

# W ENERGY SOFTWARE TRANSFORMS PHILLIPS 66 OPERATIONS

Michael Ferrante from W Energy Software discusses digital oilfield advancements in tank storage accounting and measurement

**AMIDST** the digital oilfield, paper tickets, paper invoices, even faxes continue to be part and parcel of many terminal operations. Digital systems tend to be built with older, legacy technology, create data silos, and are inflexible and difficult to use. The result is a mixed bag of commercial products, internally developed solutions, and disconnected workflows for invoicing, scheduling, inventory, balancing, and regulatory reporting. Manual processes and a fragmented information landscape persist at a time when terminal operators need a single view of complex supply chains and rapidly changing customer demand.

Terminals must efficiently track the movements of hydrocarbons between interconnects and across tank farms. Cloud and unified software systems are enabling service providers to accelerate the flow of information and automate the back office from accounts receivable and tank gauging to nominations and confirmations. With next generation terminal management and measurement

capabilities, service providers like Phillips 66 are navigating operational and market complexity, streamlining workflows, and reducing costs.

### MANAGING MULTIFACETED TERMINAL ACCOUNTING COMPLEXITY

Every component of a terminal operation introduces a different layer of accounting complexity. Nominations arrive from shippers in varying physical or digital formats: confirmations may be returned in similar fashion. Customer specific rates for various throughput fees must be meticulously tracked and applied to large numbers of transactions. Preparing shipper invoices is all too often a time- and labour-intensive process.

Maintaining up-to-date inventory across dozens of tanks is often impeded by manual processes and data delays. Operators must accurately measure and perform complex calculations to compare actual volumes to received volumes, a

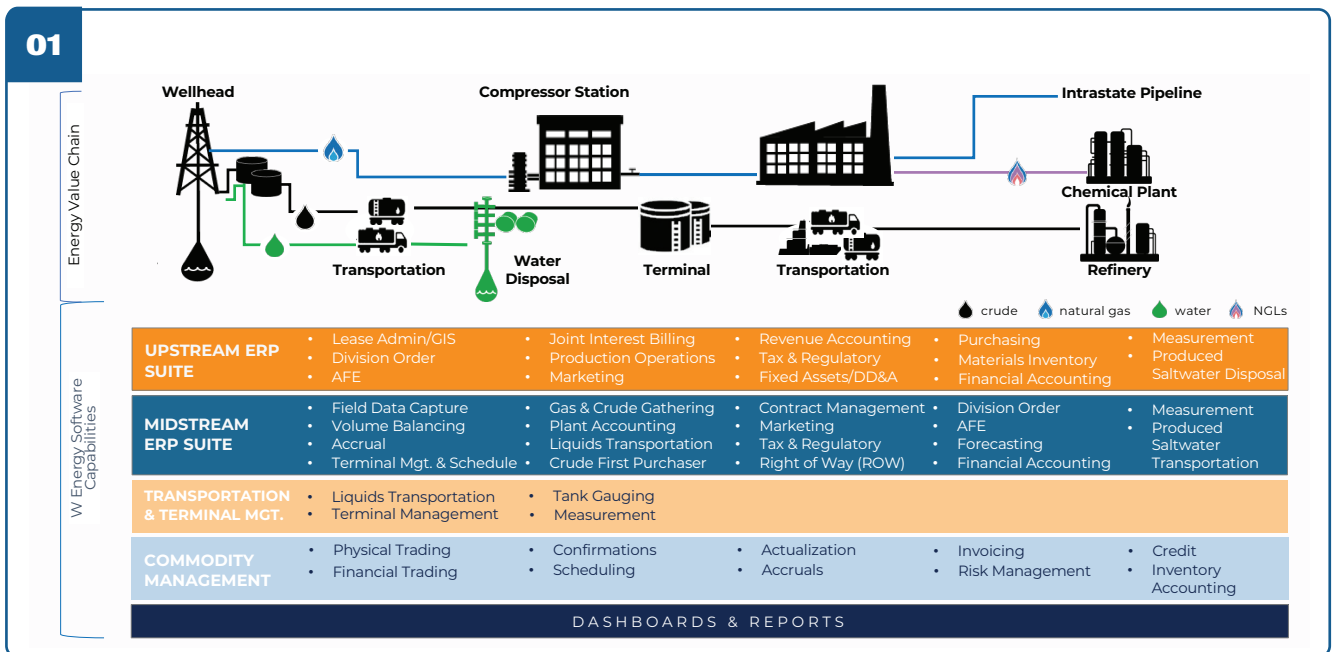
tough task, especially for facilities that store multiple grades of crude and many types of refined products.

Shipments are moving in complex new ways. Increasingly, terminals are managing intermodal tickets using a mix of transportation modes, including pipeline, truck, railcar, vessel, and barge.

And last but not the least, is regulatory accounting complexity that places a heavy burden on terminal operators to comply with ever evolving filing policies, such as the Excise Summary Terminal Activity Reporting System (ExSTARS).

### THE INFORMATION LANDSCAPE OF A TANK FARM

For decades, terminal operators have taken two approaches to manage the accounting and information management complexities. First are 'home-grown' solutions, custom-developed terminal management software that meets their specific business needs. Such solutions



trade heavy customisation for the agility needed to adapt to evolving business needs. The cost can also be staggering, adding headcount for developers and support staff. There is also risk if the people who know the inner workings of a home-grown solution quit or retire.

Such solutions are often owned and maintained by information technology (IT) departments whose priorities are different to the midstream business, including cost reduction, standardisation, and infrastructure security. Enhancing a legacy system for new business scenarios is necessarily given lower priority in an overworked department. Companies are realising that in order to meet customer needs they need flexibility and technology partnerships to succeed, effectively getting out of the software business and trusting in software vendors.

The other approach to managing terminal accounting complexity prioritises 'best of breed' software where solutions are selected to manage a specific terminal management workflow, trading narrow yet specific functionality for lower cost of building and maintaining software internally. The result is a fragmented information landscape and data silos. A service provider's accounting software can't handle nominations and confirmations. Inventory management is disconnected from scheduling. Measurement and balancing are managed in separate software or spreadsheets. The reality is that most operators rely on a mix of home-grown and older commercial software. This fragmented information landscape is expensive to maintain, fails to meet evolving business needs in a timely fashion, and creates barriers to strategic and daily decision making.

## DIGITAL TRANSFORMATION POWERED BY THE CLOUD

Terminal operators need innovative solutions that bring disparate accounting workflows together, eliminate data silos, and accelerate decision making. Even with newer terminal management software, lack of integration and functionality gaps persist while software vendors overpromise what they can deliver. Digital transformation is bringing powerful new capabilities to midstream companies.

The cloud has become ubiquitous even within the energy industry where change often takes many years. The next wave of innovation on the cloud is less about where applications are hosted and accessed and more about how software is built to take full advantage of the cloud's on-demand storage and high-performance computing. Pioneers include W Energy Software whose cloud-based oil and gas enterprise resource planning (ERP) is deployed at more than 100 midstream facilities, supporting

the movement of 1 billion barrels of oil per month through transportation and storage systems. The company's ERP platform is a true, native cloud application, enabling a service provider to bring isolated terminal management accounting workflows together in one unified solution that shares a common database and consistent and intuitive user interface. This approach, along with a continuous innovation process, opens powerful new ways of managing not just terminal operations, but the entire value chain in one unified ERP, including gathering, liquids and natural gas transportation, terminal management, scheduling, processing, and marketing.

The implications for managing the accounting movement of hydrocarbons are profound, enabling the following workflows to be efficiently managed.

- **Intermodal receipt and delivery:** complete transportation management system for tracking cross-commodity shipments in real time across pipeline, truck, rail, vessel, and barge.
- **Self-service shipment scheduling:** Cloud-based customer activity management capabilities enable shippers to manage nominations and confirmations, view inventory, and make changes.
- **Inventory management and accounting:** Track volumes received and compared to daily actuals, integrated with accounting to accelerate accounts receivable invoice preparation.
- **Tank gauging and balancing:** Advanced measurement capabilities streamline manual tank gauging and automatically perform volume corrections for different grades of crude and refined products.
- **Internal and external reporting:** Single terminal management solution eliminates data delays, providing management with timely access to terminal key performance indicators (KPIs) and accelerating regulatory data preparation.

### PHILLIPS 66'S BEAUMONT TERMINAL: CASE STUDY IN DIGITAL TRANSFORMATION

With 74 tanks and capacity to store 16.8 million bbl of crude oil and refined products, the Texas-based Beaumont Terminal is the largest storage facility in the Phillips 66 portfolio, accommodating shipments from pipelines, railcars, and barges. Phillips 66 had previously used a legacy software solution to track customer inventory. Growing customer demand and the necessity to manage 18 types of refined products and different grades of crude oil led to increasing accounting complexity.

The Beaumont Terminal's extensive footprint and commodity storage requirements also created complex

measurement challenges for Phillips 66. It needed to account for loss and gain across large volumes and numbers of transactions, requiring complex calculations that vary for each type of crude and refined product.

Phillips 66 partnered with W Energy Software to deploy its cloud-based terminal management solution, tailored to the unique accounting complexities of the Beaumont Terminal. The solution enables the service provider to capture daily and monthly tank balances, manage contracts, rates, and periodic fees for dozens of customers, and create tickets for unit train, railcar, and barge. Additionally, Phillips 66's regulatory reporting team benefits from streamline ExSTARS data preparation, further enhancing operational accounting efficiency.

As a charter member of W Energy Software's Measurement Product Consortium, Phillips 66 collaborated with the software developer to pioneer new measurement capabilities for terminal operations that are being made available through its WE Measure solution slated to be released in Q4 of 2021. Through this innovation partnership, the Beaumont Terminal benefits from advanced tank gauging and measurement functionality to track and balance volumes for 18 different types of crude oil and refined products as well as measurement calculations for tickets.

To succeed, terminal operators need agility from their digital systems, as midstream storage facility customers find new ways to move hydrocarbons along pipelines, in trucks, along railways, and on barges. And as business and accounting complexity increase – adding more contracts and injecting new measurement challenges – along with expanding infrastructure, more terminals are being upgraded with the latest cloud technologies to automate accounting workflows, cut costs, and respond to shifting markets faster. Increasingly, midstream companies are embracing technology partnerships with innovators like W Energy Software to continuously deliver the accounting capabilities that solve the terminal management challenges of today and tomorrow.

#### For more information:

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