IBM InfoSphere Optim Test Data Management Solution

Highlights

- Create referentially intact, "right-sized" test databases
- Automate test result comparisons to identify hidden errors
- Easily refresh and maintain "production-like" test environments
- Shorten iterative testing cycles and accelerate time to market

How can you deliver reliable applications at a lower cost?

Your organization depends on business-critical applications to drive results. But it is a challenge to stay within tight budgets while striving to speed the deployment of new applications, upgrades and enhancements.

Creating realistic application development and testing environments is critical to delivering the right solutions for the business. However, cloning large production databases for development and testing purposes extends cycle times, increases the amount of data propagated across the organization and significantly raises costs.

In addition, cloned data may not support the specific error and boundary conditions required for effective testing. Test cases may require data specific to your test before testing can begin. Lastly, manually validating test results is often time consuming and error prone. With so much test data to manage, time and costs can quickly spiral, maintenance burdens may increase and rolling out new features will require much more of your organization's time and resources.

Your ultimate goal is to deliver reliable application functionality to support operational best practices, stay competitive and generate revenue. So how can you support rapid application deployment and reduce costs without sacrificing quality?

The IBM® InfoSphere™ Optim™ Test Data Management Solution offers proven technology to optimize and automate processes that create and manage data in nonproduction (testing, development and training) environments. Development and testing teams can create realistic, "right-sized" test databases, made up of one or more business objects, for targeted test scenarios.

The InfoSphere Optim Test Data Management Solution can help your organization protect data privacy by applying masking routines to de-identify data. Additionally, the solution will compare the data from "before" and "after" testing with speed and accuracy. InfoSphere Optim capabilities for creating and managing test data enable organizations to save valuable processing time, help ensure consistency and help reduce costs throughout the application life cycle.

Create production-like environments for application testing

In contrast to cloning large production databases, a more effective alternative is to implement test data management and subsetting capabilities that minimize storage requirements while expanding test coverage. It is much faster to test with smaller, realistic subsets that accurately reflect the production data.

InfoSphere Optim manages application data at the business-object level. A business object represents a conceptual unit of work, such as customers, orders or invoices. From a technical perspective, business objects comprise a group of related columns and database tables.

By managing data at the business-object level, InfoSphere Optim preserves both the relational integrity of the data and its original business context. It also enables you to accurately capture realistic application test data and reduce capacity requirements for multiple testing environments. Business objects can be pulled from a single database or several related applications and databases. This "federated" extract capability makes it easy to create production-like environments that accurately reflect your end-to-end test cases (see Figure 1).

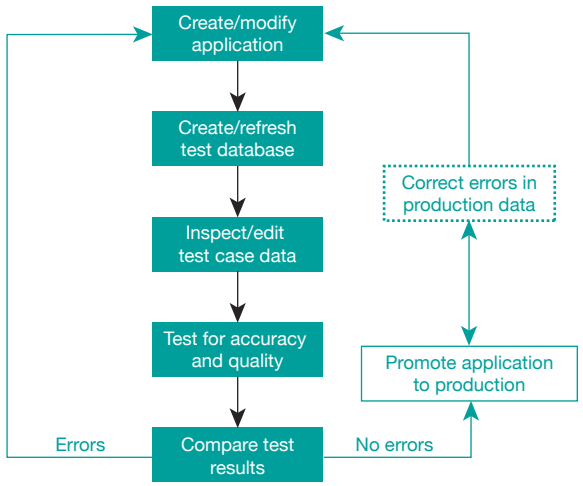

Figure 1: InfoSphere Optim helps improve every stage of the application testing process by providing the data you need.

Definition of the business object is one part of subsetting. Additional subsetting is done by determining the volume of data that is required to meet the particular type of testing underway. Once your selection criteria are defined, InfoSphere Optim processing capabilities identify and extract the precise subsets of data.

For example, it is easy to populate a test environment with referentially intact customer and order information for a specific business unit or fiscal year. To quickly refresh the test environment, you can reload baseline data. Alternatively, you can extract new records from production to expand test coverage or obtain data for a unique test case.

Test data management capabilities help control the size of development and testing environments. Eliminating excess data volume reduces storage requirements and trims costs. You can create any number of "right-sized" development, test and training databases to satisfy specific requirements, improving both coverage and accuracy. Streamlined test databases are also easy to manage and maintain, so you can speed iterative testing cycles and shorten the time necessary to deploy new application functionality.

Protect privacy in development, testing and training environments

InfoSphere Optim offers a variety of methods for masking test data to protect privacy and support regulatory compliance initiatives. Organizations can leverage context-aware data masking routines to de-identify key data elements across applications. InfoSphere Optim captures and accurately processes application data elements so that the masked data does not violate application logic and produces valid results.

You can combine test data management capabilities with comprehensive data masking capabilities available in the InfoSphere Optim data masking solutions. This includes built-in lookup tables and prepackaged routines that support transforming complex data elements, such as credit card numbers and email addresses. You can also incorporate custom transformation routines based on site-specific requirements.

Force error conditions

Another way to optimize your testing environment is to create targeted test scenarios. InfoSphere Optim includes comprehensive relational editing capabilities that make it easy to compose this special data. It also provides capabilities for browsing and editing data in its relational context across multiple tables, which offers a better way to envision the data relationships. A powerful undo capability helps you reverse an unlimited number of editing changes and a sophisticated audit facility tracks changes and saves details for review by authorized users.

Automate data comparisons and analyze results

The ability to analyze and validate test results is critical for ensuring application quality. Database size and complexity significantly increase the effort involved in examining test results. After a test run, InfoSphere Optim analyzes the "before" and "after" images of the data, automatically detecting any differences and presenting the results in a concise report, saving you countless hours of manual inspection.

InfoSphere Optim enhances all phases of application testing. An intuitive, online interface and full-function browse utility help eliminate time-consuming and error-prone

table-by-table comparisons. InfoSphere Optim not only identifies the expected database changes, but also uncovers differences that might otherwise go undetected. Application defects that are hidden or difficult to trace can be identified quickly and resolved at a fraction of the cost.

Automate business object discovery to increase accuracy and implementation

Successful projects begin with an accurate representation of the business object to be subset. Business objects are defined using relationships among data elements. Those relationships can be either explicitly declared within the database or inferred within the data itself.

Relationships declared within the database, such as primary/foreign key constraints, are easy to identify: InfoSphere Optim obtains them directly from the database catalog. Inferred relationships represent a more complex situation. Those relationships are enforced via application logic or business rules, and are often hidden from view. They can be exposed by a formal process called "discovery," which analyzes the data values and patterns to identify complex associations.

IBM InfoSphere Discovery provides a full range of data analysis capabilities to capture hidden correlations and bring them clearly into view. Techniques include single-source and cross-source data overlap analysis, advanced matching key discovery, transformation logic discovery and more. The relationships identified during the discovery process are aggregated to create the baseline business object for subsetting. Organizations can leverage InfoSphere Discovery to help ensure analysis accuracy and completeness, and speed the successful implementation of test data management projects.

Support your enterprise environments

InfoSphere Optim provides a central data management solution that scales to meet enterprise needs. In addition to supporting your custom and packaged applications, InfoSphere Optim provides a consistent data archiving, test data management and data privacy approach across leading enterprise resource planning (ERP) and customer relationship management (CRM) applications: Oracle E-Business Suite, PeopleSoft Enterprise, JD Edwards EnterpriseOne, Siebel CRM and Amdocs CRM. And, it supports major enterprise databases and operating systems: IBM DB2®, Oracle, Sybase, Microsoft® SQL Server, IBM Informix®, IBM IMS™, IBM Virtual Storage Access Method (VSAM), Microsoft Windows®, UNIX®, Linux® and IBM z/OS®.

About IBM InfoSphere

IBM InfoSphere Optim is a key part of the InfoSphere portfolio. InfoSphere software is an integrated platform for defining, integrating, protecting and managing trusted information across your systems. The InfoSphere platform provides the foundational building blocks of trusted information, including data integration, data warehousing, master data management and information governance, all integrated around a core of shared metadata and models. The portfolio is modular, helping you to start anywhere, and mix and match InfoSphere software building blocks with components from other vendors, or choose to deploy multiple building blocks together for increased acceleration and value. The InfoSphere platform offers an enterprise-class foundation for information-intensive projects, providing the performance, scalability, reliability and acceleration needed to simplify difficult challenges and deliver trusted information to your business faster.

For more information

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To learn more about the IBM InfoSphere Optim Test Data Management Solution, please contact your IBM sales representative or visit: **ibm.com**/software/data/optim/streamline-test-data-management

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Produced in the United States of America
September 2010

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IMS14064-USEN-01