



HEALTHCARE

PCS Health Systems Bridges the Gap Between End Users and Its Data Warehouse

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Information Warehouse Services
PCS Health Systems

PCS Health Systems had a good handle on system level details relating to its 800 Gigabyte data warehouse – items such as CPU utilization, disk utilization and the number of concurrent users. What PCS wanted next was the ability to bridge the gap between the end-users and IT to better serve individual users, while at the same time ensuring the most efficient use of resources. PCS selected Usage Tracker™ data warehouse management software and is now able to track and analyze – at the individual user and data level – usage patterns and the queries being submitted by its 350 internal and 80 external users.

An Information Driven Company

PCS Health Systems, Inc., a subsidiary of Eli Lilly and Company, has always been on the cutting edge of managed pharmaceutical care – from the creation of the first prescription card program, to disease management, to online connectivity with pharmacists and physicians. More than 54,000 pharmacies – representing 98 percent of all retail pharmacies nationwide – are linked electronically to PCS.

One Million Transactions Per Day

The company processes more than one million online prescription transactions per day. PCS processes online and in real-time 300 million claims annually, and, over time, PCS has processed more than 1.5 billion prescription drug claims for millions of Americans.

"It's the ability to turn raw data into useful information that enables us to help improve the health of millions of people and save money for our customers," said David Thompson, Vice President of Information Warehouse Services for PCS. "To retain our competitive advantage, we recognized the need to get the data out to the end users – the clinical pharmacists who support clients, plan performance analysts and disease management program administrators – providing them the granularity they need to most efficiently do their jobs. To offer more insight, we needed to get to the next level of detail."

The PCS Information Warehouse

To best utilize its vast storehouse of data, PCS developed an Information Warehouse that covers the past 25 months of patient prescription records. PCS' data warehouse currently contains 800 Gigabytes of data – and PCS anticipates that the warehouse will exceed one Terabyte during 1998.

PCS analysts can use the Information Warehouse, for example, to evaluate – at a health plan's request – which patients would benefit from one of PCS' disease management programs covering chronic afflictions such as diabetes, asthma, heart failure and ulcers.

The next task for PCS was to continue to find ways to further leverage its investment in the Information Warehouse, and better manage and assist its user base. "We don't provide our users canned queries, we let them build and submit any queries they want," Thompson explained.

Data-level Analysis of the Data Warehouse

“Usage Tracker provides us information that allows us to be proactive in dealing with issues—doing things like providing summarization tables or additional indices that greatly reduce the time required for a particular query to run.”

David Thompson, V.P.
Information Warehouse Services
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The ability to know who is using the data, what data are being used and not used, and when the data are being accessed adds a powerful new dimension to managing our data warehouse.”

“We were previously able to determine system level details such as CPU utilization, disk utilization and the number of concurrent users, but we weren’t able to tell very much about what each user was doing.”

“We recognized the need for data warehouse management tools last year when our utilization continued to rise and we couldn’t figure out who was asking all the questions, as well as what they were asking,” Thompson said. “We wanted to get closer to our users. For large data warehouse environments that allow distributed, non-constrained access to non-technical, business type users, data warehouse management tools – such as those provided by Ambeo – are critical to the success of the project,” Thompson added.

“With Usage Tracker™, we are looking at usage patterns – looking to find out who is using the system and what they are accessing on the system – allowing us to better manage the data.”

Thompson added that with Usage Tracker, PCS now also has a better understanding of the types of queries that its users are submitting. “In particular, we are now able to determine if certain individuals are submitting queries that are running for extended periods of time – in our environment that might be four or five hours,” Thompson said. “It’s the long queries that eat up our resources in terms of CPU utilization, wipe out buffer pools and use lots of memory.

“Armed with this new information, we can now contact users and assist them because we have an understanding of what they are trying to accomplish from a business perspective with their queries,” Thompson said.

“For the first time, we are now able to track who is using the warehouse and the number and type of queries that are being submitted by time of day. This gives us real statistics that help to optimize business use,” Thompson concluded. “With Usage Tracker, we anticipate being able to more effectively leverage the investment and to better understand usage patterns of our Information Warehouse. This will allow us to appropriately utilize our existing resources and better serve our internal and external users.”

Data Warehouse Profile

PCS Information Warehouse consists of a 48-node IBM RS/6000 SP2 running IBM’s AIX operating system. For database queries, the system uses IBM’s DB2 Parallel Edition which provides cross-platform portability of data with PCS IBM mainframe, which also runs DB2. There are currently 80 external users and 350 internal users querying the Information Warehouse.

The Information Warehouse is loaded by internally developed COBOL applications that extract data from the company’s IBM MVS operational systems. Data are loaded daily or monthly, depending on the information.

Teams of doctors, researchers and programmers mine the data to ferret out problems, measure outcomes and help physicians and health plans improve their benefits and services to patients.

