



FAST FACTS

BUSINESS OBJECTIVE

Build a foundation for strategic growth by migrating IBM legacy mainframe to UNIX Oracle DB

TECHNOLOGY STRATEGY

- Extract, analyze, transform, and migrate 57 TB of mission-critical data
- Handle complex Korean double-byte character data
- Ensure a high degree of data quality

INFORMATICA SOLUTION

Informatica PowerCenter®
Informatica PowerExchange®

RESULTS

- A solid data foundation for strategic business growth
- Business precision with error-free operations
- \$20.8 million reduction over four years
- Improved developer productivity by 2-3x
- High data quality through iterative migration cycling
- Complex double-byte character data with minimal customization

NUTS AND BOLTS

- Data Integration: Informatica PowerCenter and Informatica PowerExchange
- Sources: Legacy and DB2 in IBM OS/390 environment
- Targets: Oracle 10g databases, HP Superdome servers with HP-UX

Samsung Life Insurance Ensures Business Precision with Large-Scale Data Migration Atop Informatica Enterprise Data Integration Platform

“As this was the main data for the company, transferring files quickly and without damage was very important, and we needed a solution that could handle large amounts of data that had been processed manually before. With Informatica, we’ve seen improved results of around three times more than our past manual operations and we’ve experienced the greatest efficiency in the area of data cleansing.”

— Gahng-ho Lee, Team Leader, Samsung SDS

Samsung Life, with \$25.8 billion USD in 2006 revenue, is the largest insurance supplier in Korea with roughly one-third of the market. Founded in 1957, the company has more than 10 million customers and offers insurance (life, health, accident, annuities), asset management, mortgage loans, and related financial products. Headquartered in Seoul and part of the Samsung Group conglomerate, the company also has operations in China, India, Japan, Thailand, the U.K., and the U.S.

The Challenge

As the largest insurance company in Korea, Samsung Life is especially savvy when it comes to managing risk. Its half-century of business success is built on its ability to smartly manage and minimize risk in extending coverage to some 10 retail and commercial customers. But risk management isn’t strictly a business imperative at Samsung Life—it plays a key role in IT and data management, as well.

In planning a massive transition from a legacy IBM mainframe infrastructure to an open UNIX system with Oracle 10g databases, Samsung Life recognized that data migration would be a crucial element of the project. It would need to migrate huge volumes of mission-critical data—most of it complex double-byte character data used in Korean and other Asian languages—on its customers, finances, products, sales, and other subject areas. The migration would need to be done quickly, effectively, affordably, with exceptionally high degrees of data integrity and minimal risk.

The Seoul-based Samsung Life also recognized that an ad hoc approach to data migration could introduce significant risks of propagating inaccurate or incomplete data into its new IT environment. Legacy mainframe data in arcane formats, with undocumented system interfaces, posed additional challenges. Trial-and-error approaches using hand coding could result in delays and cost overruns that would jeopardize business performance. To ensure the precision and integrity of its massive data migration effort, Samsung Life looked for an enterprise data integration platform that could:

- Excel at handling complex double-byte character data
- Help ensure data integrity essential to business operations
- Execute a large-scale data migration efficiently and reliably
- Handle large volumes of mainframe and legacy data

The Solution

Data migration was just one element of an ambitious IT rehosting project that would move Samsung Life's core business operations from an IBM OS/390 mainframe environment to an open UNIX infrastructure with Oracle 10g databases atop HP Superdome servers. By Samsung Life's estimates, the project would save roughly \$20.8 million USD over four years. Most of the savings would be realized in eliminating mainframe maintenance costs, which were increasing by 14 percent a year.

In addition, the transition from proprietary mainframe data formats to an open architecture would better position Samsung Life to interact with foreign institutions, call centers, and customers, and to integrate its disparate technologies to achieve business advantage.

But before those savings and business benefits could be realized, data migration would need to be executed reliably with no impact on business operations for data on customer accounts, finance, and other areas. The Informatica PowerCenter data integration platform and PowerExchange data access technology was a natural choice for the project, as Samsung had used Informatica products effectively for data warehousing since 2002.

The data migration initiative got under way in July 2006, headed up by approximately eight developers from Samsung SDS, a sister systems integration company. To accelerate processes and bolster success, the migration team adopted a best-practice migration methodology of iteratively cycling through phases of analysis, extraction and transformation, validation, and loading.

This iterative approach, including two pilot projects, enabled the team to constantly analyze data integrity, troubleshoot problem areas, and improve the overall effectiveness of the data migration solution, said Samsung SDS Team Leader Gahng-ho Lee.

Robust Support for Double-Byte Character Data

Importantly, Informatica's robust support for the complex double-byte characters of Korean and other Asian languages proved essential to the project's success. "We were especially worried that a foreign business solution wouldn't be able to support the double-byte character data of Korea, but we found that Informatica could handle Korean writing," Lee said. "Some supplementation was used for special characters, but overall the solution was impressively effective."

PowerExchange data access technology helped developers decisively address difficult issues in extracting information from legacy systems. In the past, developers with specialized skill sets were needed to write custom programs to extract legacy data, which would need to be transformed in a separate application. With Informatica, a codeless development environment enabled non-specialized developers to rapidly devise mappings with simple drag and drop functionality that would execute all four migration stages—extract, transform, cleanse, and load.

"Through the implementation of PowerCenter, we were able to reduce the time necessary for initial testing operations from three days to just 12 hours," Lee said. "By using Informatica's PowerExchange and PowerCenter for data migration and data cleansing, we achieved two to three times better results than with past manual operations."

The enterprise-caliber reliability, performance, and scalability built into Informatica products also helped the team deal with massive data volumes. In all, the migration effort moved some 57 TB of data into the new Oracle-based environment, including of 2,000 database tables, 45,000 tape files, and 53,000 flat files. The project covered virtually all of Samsung Life's mission-critical data, including sales, customers, finance, deposits, archiving, products, retirement insurance, and other areas, and was the largest such initiative ever executed in Korea.

The Results

Ensure Business Precision With Error-Free Operations

Precisely executed business operations are essential for Samsung Life, as even small data errors can become magnified into problems that affect cash flow, customer coverage, and liability. The use of Informatica PowerCenter and PowerExchange for data migration is contributing substantially to Samsung Life's objective of being "Error-Free for 1000 Days." Informatica's automated error logging and visibility into data enabled teams to zero in on problem areas as they cycled iteratively through migration stages. "We've experienced the greatest efficiency in the area of data cleansing," Lee said. "As this was the main data for the company, transferring files quickly and without damage was very important."

Reduce Costs and Accelerate Processes With Greater Developer Productivity

Compared to manual coding that Samsung had used in the past, Informatica PowerCenter's codeless development environment improved developer productivity by an estimated two to three times. For the business, this both reduced costs for personnel time and enabled the rehosting project to go live months earlier than would otherwise have been possible. "Usually on such a large project, a team would conduct testing operations over a lengthy holiday, but we were finishing the work easily within just a couple of hours on the weekends," Lee said.

Build a Solid Data Foundation for Strategic Business Growth

A smooth data migration was critical to enabling Samsung Life to take advantage of its new standard-based IT infrastructure both to reduce mainframe maintenance costs and better integrate its disparate technologies to achieve business advantages. "By moving to an open system, we can easily apply our previous tools packages. In addition, to increase our connectivity with systems of foreign institutions, call centers, portals, and others, we needed the smooth connection of an open system," Lee said. "Mainframe data formats are not compatible with other systems and so we had to carry out data migration to achieve this. Following the transfer of the system and data to an open architecture, we can now smoothly integrate the data used in the open system and apply it to our marketing activities."



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