



ICICI Bank Improves IT Productivity and Systems Performance for Award-Winning Data Warehouse with Informatica Data Integration Platform

CHALLENGE

Eliminate costly, manual scripting techniques to integrate data from eight different source systems into data warehouse and improve developer productivity, data integrity, data load performance, and flexibility to add new sources

INFORMATICA SOLUTION

Informatica PowerCenter®

BENEFITS

- Metadata-driven visibility for improved job monitoring
- Development of data integration expertise for internal IT personnel
- A foundation for real-time warehousing and cross-enterprise data integration

NUTS AND BOLTS

- Data Integration: Informatica PowerCenter 8.1.1
- Source: Eight different source systems, including retail banking, credit cards, bonds, WebTrade, Demat, fixed deposit system, and loans data
- Target: Sybase IQ data warehouse
- Platform: Sun Solaris operating system, Sun Fire X4200 server, 2 AMD Opteron 2.2 GHz CPUs, 8 GB RAM

“With the overall improvement in the ETL process made possible by PowerCenter, we benefited from greater data immediacy for business users and more reliable information, which resulted in quicker analysis and timely reporting.”

—Gurnam Saini, Assistant General Manager, ICICI Bank

ICICI Bank is India’s second-largest bank, with total assets of about U.S.\$79 billion and profit of U.S.\$715 million for the fiscal year ended March 31, 2007. Headquartered in Mumbai, India, it has 950 branches and more than 3,600 ATMs, with a customer base of more than 25 million. The bank currently has subsidiaries in the United Kingdom, Russia and Canada, branches in Singapore, Bahrain, Hong Kong, Sri Lanka, and Dubai International Finance Centre, and representative offices in the United States, United Arab Emirates, China, South Africa, Bangladesh, Thailand, Malaysia, and Indonesia.

The Challenge

ICICI Bank was formed in 1994 and since then has distinguished itself as a pioneer in the Indian banking community, rapidly adopting innovative business practices and technologies that have helped it to become the second-largest bank in India in terms of assets. A key to its success has been its ability to harness business information to support customer relationship management (CRM) initiatives that have fueled growth and helped attract more than 25 million customers.

The foundation for ICICI Bank’s wide-ranging CRM programs is a Sybase IQ-based data warehouse. The first iteration of the warehouse in 2000 generated a wealth of insights that enabled the bank to build customer intimacy, reduce churn, and offer cross-sell and upsell promotions. Despite the bank’s early success with its data warehouse, integrating data from multiple disparate sources had proven problematic.

Developers had used a combination of PL/SQL and BTEQ scripting, a proprietary technology specific to the data warehouse, for data extraction, transformation, and loading (ETL). But this manual approach presented significant problems that would only worsen as the bank continued to expand the warehouse by adding more data sources and greater load volumes:

- High costs for manual development
- Inflexibility in adding new data sources
- Lengthy load times to data warehouse
- Inferior error-handling and data validation

With its growing customer base, IT administrators recognized that the bank needed a more powerful, sophisticated data integration system to help ensure the warehouse lived up to its potential as an analytic CRM engine that delivered tangible bottom-line results.

The Solution

To step up to the next level of data integration, ICICI Bank officials agreed with a recommendation from Teradata's professional services division, which provided systems integration support for the data warehouse, to implement the Informatica PowerCenter enterprise data integration platform. (TheBank initially used Teradata as its data warehouse platform and migrated to Sybase IQ a year ago.)

ICICI Bank deployed PowerCenter in 2003 as

it embarked on the next phase of its warehouse, which would add data from five new sources, in addition to the initial three sources of retail banking, credit cards, and securities information. Under an aggressive 10-month schedule, a team of data warehouse consultants and ICICI Bank developers designed, tested, and deployed PowerCenter to source data from the new systems, including ATM and Internet transactions, loans, and bonds.

PowerCenter's intuitive GUI development environment and prebuilt functionality helped streamline development processes, particularly for such complex transformations as precomputed aggregates. With the component-based reusability of PowerCenter, developers could design mappings faster than they could with the previous manual scripting approach.

"With PL/SQL and BTEQ scripting, it used to take a long time to make any changes in the extracts or the field that needed to be added," said Gurnam Saini, Assistant General Manager. "PowerCenter has given us the capability to rapidly make changes and improved our flexibility to respond to new data demands from business or IT as they arise."

In all, developers designed in PowerCenter more than 1,500 source system mappings that are grouped together in a single workflow and run in parallel to accelerate load times. With PowerCenter, ICICI Bank realized the benefits of lower cost through greater developer productivity as well as superior extraction and load performance.

Scalability for Greater Data Volumes and Load Frequency

An enterprise-caliber data integration solution was essential in enabling ICICI Bank to accommodate continued growth to the data warehouse, which is used by about 75 business and IT analysts equipped with SAS Institute business intelligence front-end tools. It was also part of ICICI Bank's overall quest for excellence in data warehousing, which was recognized in 2003 with a DM Review World Class Solution Award in the business intelligence category.

Approximately 150 GB of new data is added to the warehouse each month, and that figure will grow as the bank adds sources, including phone banking, CRM service requests, and merchant acquiring data. With those new sources, the growth rate is expected to be 35 percent a year.

PowerCenter's scalability, load automation, and flexible delivery mechanisms have allowed ICICI Bank to increase load frequency to better meet business demands for up-to-date, accurate information in the data warehouse. For instance, data from major sources such as retail banking, credit cards, and loans is moved daily; with the previous scripting approach, data was moved either monthly or once every two weeks.

The Results

Development of Data Integration Expertise for Internal IT Personnel

PowerCenter's easy-to-use drag-and-drop interface, native connectivity to a wide range of data sources, and standards-based architecture have helped ICICI Bank's internal IT personnel rapidly develop expertise in Informatica-based data integration. An ICICI Bank team of 10 Informatica developers now handles new warehousing initiatives, change requests for existing systems, and issues resolution, and it has enabled ICICI Bank to minimize the use of costly external consultants. Developer productivity is further enhanced by PowerCenter capabilities to reuse mappings across multiple projects, and the bank's systematic cultivation of data integration best practices.

Metadata-Driven Visibility for Improved Job Monitoring

The deployment of PowerCenter has greatly improved ICICI Bank's ability to ensure the integrity of data and minimize errors as compared to the previous manual scripting approach, which suffered from handover and error-handling issues. PowerCenter's self-documenting metadata and complete audit log help the ICICI Informatica team to generate automatic loading and error monitoring reports.

A Foundation for Real-Time Warehousing and Cross-Enterprise Data Integration

Gratified by the developer productivity and ETL performance gains realized through the PowerCenter deployment, ICICI Bank officials are now looking to extend the Informatica data integration platform to more thoroughly PowerCenter capabilities for real-time data integration are under evaluation to instantly extract and load time-sensitive information to the warehouse.

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