DTE Energy unlocks synergy and gains flexibility with common, integrated business processes

Overview

- ***Business Challenge***
  With the utility business becoming more competitive by the day, Midwestern energy giant DTE Energy needed to position itself for the future. Disparate systems and process fragmentation across nearly 200 different business units prevented the company from realizing all of the underlying synergies from acquisitions.
- ***Solution***
  With the help of IBM, DTE Energy undertook a massive consolidation of its business systems, which made possible the complete redesign and standardization of its business processes across all business units. DTE Energy chose IBM's Maximo Asset Management integrated with SAP, Advantex, ESRI, and Primavera. DTE Energy can now drive optimization efforts as an enterprise—not a collection of business units.

DTE Energy is a 150-year-old company with $9B in revenues and manages $23B in assets. These include Detroit Edison with 2.2 million electric customers, nine fossil units, and the Fermi 2 nuclear power station, generating 11,000 megawatts, as well as MichCon, serving 1.3 million gas customers in Michigan. DTE Energy operates non-regulated businesses in 38 states.

- ***Key Benefits***
  - *Projected $75 million in annual operating cost savings*
  - *Improved decision-making through increased transparency across business units*
  - *Unified access to inventory availability across all businesses*
  - *Improved ability to share and implement best practices across the enterprise*

Over the years, much has been said about the pros and cons of diversification and vertical integration. In today's increasingly globalized economy, the prevailing view of the "right" business model stresses the importance of maintaining a single strategic focus and remaining flexible to adapt to a dynamic marketplace. Utilities, however, stand as a notable exception to this maxim. Indeed, some of the most effective utility business models combine distinctly different lines of business—whether it's

Business Benefits

- Projected $75 million in annual operating cost savings
- Improved decision-making through increased transparency across business units
- Unified access to inventory availability across all businesses
- Elimination of mainframe
- Reduction of interfaces
- Improved ability to share and implement best practices across the enterprise
- Consistent integration of acquired companies, enabling faster realization of operational synergies

> *"Our goal was to establish a platform for DTE Energy to thrive in a dynamic and challenging environment. We achieved our key objectives of integration and modernized our technology. We think IBM products and their integration were keys to our project's success."*
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> – *Ron May, Senior Vice President, Major Enterprise Projects, DTE Energy*

natural gas and electric power, generation and distribution, or nuclear and non-utility businesses. That's because despite obvious differences, these lines of business have much in common below the surface in such competency areas as effective work planning, common processes based on best practices, and inventory optimization.

Orchestrating optimization

Unlocking the potential efficiencies embedded in utility business models requires a level of operational orchestration across the entire business, whether it's common processes, common resources or supply-chain integration. In the wake of industry consolidation, many utilities have assembled a business portfolio that looks synergistic on paper, but still faces tremendous challenges in aligning with their acquired or merged businesses. DTE Energy, comprising Detroit Edison and Michigan Consolidated (MichCon) Gas, is one company that has risen to the challenge. Complementing its regulated electric and gas utility businesses are a highly diverse array of non-regulated businesses, ranging from coal transportation to energy trading.

Like most utilities that have grown through acquisition, DTE Energy's efforts to consolidate the business were constrained by a proliferation of systems, which—by keeping information confined to pockets within business units—made it difficult to gain insight required to make critical business decisions. Though the problem was not new, it reached a new level of intensity in the immediate aftermath of the MichCon merger. Disparate systems across the organization provided difficulties with a number of activities, from financial reporting to spare parts inventories. Such were the challenges that led DTE Energy, a company with 2007 revenue of $9 billion, to rebuild the foundation of its business from the ground up, and to choose IBM as a partner to help it get there. DTE Energy wanted to improve the management of all business units and functions, link them together and make them best-in-class.

New and improved

The focus of DTE Energy's transformation efforts is an innovative project named "DTE2," which delivered an ERP called "Enterprise Business Systems (EBS)." As the name connotes, its aim is to position DTE Energy to meet a new set of challenges by fundamentally changing nearly all of its core business processes. Part and parcel of this effort was the need to establish a common, standardized set of business applications that could be employed across the company's business units, a task whose complexity—based on a wide variety of business models and processes at work within the company—cannot be overstated. To address the company's more general finance, human resources and supply chain requirements,

DTE Energy selected SAP. The other major application area—more specialized and in some ways more operation-critical—was asset management and work management. DTE Energy wanted to be able to manage "all types of assets" on one common system, including fossil, nuclear, gas and electric distribution, facilities, vehicle fleets, and, even—in the future—rail cars used to transport coal across the Midwest.

Among its many uses, asset management is critical for utilities seeking to proactively service and maintain their $23 billion base of plant and equipment in order to minimize downtime and thus deliver the highest quality service to customers. With the utility workforce aging, asset management systems have become an increasingly important way for utilities to do more with less. Work management systems work hand in glove with asset management by helping utilities control the resources—human and material—required to get these critical jobs done. DTE Energy selected the IBM Maximo® Asset Management as its assets and work management platform and selected IBM Global Business Services to not only design and deploy the overall EBS solution, but to help integrate it deeply into the fabric of the business.

It's not every day that a utility with operations in 38 states has the opportunity to build a clean slate IT infrastructure for the future, and DTE Energy was determined to make the most of it. While the best-of-breed applications it selected provided solid building blocks, the company realized that integration was the essential ingredient needed to achieve the flexibility, efficiency and transparency it sought. IBM helped advance this vision by designing the EBS architecture to employ service oriented architecture (SOA) components—most notably IBM WebSphere® Enterprise Service Bus—to link processes and applications across all of DTE Energy's business units. IBM System p™ servers provide the hardware platform for EBS, while IBM DB2® provides a common data repository for all applications. With this as a foundation, the IBM team then supported DTE Energy to optimize business processes in a way that took maximum advantage of its SOA-based integration capabilities.

By running all of its business processes on a consolidated platform, DTE Energy now has a way to unleash the potential synergies and operational efficiencies that were difficult to achieve due to the fragmentation of systems and information. The DTE2 project eliminated more than 400 legacy systems and interfaces. Consider, for example, the highly specialized spare parts required to fix and maintain power generation equipment, whose importance to plant operations is the ability to view all parts inventory levels. Because the new system enables employees to view parts inventory levels across all plants—not just their own—they have the ability to find a part within another DTE Energy facility.

Key Components

Software

- IBM WebSphere Enterprise Service Bus
- IBM DB2
- IBM Maximo

Servers

- IBM System p

Services

- IBM Global Business Services

Timeframe

• Selected IBM	3Q 2003
• Phase 1 – Go live Fossil Generation	3Q 2005
• Phase 2 – Go live Enterprise	2Q 2007
• Expanded Deployment	Ongoing

Why it matters

In an industry where diversity reigns, Midwestern energy giant DTE Energy is more diversified than most, with operations that range from coal transportation to appliance repair services and nuclear power. Using SOA technology, DTE Energy was able to consolidate all of its highly diverse businesses under one core business platform—enabling the realization of operational synergies that would have otherwise been difficult to achieve.

In terms of what's important to any utility, nothing comes before safety and reliability—and no application has any greater impact on these outcomes than asset management. A key part of asset management is the ability to perform preventative maintenance (PM) on key assets, not just because it catches problems before they happen, but because it enables utilities to plan and execute PM in a way that optimizes the use of their human and financial resources. Because EBS provides a single window onto all PM requirements, DTE Energy can now manage PM holistically instead of on a plant-by-plant basis. DTE Energy also stands to gain more flexibility in prioritizing plant maintenance work. The centralization of asset management reporting means that DTE Energy can conform more rapidly to any new financial reporting requirements.

Sharing the best

The broad theme of the DTE Energy story is how flexibility and integration enable even the most complex companies to think, act and optimize as a single company. It's seen in the way process standardization and flexible, SOA-based integration enables DTE Energy's business units to share and adopt best practices for the benefit of all, and how these same attributes enable DTE Energy to rapidly and fully integrate future acquisitions. Ron May, Senior Vice President, Major Enterprise Projects, expects EBS to elevate the company to a whole new level of operational efficiency.

For more information

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