion of daily processes, hence reducing manual effort on data retrieval.

- **Separation of production and operating data:** We removed much of the data used for monitoring of wells and reservoirs from the reports and directly interfaced the data with

multiple systems to populate the analysis plots, thus addressing the challenge of mixing the two types of data and reducing the chance of errors.

Benefits

- **Significant time savings** in terms of reconciliation of various data points in the production field and making corrections in the system to calculate accurate production figures.

- **Error-free data:** Reduction in errors generated from manual entries through easier navigation and easy-to-understand screens.

- **SOX control:** Complete control of fully auditable production data through daily lockdown of data to prevent updates to historical values.

- **Accurate representation** of the existing energy flows and assets associated with them by modeling the entire production field in EC in the form of stream-node diagrams.

- **Complete reconciliation** of actual hydrocarbon produced and pro-rated allocations broken down to well allocations.

- **Easier gap identification** by users through workflow management customizations.

- **An automated reporting distribution mechanism** that provides reports to various stakeholders according to the agreed upon schedules.

- **Greater application flexibility** through configurable application design and customization. This allows for any future amendments or changes in the production field environment.

- **An on-time, on-budget project implementation** that is considered a model project within our client's IT projects executed to date.

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