



CASE STUDY

DELIVERING A REAL-TIME BUSINESS INTELLIGENCE REPORTING PLATFORM TO IMPROVE CARE AT THOUSANDS OF U.S. HOSPITALS



THE CLIENT:

Premier, Inc.
www.premierinc.com

THE CHALLENGE: ENHANCE PRODUCT WITH ON-DEMAND BUSINESS INTELLIGENCE

Headquartered in Charlotte, North Carolina, Premier is a collaborative healthcare alliance of more than 2,800 member hospitals and health systems, and 95,000-plus other healthcare sites. Its ability to build innovative solutions that connect members is Premier's trademark, sharing best practices to solve pressing issues and overcome today's fragmented healthcare system.

www.siriuscom.com
800.460.1237

Premier has the deepest and most comprehensive databases in the industry, with data on one in every four discharges nationwide, 2.5 million real-time clinical transactions daily, and nearly \$40 billion in annual purchasing data. "Our data is what makes Premier unique, and it gives us a competitive advantage," says Todd Wilkes, Vice President, Enterprise Solution Development at Premier. "We aggregate purchasing power to get better prices for supplies and equipment consumed in a healthcare setting, and we can relate that costing data back to actual clinical outcomes so health care professionals can improve patients' care plans and health outcomes."

Premier has been processing and analyzing large volumes of complex healthcare data for years, taking data from different sources to build a core data warehouse and then pushing it out to specific data marts to deliver actionable information via a suite of member products. "To develop our products, we must overcome the complex and fragmented nature of healthcare data," says Steve Cornett, Principle Solution Architect for Business Intelligence and Data Warehousing at Premier. "We are also challenged by the growing demand for near real-time analytics and reporting."



This was the case with its performance and quality management dashboard application for physicians called PhysicianFocus™ Hospital. Premier's members use this new application to support their programs and initiatives in relation to The Joint Commission's requirements for Ongoing Professional Performance Evaluation (OPPE). Premier wanted to enhance this product with timely comparative data analysis, additional measurements, an improved user interface, and push functionality to create new physician profiles and update existing physician profiles when new data is added to the system. Premier was using an incumbent relational database technology and a traditional ETL tool to support PhysicianFocus Hospital. But when the application required on-demand analytical data in less than two minutes, the database literally froze. No amount of tuning would fix the issue, especially when a typical request required 40+ transform operations that follow variant and conditional branches of data flow.

"We needed to figure out which database to use for this project so users could enter their information and look at the outcomes for an entire physician population at a facility on-the-fly," says Brian Judd, Technical Architect for Enterprise Solution development at Premier. "At the same time, we didn't want to have to write manual routines for loading and refreshing data, nor did we want to have to maintain a load of SQL scripts tied into a complex set of custom code."

THE SOLUTION: AN ELT FRAMEWORK FOR REAL-TIME ANALYTICS

Premier turned to Sirius* for a solution that introduced the alliance to high-performance, low-maintenance ELT capabilities, and enabled unprecedented real-time analytics for PhysicianFocus Hospital. "Previously, [Sirius] worked for us in a consulting capacity, helping to optimize some SQL scripts running against an IBM® PureData® System for Analytics [formerly known as Netezza] application. We were very impressed with [Sirius'] work, and then learned about their Netezza optimization tool, nzDIF," says Tom Palmer, Senior Director, Business Intelligence in Data Warehousing Development at Premier. Sirius' Data Integration Framework for Netezza Technology (nzDIF) is a pre-packaged data integration and data management solution that keeps 100 percent of the data processing in the IBM environment, providing considerable performance gains. Premier saw great benefit to utilizing nzDIF, and asked Sirius to assist with re-platforming PhysicianFocus Hospital onto Netezza so it could take advantage of the framework.

During a proof of concept (PoC), Sirius consultants demonstrated that the IBM solution in conjunction with nzDIF would deliver the real-time analytics it was looking for in PhysicianFocus Hospital. "We wanted a tool that was specifically designed to capitalize on the strengths of Netezza," says Palmer. "We worked with [Sirius] and used the nzDIF framework to help us convert PhysicianFocus Hospital from an in-house existing database technology to the IBM platform. The combined solution enabled us to provide real business value within a few weeks, and migrated our entire system in just three months."

"One of the advantages of partnering with [Sirius] is having access to their deep technical expertise in high-volume data loading and transformation. We learned volumes about Netezza and ELT best practices through side-by-side, real-world development."

– Todd Wilkes, Vice President,
Enterprise Solution Development

THE RESULTS: INCREASED UTILIZATION, IMPROVED PERFORMANCE, AND REDUCED TOTAL COST OF OWNERSHIP

Since migrating PhysicianFocus Hospital to an IBM environment and using Sirius nzDIF to optimize its performance, Premier has seen significantly improved performance and increased utilization, while simplifying administration and reducing costs. In the process, Premier acquired an extensible, repeatable framework, which they plan to leverage for future data warehouse and business intelligence projects.

Premier is using the nzDIF framework to add value to PhysicianFocus Hospital, enabling the fastest and easiest link between a physician's outcomes and costs. New capabilities include real-time analytics using robust, highly accurate data that's meaningful and access to peer benchmarks across all the facilities in Premier's systems.

With the nzDIF zero-latency processing model, fewer than 15 seconds of overhead is required to support and execute approximately 40 SQL statements; traditional ETL tools would have required 400 seconds of overhead to accomplish the same thing. "We can take the raw data requested by the physician and surface it in a scorecard 300 times faster than before," says Wilkes.

Premier is using nzDIF to harness the efficiencies of the Netezza platform, mastering the ELT process to maximize throughput and eliminate latency to drive performance and improve member satisfaction while reducing total cost of ownership. "We can add more users to the platform without having to invest in additional hardware," says Wilkes. "Things that normally take several days or weeks to set up and develop for an 'in-house' solution are already done for us with nzDIF. Examples include error handling, logging, and data lineage. Everything needed for those tasks is inherent in the framework; therefore, less time is spent by developers trying to develop and maintain such features."

The success of PhysicianFocus Hospital gave Premier the impetus to use nzDIF for other areas of its business, quickly and easily updating older data marts and introducing new products. Because nzDIF framework packages best practices for loading and transforming data in the IBM environment, once Premier trains its developers, they can take the framework and apply it as needed.

"Whether it's retrofitting legacy data marts or building new applications, we'll be phasing out our traditional ETL tools and using nzDIF to further differentiate our product offerings," concludes Wilkes. "[Sirius'] technical expertise and their high-volume data loading/transformation solutions that leverage the processing power of IBM Netezza enable Premier to continue to deliver innovative healthcare analytical solutions to the market."

"Since we launched the new version of PhysicianFocus Hospital, customer uptake has increased by 63 percent in the first year. This is a result of the real-time turn around on the data enabled by nzDIF that truly supports our physicians' needs."

– Todd Wilkes, Vice President,
Enterprise Solution Development

To learn more about how Data & Analytics solutions from Sirius can help you turn your data into better business decisions and advance your critical strategies, visit www.siriuscom.com/data, speak with your Sirius representative, or contact Sirius today.

