



Southern Company Reduces Cost, Time, and Risk by Relying on Informatica Data Integration Platform for Major Data Migration

FAST FACTS

CHALLENGE

Facilitate and accelerate the migration of legacy mainframe data from three nuclear power plants to create an integrated, standardized multi-plant workflow and document management solution that enhances overall operations, saves money, and delivers flexible access to critical information

INFORMATICA SOLUTION

Informatica® PowerCenter®

BENEFITS

- Reduced IT project staff from 18 to less than six people, saving approximately \$250,000
- Realized 25 percent savings in migration project time through reuse of mappings and scripts
- Reduced migration cutover time from one week to two days per plant
- Provides new, flexible access to previously inaccessible data and documents
- Reduced risk and expense of major data migration effort

“From extracting, cleansing, and translating our data to helping us control costs, reduce risk, and simplify an inherently complex project, PowerCenter did everything we needed to do. PowerCenter enabled us to ensure data quality and reuse mappings, workflow, and target tables to save time at every stage in our data migration effort. By helping to simplify and streamline the project, PowerCenter helped us save at least \$250,000 in labor costs.”

— Lisa Kelley, Project Manager, Southern Company

Atlanta-based Southern Company (NYSE: SO) is a regional energy company with nearly 39,000 megawatts of electric generating capacity in the Southeast, making it one of the largest electricity producers in the U.S. The company supplies energy to 4.1 million customers across a 120,000-square-mile service territory spanning most of Georgia and Alabama, southeastern Mississippi, and panhandle of Florida. With more than 26,000 employees, Southern Company reported revenues of \$11.9 billion in 2004.

The Challenge

Southern Nuclear has been a subsidiary of Southern Company since 1990 and is a licensed operator of three nuclear plants near Baxley and Waynesboro, Georgia; and Ashford, Alabama. The three plants supply 16 percent of the electricity used in those two states, as well as parts of Florida and Mississippi.

The management of nuclear power plants is highly complex and tightly regulated. Since it manages multiple facilities, Southern Nuclear has been able to apply experience in safety, training, engineering, and cost control from one plant to another. Until recently, however, the subsidiary had not achieved the same level of efficiency and integration of the plant-specific data stored in its mid-1980s era mainframe IDMS databases.

To maintain its competitive edge, Southern Company and its Southern Nuclear subsidiary recognized the need to develop an integrated system to better manage data and documents related to personnel, training, inventory, materials management, work control, condition reporting, and operational licensing. To help achieve this goal, Southern Nuclear needed to migrate its legacy IDMS databases to Oracle databases, the standard foundation for most mission-critical applications at Southern Company.

“When we began this project in 2000, Southern Nuclear had already been working with the same IDMS system for at least 15 years,” notes Lisa Kelley, Project Manager for Southern Company. “While there was a lot of comfort associated with the data and applications, we considered that information locked up in IDMS and only accessible with proprietary tools and custom programs. The technology was largely unsupported by then and had become very expensive to maintain. We needed a way to mitigate the risks associated with data migration, and maximize the potential return on investment (ROI).”

The Solution

The first goal of the data migration project was to move Southern Nuclear’s outdated IDMS databases off of the legacy mainframes at the three plants and into company-standard Oracle databases on Sun servers, running under the Sun Solaris operating system. Southern Company uses more than 350 UNIX® servers, of which approximately 95 percent run Solaris UNIX. The other five percent are HP-UX-based servers. The company also uses 800 Windows®-based servers and nearly 20,000 Windows desktops.

While the primary driver for the data migration project was to move from a largely unsupported, outdated legacy platform to a company-standard Oracle-based system, the resulting databases needed to be easily accessible by a new workflow and document management application under development. The new application, called Syncpowr, was to be used to streamline access by thousands of users to data and millions of documents relating to personnel, training, inventory, financial records, and operational licensing information.

“We need to leverage the important information locked in our legacy systems. It was going to take a huge effort to migrate this legacy data into a format we could use for Syncpowr and other applications,” Kelley explains. “We originally estimated we would need 18 full and part-time staff writing COBOL programs and scripts to meet our conversion goal. We turned to our database administrators (DBAs) and asked them if they knew of any tools that could help us save time and improve the process. PowerCenter was at the top of the list. It helped that Price Waterhouse also recommended PowerCenter.”

In 2001, the Southern Company data migration team installed PowerCenter 5 on a Sun Fire server at the first Southern Nuclear plant in Baxley, Georgia. Informatica Professional Services personnel trained the members of the Southern Company migration team in using PowerCenter. In 2003, the firm upgraded to PowerCenter 6 for the Sun Solaris UNIX operating system.

Because PowerExchange for IDMS databases was unavailable at the time the Southern Company team chose to perform the initial extraction using a relational loader from XiTec Software. Once the raw Oracle tables (about 120 tables per site) had been loaded, the migration team used PowerCenter to populate the Oracle repository and operational data store (ODS) needed to leverage both legacy and current data for the Syncpowr target application.

“Once we worked through many of the issues in the testing phase, we would do the actual data conversion over a weekend,” Kelley says. “The initial extraction from IDMS to raw Oracle tables typically took about 22 hours. During that time, our DBAs would prepare for the final conversion using PowerCenter. The PowerCenter data integration platform let us translate and transform the raw Oracle tables to the final Oracle tables needed for the Syncpowr application and other purposes. One of the key filters we performed through PowerCenter was to limit the data we extracted and transformed to the most recent five years worth. That saved a lot of time and money.”

The Benefits

Reduced IT Project Staff from 18 to Less than Six People, Saving Approximately \$250,000

Southern Company originally determined that the effort to migrate 15 years of legacy data from Southern Nuclear’s IDMS database and application systems to target Oracle databases would require 18 full and part-time DBAs, programmers, and managers. Thanks to PowerCenter, the company was able to perform the necessary extraction, transformation, and loading (ETL), data cleansing, filtering, and other functions without labor-intensive hand coding. “We ended up needing only four full-time team members and two part-timers. Even after deducting the cost of Informatica and other tools, we saved at least \$250,000 in labor alone,” Kelley notes.

Realized 25 Percent Savings in Migration Time through Reuse of Mappings and Scripts“

“The first nuclear plant we converted definitely took the longest, but we were learning,” Kelley explains. “On the second and third plants, PowerCenter enabled us to save a lot of time by allowing us to reuse mappings, filters, documentation, data reduction, and procedures. We estimate PowerCenter helped us save about 25 percent in total project time. It would have been more, but we were working in parallel with the overall Syncpowr development program, so we couldn’t control every element.”

Reduced Migration Cutover Time from One Week to Two Days Per Plant

Minimizing downtime for critical applications that depended on the legacy IDMS databases was a prime concern for the Southern Company migration team. "Early on, we anticipated substantial downtime because we thought we were going to have to write and run COBOL extraction programs and perform numerous uploads," Kelley recalls. "Realistically, we expected to have about a week of downtime per system with conventional migration techniques. With PowerCenter and our other tools, we were able to perform migrations of individual plants over a weekend, which was really great. We'd freeze the legacy IDMS database by making it read-only, do the raw extraction with XiTec, and then do the more refined transformation and loading of the target Oracle tables using PowerCenter. The ability to use PowerCenter to filter and limit our data extraction to the latest five years of data also saved a lot of time. Doing the implementations as efficiently as possible was very important."

Provides New, Flexible Access to Previously Inaccessible Data and Documents

The PowerCenter data integration platform is metadata-driven, resulting in a data repository-and-engine resource that is flexible and scalable. The codeless, object-oriented PowerCenter development environment enables developers to easily access repositories and ODSs for current and future applications. New Oracle databases created in the Southern Nuclear migration program, using PowerCenter and other tools, not only provide source information for the company's new Syncpwr application, but offer new, secure accessibility for improved user satisfaction, greater organization leverage, and improved return on IT investment.

Reduced Risk and Expense of Major Data Migration Effort

Risk reduction was a clear motivation for using productivity and data integration tools such as PowerCenter. "While they were outdated and essentially unsupported, there was still a great deal of comfort in the legacy systems everyone knew," Kelley states. "The risk in migration seemed high: Would the new system really be an improvement? Would the benefits be there? Will it justify the cost? PowerCenter helped reduce the overall risk by automating migration processes, strengthening the integrity of converted data, simplifying the tasks, and helping to make the resulting Oracle databases more usable and flexible."

NUTS AND BOLTS

- Data Integration: Informatica PowerCenter
- Sources: IBM 9221-221 mainframe, seven VM legacy IDMS databases, homegrown applications, Oracle databases
- Target: Oracle 7.3 database; Syncpwr workflow, material management, control room automation, document management, and financial applications
- Target platform: Sun Fire™ servers, Solaris™ 8 operating environment



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