# Cetelem enhances test data management processes to support worldwide business operations.

## Overview

### Challenges

■ *Deliver reliable applications to support worldwide operations by improving application testing practices. Improve application reliability by creating multiple, realistic test environments to avoid cloning entire production environments. Accommodate frequent enhancements and customizations by implementing a consistent testing methodology.*

### Why IBM?

■ *IBM Optim provides a consistent test data management methodology and subsetting capabilities to create smaller, more realistic testing environments.*

### Solutions

■ *IBM® Optim™ Test Data Management Solution*

### Benefits

■ *Implemented test data management strategies to accommodate frequent application enhancements and customizations. Subsetting capabilities reduced the time required to create, manage and refresh multiple application testing environments. Supported expanding operations to other countries using a consistent testing methodology across international boundaries.*



**Enterprise applications support international business growth**

Cetelem, a subsidiary of the BNP Paribas Group, offers consumer credit and associated financial services to clients around the world. With its leadership in Europe and presence in more than 20 countries across four continents, and with nearly 60 percent of its 10,000 associates outside France, Cetelem is pursuing a worldwide development strategy.

Cetelem is well positioned to become and remain one of the worldwide leaders in consumer credit. The company's culture is focused on commitment to its customers with ambition to remain profitable. Creativity drives the company's objective to be first in the technological and commercial innovations that benefit its customers, while awareness and reactivity enhance the company's ability to adapt quickly to changes in society, markets and customer expectations.

To support its continued business growth, Cetelem relies on customer-focused enterprise applications to support its daily operations around the world. Although these applications are designed and maintained in France, they are implemented internationally.

Technology allows the company to operate a network for issuing and receiving credit cards and managing activities with partners in the retail, banking and insurance industries.

**Managing application enhancements and customizations**

Cetelem's IT department consists of over 600 professionals, including employees and outsourced staff. Within this group, over 200 staff members are dedicated to mainframe development. The core credit and financial applications are continually enhanced with new functionality and customized to include the local specifications that support business operations in each country. Accommodating changes and delivering reliable and accurate applications are critical business objectives for providing new credit products and financial services to Cetelem's growing customer base.

The core mainframe applications are managed in an IBM® z/OS® and OS/390® operating environment. The production application database contains over 600 IBM DB2® tables consuming more than 1 terabyte of capacity, and the qualification and user acceptance testing environments together consume more than 24 gigabytes of capacity.

Cloning large databases for testing purposes was a lengthy process, especially for processing iterative testing scenarios and refreshing the test environment. As a result, it became more time consuming and costly to create and manage multiple test environments. It was also more difficult to validate the reliability of new functionality and to complete testing processes in time to deliver that functionality to business users, partners and customers.

**Selecting a test data management solution**

"Our staff wanted to implement more efficient and cost-effective testing processes that would shorten the time for creating and managing multiple test environments," said Michèle Davain, DBA Manager within the Technical Department at Cetelem. "We also wanted to implement test data management strategies that would allow us to accommodate frequent changes and customizations, without sacrificing quality."

Cetelem relies on a configuration management system to develop dozens of qualification testing and user acceptance testing environments. The ultimate goal was to implement test data management strategies and a consistent methodology to support development and testing processes and satisfy the application requirements for each country.

Once the decision was made to stop cloning the production databases for unit, integration and user acceptance testing, Cetelem searched for a scalable test data management solution that would meet their criteria. The IT staff wanted a solution that would allow them to extract subsets of complex relational data to support any current and future diversity in their operating environment. They knew that subsetting capabilities would allow them to create smaller and more realistic test environments. The IT group selected the IBM® Optim™ Test Data Management Solution for its test data management and subsetting capabilities.

**Implementing subsetting strategies**

In the Cetelem application data model, customers who are interested in financial or insurance products are represented as "family entities." Information about these "family entities" is recorded in over 200 database tables, and the relationships among these tables are managed by the application. Optim recognizes relationships defined in the database and also provides the unique capability to include relationships that are defined in the application.

"To start the implementation project, our DBAs developed an inventory of application data relationships that were validated by our development teams. This inventory phase was completed in about two months," said Davain. "Information on the application relationships is recorded

and maintained easily within the Optim Repository."

"Over the next few months, we used Optim's capabilities to define the requests to extract production data for our testing environments. No programming was required. We simply identified the tables and relationships needed to extract data for testing specific application functionality. Then we decided how to manage the relational cycles within the Cetelem data model," said Davain. "Performing these tasks within Optim made it easy to define the precise subsets of related data to create the testing environments. Optim's Relationship Engine™ ensures that the subsets are always fully relationally intact."

After a test environment is created, over 300 developers and quality assurance testers use Optim capabilities to browse and edit the DB2 test data to force error conditions for targeted test scenarios. These capabilities improve the validity of the testing processes and support goals for delivering reliable applications.

### Applying a consistent testing methodology

Focused on business growth in an extremely competitive market, Cetelem's international expansion and an increasing number of partnerships had an impact on its critical information systems, which are continually evolving.

"We needed to implement more and more environments. Each environment has its own proprietary data, which our development and testing teams must be able to extract 'on demand,' without involving DBA resources," said Devain.

A third-party configuration and change management system enables Cetelem's IT group to manage production application environments and to create and manage dozens of qualification and user acceptance testing environments, called "corridors." The objective is to apply consistent testing processes to validate the application enhancements and functionality that support all business users and customers across international boundaries.

For example, Cetelem manages not only its own data, but also the data from its partners: Banque Nationale de Paris Paribas, Carrefour, Facet and others. Thus, for integration testing, twice a year, it is necessary to extract "family entities" from a list of identifiers provided by Banque Nationale de Paris. "Optim's subsetting capabilities allow us to quickly create accurate subsets of less than 100 family entities for unit testing. We can also extract subsets containing several thousands of family entities for integration or technical and user acceptance testing," commented Devain.

### Test data management on demand

Developers and quality assurance testers can create test databases "on demand" from the convenience of their workstations. They can extract specific test data by selecting a collection or "sampling" of "family entities" that are already defined. Requesters simply specify the target environment and the corridor.

Extract requests are stored in queues and executed online without impacting concurrent processing in Cetelem's production environment. "With precise subsets of realistic data from the production environment, the teams are able to improve diagnostics and validate development efforts," said Davain. "Several dozen extract processes can be requested and completed on demand in a single day. Optim capabilities are totally transparent to end users."

When it is necessary to extract larger volumes of data for testing purposes, batch processing mode is used. Creating and refreshing test databases takes much less time because the extract specifications can be shared and reused. Optim's administration is centralized and managed by Davain and another DBA staff member who maintains the definitions of the relational model and the extraction scenarios.

## Improved testing efficiency and quality

"Because Optim enables us to define accurate subsets of related data specific to each application, we have more flexibility within our testing organization and can provide better quality control," said Davain. "With Optim subsetting, we have implemented a change management solution and a quality-oriented process for our entire DB2 mainframe platform. Optim capabilities support intensive use by more than 310 developers and quality assurance testers, who can now easily create and refresh multiple test environments on demand, while ensuring accuracy and reliability."

"Since implementing Optim, we have reduced the time allocated for creating and managing our testing environments, and the content of the test databases is more realistic and reliable. Now, we can generalize a consistent testing methodology across our organization. This technology offers a powerful advantage because we are expanding our efforts to support systems in additional countries, such as Algeria and Romania, and soon Mexico," said Davain.

"IBM Optim has improved the productivity and the quality of our processes for creating and maintaining our testing environments and meeting the specialized requirements for each specific project. We have also

started using Optim's data masking capabilities to protect privacy in our development and testing environments," noted Davain. "Optim's user-friendly and flexibility capabilities have quickly gained the approval of our development and quality assurance teams. The performance and the robustness of Optim are very much appreciated."

## About IBM Optim

IBM® Optim™ enterprise data management solutions focus on critical business issues, such as data growth management, data privacy compliance, test data management, e-discovery, application upgrades, migrations and retirements. Optim aligns application data management with business objectives to help optimize performance, mitigate risk and control costs, while delivering capabilities that scale across enterprise applications, databases and platforms. Today, Optim helps companies across industries worldwide capitalize on the business value of their enterprise applications and databases, with the power to manage enterprise application data through every stage of its lifecycle.

## For more information

To learn more about IBM Optim enterprise data management solutions, contact your IBM sales representative or visit: **www.optimsolution.com.**