

## CASE STUDY

# Replacement of a Parts Management System for a Fortune 100 Truck Maker

### The Client

A Fortune 100 manufacturer of trucks and buses used a third-party software product to manage its parts information, including information about components, suppliers, and designs. Approximately 200 employees used the system to create, add and replace parts, manage the parts approval process, and search parts information. An additional 600 users used the system to access parts information and generate reports.

The parts management system had been heavily customized to meet the company's specific content and workflow needs, and was maintained by the software product vendor at a significant annual cost.

### The Challenge

Faced with the cost of renewing its maintenance contract and upgrading to a new release (requiring additional investment in customization, hardware, and related software), the company investigated the feasibility of replacing the product with a proprietary system. Primary financial drivers for its decision were:

- ❑ Time to delivery - ability to deploy the new system rapidly to minimize the cost of existing system maintenance
- ❑ Initial cost to build - ability to replace the system within the existing fiscal year budget
- ❑ Ongoing cost of ownership - ability to outsource ongoing system maintenance to the most cost-effective provider

In addition, the client hoped to address some shortfalls in the current application, including limitations in how information could be classified and enriched with reference data.

### The Solution

In determining the best approach to take in replacing the parts management system, Trigent considered both these goals as well as the need for a significant requirements analysis stage, to ensure workflow processes for creating and managing parts were correctly defined, and to identify integration issues with a range of enterprise systems. These systems included a PLM application, a service

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### Tools & Technologies

- ✓ Platform: Windows 2000/NT
- ✓ Application server: Jboss for Windows; Java Development Kit
- ✓ Database: Oracle 8 or higher
- ✓ Coradigm

## CASE STUDY

parts database, production configuration system, an ERP system, a part tracking system, and a NAFTA compliance system.

Trigent choose to employ its development automation technology, Coradigm, to compress the development time-line, building in the needed time for requirements definition, and to meet the client's goals for rapid time to delivery and lower cost to build and own.

Trigent analysts worked with the client team to understand and define system requirements and dependencies. An important part of this process involved identifying those requirements that were predicated on what the previous system demanded rather than actual business need, and had become institutionalized "work around."

With the final requirements defined, Trigent translated the application requirements into a set of specifications written in XML that were based on Coradigm specification schemas. Trigent then used Coradigm to generate the application code for the business logic, data, and user interface tiers of the new application.

By employing this technology to automate code generation, Trigent significantly reduced the time and cost of the development cycle, which in a traditional software development project can consume 60 to 70 percent of the overall effort.

In addition, because Coradigm generated code for the J2EE plat-form, few J2EE trained developers or architects were required in the development stage, reducing the cost of development further.

### Enabling Complex Searching

One important new requirement for the application that emerged was the ability to allow users to easily and intuitively conduct complex searches - for example, to identify parts that share multiple attributes while excluding others.

This requirement led to the creation of distinct capabilities for classification and categorization, which had been collapsed in the previous system. Classification answers the question "What is it?" (For example, a bracket).

However, an object's class is insufficient to represent the richness of categorization, which allows groupings of objects similar in some chosen criteria, such as height, weight, region, or manufacturer.

In the new system, categorization facilitates indexing and querying, letting users rapidly conduct complex searches, and allowing individuals to create their own categories based on parameters they set in queries.

## CASE STUDY

### The Results

Trigent's development of the system met all of the client's critical goals for the project:

- ❑ Time to delivery - Trigent delivered a system for implementation within eight months of its first requirements gathering meeting with the client.
- ❑ Initial cost to build - The cost of development was equivalent to what the company would have paid for its annual maintenance contract for the installed product.
- ❑ Ongoing cost of ownership - Trigent provided a one-year quality warranty against any critical system defects. The new application does not tie the client to any vendor's proprietary knowledge, giving the company freedom to choose the most efficient and cost-effective options for ongoing maintenance and support.

The company may choose to maintain the system internally, using Coradigm to enable its analysts to make system changes without writing code.

The company can expect ongoing maintenance costs of approximately 15 percent annually of the cost of system development, a fraction of what it was paying to maintain the previous system.