

Win in the flat world

Oracle Utilities (Lodestar) Suite Strengths and Weaknesses

- A. Balakrishna Rao, Ashish Upadhyaya

Abstract

Oracle recently acquired Lodestar - a product that was intended for Meter Data Management (MDM) and complex billing for utilities. Lodestar, presumably, can fit any utility and even other industries such as telecom. This paper details out the various applications within Lodestar and how these can help utilities in the specialized functions of billing and MDM. It also touches on whether it can be used universally for billing based on meter data across all types of utilities - water, gas and electric. Further, this paper analyzes how Lodestar can support other industries - such as telecom, etc. - where billing is based on meter data.



Introduction

Electricity is a commodity that cannot be stored. It can neither be supplied in excess of demand nor be shared among the customers in case of shortage. This means that either a customer is supplied the energy or he is totally disconnected, causing discomfort to the customer and a possible loss of business to the utility. The key to success, in the electricity business, is to accurately predict the demand. This can be done by monitoring and assessing the customers' energy consumption and profiling the consumption behavior.

The present utility business scenario has become increasingly competitive. The emergence of energy trading, future contracts, etc. have increased spot energy prices. As a result, utilities have to predict the consumption behavior, as closely as possible, to plan suitable measures - such as sourcing maximum energy through long term contracts. This can help them achieve lower energy costs and competitive prices for their customers, resulting in higher growth. Therefore, customer consumption monitoring is critical to the financial health and growth of utilities.

Another key factor is the utilities' capacity to respond to customer needs, and align and re-design its products accordingly. This depends on its ability to offer tariff options based on multiple parameters such as KWH, KVARH, Max KWH, Max KVA, Power Factor, etc. and to timely and accurately bill the customers based on these complex offerings. The billing engine, related systems and infrastructure play a major role in the utilities overall performance and success.

The utility industry has adopted IT practices, followed by other industries, and almost all have employed ERP systems. These ERP systems, however, fail to address the ever increasing gap in the competitive energy operations stated above. Thus, in absence of any standard solution, utilities are forced to face suboptimal performance of local and custom developed applications in this area.

The purpose of writing this article is to highlight the availability of a standard and proven solution to address this gap. The Lodestar Customer Choice Suite, offered by Oracle Corporations as Oracle Utilities (Lodestar) Suite, addresses this gap. It also enables new processes such as Energy Portfolio management and Settlements, which are still evolving in most parts of the world.

Enabling Core Processes

The Lodestar applications aim to provide a standard solution to support and enhance the utility industry's core energy processes. The applications support the processes through the handling and administration of vast amounts of meter data, efficient and error-free billing, designing the products to customer needs, offering optimal prices, and managing numerous contracts.

Monitoring and Recording Consumption – MDM

Utilities have to deal with an ever-increasing amount of meter data for various reasons. A utility's meter data handling capabilities are being subjected to immense pressure because of:

- High impetus on incorporating Demand Response (DR) programs
- Utilities' organic and inorganic growth in terms of number of customers and regions under services
- Regulatory requirements of data sharing among market players
- Most importantly, higher customer expectations

Utilities, therefore, require scalable and flexible systems to manage any amount of meter data with reduced data delivery time.

Lodestar MDM system fulfils all these requirements and provides a central data repository with built-in Validation, Editing and Estimation (VEE) capabilities.

The MDM application supports a variety of meter data formats, and automatically validates and corrects the inbound data through the standard rules built into it. It also offers the facility to configure additional usage validation, as per the needs.

Revenue protection capabilities of the application enable a utility to identify the revenue leaks caused by faulty meters, theft, etc. The application enhances customer satisfaction by providing customer service operations with quick data access and data availability to customers through simple web access, thereby reducing customer service costs and improving customer satisfaction.

Billing Customers Accurately and Timely – Billing Expert

Energy products are becoming more complex in today's competitive world. Micro-level usage data, multi-parameter monitoring, numerous tariff categories, multiple jurisdiction, involvement of multiple players in energy delivery, and customized energy contracts have made billing difficult to handle. Lodestar Billing Expert provides a flexible yet powerful system, which can manage all billing requirements. It also addresses the needs of customers, sales, marketing, and revenue management.

Timely delivery of accurate and informative bills keeps customers happy and satisfied. Quick delivery and availability of a variety of payment options reduces Time-to-Cash drastically. With the powerful Rules language, the most complex billing requirements can be easily configured and used. Easy configurability provides utilities with the flexibility to offer products that suit the customer's and regulatory requirements, thus ensuring that the business volume moves upward. The most important strength is the non-requirement of specialized IT skills since powerful tools make the task easy for business users.

An interval data function can create equivalent interval data (such as KWH, KVAH and Power Factor), using the available interval data. Similarly, powerful functions conduct all mathematical, statistical, Date-time, and Time-of-Use (TOU) based operations within no time. Ready to use,

powerful interval data functions make it possible to quickly process interval data and generate bills based on multiple parameters.

The application is also instrumental in implementing DR programs, by providing the required information framework. Through the incorporation of DR programs, utilities can bring down costly peak energy consumption and improve utilization of the installed generation capacity.

Designing Products to Customer Needs – Rate, Pricing Expert

Competition amongst utilities is now inevitable, as in most electricity markets, deregulation either has been initiated or is already over. In a free market scenario, the flexibility in pricing and offering would dictate the utilities' performance. It is important to gauge the market response to changes in tariff components and to forecast the impact of changes in rates, market structure and resulting usage patterns on business revenues.

The need to collaborate between multiple functions, departments and resources makes this analysis a cumbersome and time-consuming task. The Lodestar Rate Management derives meaningful information from the vast amount of usage data, helps create new product options in no time, and analyses these for their impact on revenue. It enables utilities to respond quickly to market requirements and stay competitive.

It further provides contract management functionality to create and manage the customer contracts, track the minute terms, and handle associated complex calculations.

Taking Lead, Advance Processes

In the monopolistic regime, we had a single entity in existence with only three major functions (generation, transmission and distribution). Now, the entire electricity market landscape has undergone a huge transition. The market has created new entities - such as energy traders, ISOs and captive generators - apart from the three major functions being handled by individual and often independent entities. As a result, new-age business processes - such as energy trading, portfolio management, load and financial settlements, etc. - have come into existence. The Lodestar application suite comprehensively addresses all these requirements and helps their integration with the core processes. This allows utilities to perform the functions more accurately, much faster and with fewer resources.

Market Settlement Requirements – LPSS

The settlement of energy and associated financial transactions involves huge data gathering and coordination of multiple entities and resources. The application offers powerful profiling techniques to create a usage curve for the non-interval metered customers. Multiple aggregation options enable bottom-up estimation for market participants and quick settlement for a large number of end-users. Other processes such as allocation of UFE (Unaccounted Energy), load

settlement and financial settlement can be easily configured as per the market settlement practices.

Linking Wholesale Procurement to Energy Sales – Portfolio Management

In today's highly volatile energy-market scenario, utilities can optimize costs by accurately forecasting the consumption to procure maximum energy through long term contracts. Thus, utilities can avoid the exposure to short term/ spot market. They, however, need to keep a tab on the financial risk created on account of shortage/ excess of demand vis-à-vis the energy supply, and also on the accuracy of their forecast data. Portfolio management enables a utility to compare the load obligations to energy procurement and to locate the net position to assess and minimize the risk. It also allows for a comparison between the forecasted data and the actual data to ascertain the forecasting accuracy, and thereby improving it.

Beyond Energy

The Oracle Utilities applications, as the name suggests, can also serve utilities in areas beyond electricity. The MDM has been designed to configure any type of meters and services, including gas, water, and electricity. It has 100 predefined Unit of Measures (UOMs) for measurement and billing of all kinds of utility services. MDMs specialized interval and scalar data functions can handle the most complex calculations. This flexible application is already being utilized by a few players in the utilities industry.

Beyond Utility

The Oracle Utilities applications can also be deployed elsewhere in the industry for similar applications. The MDM and billing applications are based on a concept of logical meters, which does not require any physical meter definition. The ability to distinguish and identify logical and physical meters can be leveraged for the billing of any kind of products and services. Hence, this can be used across sectors such as telecom, internet, data services, etc.

Scope for Improvement

The Oracle Utilities applications are enabling and optimizing business processes like never before. This encompasses a lot of business processes in the entire value chain of a Utility, but there is still great scope for improvement to take this suit of products for optimal utilization and greater benefit of business functions and processes across the industry.

The most urgent need is to identify and develop standard solutions to integrate with the central nervous system, i.e. Enterprise Resource Planning (ERP). The integration would help existing customers to not only utilize the ERP backbone, but also build on it in terms of an integrated

solution for Utilities which would include billing, meter data management and other advanced functions for the utility industry.

The integrated solution would also have to grow beyond the Oracle suite of products so as to broaden the spectrum of value realization especially in areas like CIS, GIS etc so as to bring forth a complete solution for the utilities.

Also in the space, few other applications such as Ventyx, GED and Harris are already in use, addressing the utilities' needs only partially. In these cases, the Oracle (Lodestar) Utilities Suite cannot be employed in one go. Hence, there is a need to find its compatibility with these solutions so as to deploy Oracle applications to fill the gaps through initially integrating with these products and later on replace the products based on merit. Hence building on existing integration mechanisms within the Oracle (Lodestar) Utilities Suite using the latest technologies like SOA, web services will help addressing this issue effectively.

The process of deregulation still continues the world over, resulting into development of newer market trading and settlement mechanisms. Also the mechanism the world over is not quite uniform in the way deregulation is being implemented. The applications within Oracle Utilities (Lodestar) Suite have to mature and expand its capability to support these changes with configurable options based on the need.

About the Authors

Balakrishna Rao A is a Senior Consultant with the Enterprise Solutions group at Infosys Technologies Ltd. He has worked with various clients across utilities and energy in planning and implementing ERP-based solutions. His contact details are balakrishna_raoa@infosys.com

Ashish Upadhyaya is a Consultant with the Enterprise Solutions group at Infosys Technologies Ltd. He has prior experience with a leading Indian energy utility and is now involved in Lodestar competency development within Infosys. His contact details are Ashish_Upadhyaya@infosys.com

© 2008 Infosys Technologies Limited.

ALL RIGHTS RESERVED

Copyright in whole and in part of this document "Oracle Utilities (Lodestar) Suite – Strengths and Weaknesses" belongs to Infosys Technologies Limited. This work may not be used, sold, transferred, adapted, abridged, copied or reproduced in whole or in part in any manner or form or in any media without the prior written consent of Infosys Technologies Limited.