Microsoft .net Enterprise Servers

SQL SERVER™ 2000 CUSTOMER SOLUTION

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Freightliner Selects Microsoft SQL Server 2000 for Mission-Critical Web-based Parts Catalog Application

FREIGHTLINER LLC
A DaimlerChrysler Company

In order to reduce costs and provide its extensive dealer network with better access to parts data, Freightliner LLC is migrating its Microsoft Windows® based PartsPro application to the Web. They selected Microsoft SQL Server 2000 as the database for this mission-critical application. It provides high levels of performance, availability and scalability, and offers the best return on investment compared to competing products.

Company Overview

Freightliner LLC is a subsidiary of DaimlerChrysler, a global provider of transportation products and services. With nearly 40% of the heavy commercial vehicle market, Freightliner also manufactures school buses, medium duty vehicles, as well as emergency fire and rescue vehicles. Freightliner is North America's No. 1 supplier of Class 8 diesel trucks, and a leading supplier of Class 5-7 vehicles through its industry leading brands, which include Freightliner, Sterling, Western Star, American LaFrance and Thomas Built Buses.

Freightliner maintains a dealer network numbering several hundred across North America. It is known as much for its customer and dealer support initiatives as for its leading-edge engineering. Freightliner Software is responsible for managing the development, deployment and support for the suite of software applications that help truck dealerships, vehicle fleets, and repair shops operate efficiently 24 hours a day, 7 days a week.

Business Challenge

To support its vehicles, Freightliner maintains $200 million in parts inventory, with 125,000 unique part numbers stocked. Each commercial vehicle manufactured by Freightliner is built-to-order, and as such, has a unique custom parts list identified by the vehicle's serial number. Until recently, dealers relied on a Windows-based application to provide the parts data and images for each unique vehicle built by Freightliner—over 1.1 million vehicles covering production from the last 25 years. The company's mainframe systems store data for this mission-critical application, called PartsPro. Freightliner provided PartsPro to dealerships on a set of CDs that were updated on a quarterly basis.

Solution Overview

Profile
Freightliner LLC, a subsidiary of DaimlerChrysler, is North America's No. 1 supplier of Class 8 diesel trucks, with nearly 40% of the heavy commercial vehicle market.

Scenario
B2B
LOB

Microsoft Technologies/Products Used:

Software and Services
Microsoft Windows® 2000 Advanced Server
- Microsoft Internet Information Services 5.0 (IIS)

Microsoft SQL Server 2000 Enterprise Edition
Microsoft Visual Studio®

Partner:
Actco Systems Inc. (www.actcosys.com)

Benefits:
By selecting Microsoft SQL Server 2000 as the database for this mission-critical application, Freightliner obtained high levels of performance, availability and scalability. SQL Server 2000 provided a superior return on investment as compared to competing products.

Servers	*2 Compaq 6400 four-processor*
Clustering	2-node active-active configuration
Instances	*4*
Size	*250 GB*
Growth Rate	*18%/year*
Concurrent Users	*200+*

Microsoft

"PartsPro was designed to enhance sales by meeting the need for vehicle parts information," said Doug Vakoc, director of Freightliner Software. "It saves dealers and customers time and money by enabling faster repairs, and by eliminating parts specification errors."

The old PartsPro application was no longer sufficient for helping dealers and customers complete the parts look-up process. The release procedure for quarterly updates was expensive, complex, and time consuming, taking several weeks for each quarterly update. Due to the length of time required to issue updates, data on the CD did not necessarily cover newly delivered vehicles. In addition, expansions in Freightliner's product lines and production rates resulted in an amount of data and number of images that exceeded the capacity of a reasonable number of CD's.

Freightliner decided to migrate PartsPro to a Web-based solution. It enlisted the aid of Actco Systems, a Microsoft Certified Partner and full-service software development company with extensive experience in the automotive and transportation industries. "Once Freightliner decided to create a new Web-based application, the first decision we were faced with was which platform to use," said Ric Bedard, president of Actco Systems. "Database selection was a key component of this decision process. Freightliner needed a database that provided a mission-critical level of reliability, and one that could easily scale to support several hundred simultaneous users. Response had to be fast, so that user productivity was not impaired. In addition, they wanted a database solution that would not need to be upgraded in the near future."

"SQL Server 2000 was the logical choice for the database platform to support our new Web-based parts catalog. Given our performance, reliability and scalability requirements, SQL Server provided the ideal solution to meet aggressive time-to-market objectives. New support for XML and close integration with leading development tools allowed our development team to finish on-time and on-budget."

Doug Vakoc
Director, Freightliner Software
Freightliner LLC

Solution

Freightliner decided to use Microsoft SQL Server 2000 Enterprise Edition as the database for this Web-based, mission-critical application. The PartsPro database now resides on a pair of Compaq 6400 four-processor servers, each running Windows 2000 Advanced Server and SQL Server 2000. To maximize availability, the servers are clustered in an active-active configuration, using the clustering capabilities of the Microsoft platform. Dealers and others that need parts data can now access PartsPro using a Web browser. They are assured to get up-to-date information extracted directly from the company's mainframe-based vehicle documentation management systems.

Parts lists, illustrations, and other vehicle data are extracted from Freightliner's mainframe applications to a staging server on a regular basis. Actco Systems made use of the capabilities of the Microsoft platform to create an architecture and staging environment to receive and process high volumes of data very efficiently. The update process converts this data into a set of Extensible Markup Language (XML) documents. These documents are then transferred to the production server where the extensive XML support in SQL Server 2000 enables them to be easily stored, managed, and accessed. "We chose an XML-based approach because it provided the best performance for our situation," explained Vakoc. "Once a vehicle is manufactured, data relating to that vehicle remains relatively static, so there's no need to reassemble it dynamically every time it is requested. By converting the relational data to XML during the authoring process, we're able to take advantage of this static nature of the data and improve the application's access and response times."

Why Freightliner Chose SQL Server 2000

"SQL Server 2000 was the logical choice for the database platform to support our new Web-based parts catalog," said Vakoc. "Given our performance, reliability and scalability requirements,

SQL Server provided the ideal solution to meet aggressive time-to-market objectives. New support for XML and close integration with leading development tools allowed our development team to finish on time and on budget. Actco Systems' proven experience in designing and developing e-business solutions on the SQL Server platform was also key to the successful implementation of our Web-based PartsPro application."

"The pre-eminent concern on the back-end was database performance, scalability and reliability," said Bedard. "SQL Server 2000 was the obvious choice. The feature set, including XML support, comprehensive Full-Text Search capabilities, and simplified database administration, provided a flexible and highly usable database server environment. Rapid realization of new features and strong development support via the integrated Visual Studio® development environment resulted in a faster time-to-market, as did the ease of clustering mission-critical databases using Microsoft Cluster Services. We were able to deliver a solid solution on a very tight timeline. All this, coupled with an excellent ROI as compared with competing products, made the decision to use SQL Server 2000 straightforward."

The .NET Enterprise Servers are Microsoft's comprehensive family of server applications for building, deploying, and managing next-generation, integrated Web experiences that move beyond today's world of stand-alone Web sites. Designed with mission-critical performance in mind, .NET Enterprise Servers will provide fast time to market as well as scalability, reliability, and manageability for the global, Web-enabled enterprise. They have been built from the ground up for interoperability, using open Web standards such as XML. The .NET Enterprise Servers are a key part of Microsoft's broader .NET strategy, which will enable a distributed computing model for the Internet based on Internet protocols and standards in order to revolutionize the way computers talk to one another on our behalf.

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