

Shell Canada delivers on demand data analytics with IBM's eServer iSeries!

Shell Canada Limited is one of the largest integrated petroleum companies in Canada and is committed to the principles of sustainable development in all of its activities. The Company explores for and produces natural gas liquids, bitumen, and sulphur, as well as manufactures, distributes, and markets refined petroleum products across Canada. In 2003, Shell Canada had consolidated earnings of 810 million on revenues of 8.8 billion and a 13% return on average capital employed. With over 800 combined gas and retail stores, Shell Canada's retail business is a key element to their profitability.

The Canadian energy industry is dynamic and fiercely competitive. Shell Canada implemented a data warehouse using IBM's eServer iSeries® to respond, on demand, to changing market conditions. The Data Warehouse helps Shell Canada analyze data across multiple business units to help maximize profitability, including analysis of daily fuel and retail store sales and promotions, tracking and interpreting energy consumption in gas plants, and understanding expenses and projections associated with royalty payments.



To meet these stringent business demands Shell Canada depends upon the flexibility, scalability and automation features provided by the iSeries architecture, coupled with the powerful capabilities of the integrated DB2 UDB for iSeries® database engine. Combined, the IBM solution provides the foundation for the delivery of mission critical services throughout the organization.

Shell Canada's eServer iSeries systems infrastructure currently incorporates IBM POWER processor based models, and leverages "virtualization engine" technologies such as dynamic logical partition to support multiple terabytes of data and thousands of business users. The iSeries server's ease of management capabilities have led to Shell Canada's implementation of an automated "lights out" operation.

Shell has deployed PeopleSoft EnterpriseOne, Business Objects and Solution400 Express as the key application delivery environments for financial systems, human resources, logistics, supply chain/equipment maintenance, analytical reporting, data warehousing/MIS and report archival/distribution. Shell Canada has strategically deployed web based interfaces to these key applications to provide access for internal and external users across multiple geographic regions and time zones.

The combination of the iSeries automation features and scalable performance in conjunction with the advanced database capabilities of the DB2 UDB for iSeries database engine have allowed Shell Canada to realize substantial cost savings while maintaining flexibility as the business workload continues to grow in both volume and diversity.

Kirk Chalk, Senior Staff Systems Analyst for Shell Canada, identifies a key strategic advantage of the eServer iSeries platform; “We have the cost benefits derived through deployment of a common infrastructure and the flexibility to deliver enterprise class computing for very diverse processing requirements including online transaction processing, ERP, e-business and complex analytical query execution. From a sustainability and scalability perspective we have the ability to manage large volumes of data and deploy additional capacity as required with the iSeries server’s Virtualization Engine technologies, such as LPAR and the capacity on demand features”.

Shell Canada’s data warehouse operation exemplifies the iSeries capabilities and flexibility while leveraging the benefits of new performance capabilities introduced to DB2 UDB for iSeries at V5R2.

“From a sustainability and scalability perspective we have the ability to manage large volumes of data and deploy additional capacity as required with iSeries server’s Virtualization Engine technologies.” – Kirk Chalk, Senior Staff Systems Analyst

Shell Canada initially selected IBM’s iSeries and Business Objects as their corporate data warehouse platform because of the affinity with their existing iSeries infrastructure and the PeopleSoft EnterpriseOne implementation. Dan Bainbridge, Data Warehouse Team Leader with Shell, states “the initial warehouse implementation was driven by the business need to provide more sophisticated summarization and analysis for data residing within the

iSeries based transaction processing systems. As the scope of the data warehouse expanded over time to incorporate more subject areas and data feeds from non-iSeries systems we re-examined our initial hosting decision and found that the iSeries server had in fact remained the optimal choice”.

Currently Shell Canada’s iSeries based Corporate Data Warehouse is considered a critical service. The system exceeds 1 terabyte and includes more than 30 major subject areas with data feeds from more than 10 distinct source systems. The Business Objects toolset provides web based intranet and extranet information for a community exceeding 2,000 clients.

Shell’s decision to host the data warehouse on the iSeries platform was further enhanced with the most recent deployment of DB2 UDB for iSeries. Kirk Chalk states that “the complex SQL queries required to support data warehouse applications have traditionally provided database tuning challenges regardless of the host platform. When IBM initially

announced delivery of the SQL Query Engine (SQE) enhancements we undertook an opportunity to enter into an extended DB2 performance benchmarking process with the assistance of the Rochester Teraplex Center and we were amazed at the results. The performance improvements in our most critical and complex queries were dramatic.”

With the formal benchmarking program completed Shell Canada proceeded to upgrade their production systems and leverage the SQE enhancements for performance improvements across multiple platforms. Dan Bainbridge observes, “The DB2 SQE performance enhancements have delivered clear business value to our production data warehouse and improved our service levels to the Shell Canada business community.”

In summary Shell indicated several key factors for choosing DB2 UDB for iSeries:

- Platform commonality – Shell is able to leverage the commonality of DB2 table structures, staff knowledge, and cross system interfaces between the production server and the data warehouse server, increasing efficiencies and reducing costs.
- Automation – Shell has been able to leverage the high degree of systems automation already in place for their ERP environment to enable the data warehouse to effectively run “lights out,” and reduce duplication of hardware, software, and operational staff.
- Performance – DB2 UDB for iSeries has proven to Shell to be very capable of managing large database volumes, in this case multiple Terabytes of data.
- Relationship with IBM – IBM’s support organization and the overall depth of knowledge, and the continual delivery of new technology were critical success factors for Shell.



In closing Kirk Chalk states “Shell Canada’s demands on the iSeries platform and DB2 UDB for iSeries will continue to evolve rapidly as we strive to for continued success in a challenging business environment. IBM has demonstrated that it understands these requirements and is capable of delivering the solutions required.”

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