

BCBS Massachusetts breaks information barriers



MASSACHUSETTS

Smart is...

Embedding business intelligence into general business processes and giving users insight to support day-to-day decisions that have real-world impact on the affordability of healthcare.

To maximize its ability to meet members' healthcare needs, Blue Cross Blue Shield of Massachusetts (BCBSMA) is a careful steward of the premium dollar. Nearly 90 percent of every premium dollar received is used to pay the medical expenses of its members – which means that operational costs must be kept to ten percent or less. Achieving this target requires a detailed understanding of cost and risk in all areas of the business, creating a significant demand for business analytics. BCBSMA has combined IBM Cognos Business Intelligence with an IBM Netezza data warehouse appliance to provide lightning-fast analysis of medical and financial data. The solution is used to create sophisticated reports on clinical and financial risk, operational efficiency, and helps to identify opportunities for strategic and competitive advantage.

Deploying high performance analytics with IBM Business Analytics and Netezza

Headquartered in Boston, Blue Cross Blue Shield of Massachusetts (BCBSMA) is an independent licensee of the Blue Cross Blue Shield Association, and provides health coverage for nearly three million members across the state. Founded in 1937, BCBSMA has 3,500 employees and works with over 20,000 participating health maintenance organization (HMO) physicians and 77 HMO acute care hospitals.

BCBSMA vision is to make quality healthcare affordable. The company constantly strives to evolve the services it offers to meet the ever-changing needs and preferences of its members. BCBSMA's commitment to its members is to use the premiums entrusted to the company wisely, and to ensure that approximately 90 percent of all premiums paid are used to pay for the healthcare services that its members receive. To achieve this, the company needs to keep tight control of its administrative costs and continually work to find new ways to provide the highest quality care as efficiently as possible.

“Several years ago, the business acknowledged that there was a need to embed analytics into our business processes to help decision-makers across the business gain insight into financial and medical data and become more proactive,” comments Shashikanth Vangala, Manager & Chief Solutions Architect of Business Intelligence at BCBSMA.

“A number of different business units had already deployed various business intelligence tools, but we recognized the need for a corporate solution. We decided to develop a single centralized data warehouse to provide a comprehensive and consistent source of business data, and looked to select an enterprise standard for our business intelligence solution.”

Standardizing on IBM Cognos

The Business Intelligence team evaluated all the reporting and analytics tools that were already being used within the business, as well as reviewing the other leading products available on the market. Ultimately, the team chose IBM Cognos BI as the best solution.



Business Benefits

- Allows medical directors to identify high-risk disease groups and take action to minimize risk and improve patient outcomes – for example, creating new medical programs to engage with groups that have high cholesterol before it leads to heart problems.
 - Enables the creation of complex health informatics reports 300 percent faster than before, helping BCBSMA service large clients more effectively.
 - Gives more business users access to more useful information – user numbers have risen by 60 percent over the past two years as hunger for analytics has increased.
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“Cognos Business Intelligence was by far the most popular solution, with more than 600 users across the business already reaping the value of its extensive capabilities,” explains Vangala. “This meant there was a lot of expertise that we could leverage, and the wider adoption of the solution was a natural evolution. Using IBM Cognos BI, we saw success very quickly, and the executive management team took notice, which led to the decision to make it the corporate standard.”

After the initial implementation, the demand for analytics grew steadily within the business, and the Business Intelligence team continued to develop new solutions – not only reports, but also real-time dashboards and OLAP cubes for ad-hoc analysis.

“Our next goal was to drive even wider adoption of Cognos BI, and our mantra became ‘performance, performance, performance,’” comments Vangala. “To get users to make analytics a part of their daily routine, you have to offer a rich experience, and you can’t keep them waiting for the data they need. On the data warehouse side, we were running into performance issues that limited the interesting things we could do with our data. That’s where Netezza came in.”

IBM Cognos BI and Netezza

Netezza, an IBM company, provides leading-edge data warehouse appliances, which architecturally integrate database, server and storage components into a single solution that is easy to implement and manage.

“Netezza did a demo for us to show how one of their appliances could dramatically improve the performance of our entire business intelligence landscape,” says Vangala. “We started out with some ETL [extract, transform and load] processes for creating cubes, which used to take between 24 and 36 hours. With the IBM Netezza appliance, they were completing in just five to six hours, which made it practical to start creating larger, more complex cubes with more dimensions.

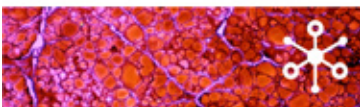
Smarter Healthcare

High-performance analytics for affordable healthcare



Instrumented

Medical and financial data relating to members of BCBSMA’s health plans is collected from a multitude of operational systems and loaded into the Netezza data warehouse for analysis.



Interconnected

Users from across the business – medical directors, actuarial analysts and product managers – access web-based dashboards that provide easy access to advanced analytical tools.



Intelligent

Users can identify opportunities for improved benefits design to improve outcomes and reduce risk – for example, funding programs that help members who have high cholesterol reduce their risk of developing more serious heart problems.

Solution Components

Software

- IBM® Cognos® Business Intelligence

Servers

- IBM Netezza TwinFin-3 data warehouse appliance
 - IBM Netezza TwinFin-6 data warehouse appliance
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“The combination of IBM Cognos Business Intelligence and Netezza gives us a lightning-fast analytics platform that has significantly increased adoption of business intelligence across the organization.”

— Shashikanth Vangala, Manager & Chief Solutions Architect of Business Intelligence, Blue Cross Blue Shield of Massachusetts

“This encouraged us to experiment with allowing users to run Cognos BI queries directly against Netezza, and we saw a performance gain of 300 to 400 percent there too. As a result, we decided to make the Netezza appliance a central part of our data warehouse strategy going forward, and began using the combination of Cognos BI and Netezza to meet a number of important business needs.”

Health informatics for accounts

BCBSMA provides health insurance for several national accounts that have very large numbers of members. To help these clients gain insight into their own membership, the Business Intelligence team provides an annual report book that consists of dozens of highly detailed reports on a wide range of key metrics, using a combination of health records and claim utilization data to provide predictive risk assessments.

“These health informatics for accounts reports, known as HIA reports, are a real competitive differentiator for our business,” explains Vangala. “Our clients tell us that our competitors can’t deliver anything as detailed, which means that we can provide a better level of service by putting extremely valuable information into the hands of their benefits managers.”

The reports are delivered via an application built on IBM Cognos Business Intelligence, which calculates the key metrics automatically and presents them in a standardized template, delivered via a web interface. When the scheduled report is completed, the solution automatically notifies the appropriate user by email, who can then prepare a final version for the client.

“With the combination of the Netezza appliance managing the data and Cognos BI generating the reports, we saw a 300 percent performance gain that helps us get the data out to clients more quickly, and allows us to build in greater detail,” comments Vangala.

Bigger, more complex cubes

The faster ETL performance provided by Netezza also enables BCBSMA to create larger OLAP cubes, with more dimensions and more data, which provides a richer analytic experience for business users.

“Previously, ETL processes were taking more than a day, which set a limit on the size and sophistication of the cubes that it was practical to create,” explains Vangala. “Now, with Netezza, we can be much more ambitious, and create cubes that give users a wider range of possibilities for analytics. There is also less need to swap between multiple different cubes to get answers to questions, because each cube is larger and more comprehensive.”

Practical results

With greater performance comes greater ease of use, and since the implementation of the combined Cognos BI and Netezza solution, the Business Intelligence team has seen its user population increase by 60 percent over two years. This is expected to rise by a further 20 to 30 percent over the next two years.

“We’re steadily achieving our goal of embedding business intelligence in general business processes,” comments Vangala. “Users from all areas of the business – from medical directors and actuarial analysts to marketing and product managers – are now using analytics to support day-to-day decisions that have real-world impact on the success of the company.”

As one example, the company’s medical directors can easily gain visibility of medical loss ratios in different disease categories and different hospitals, using current and historical data to identify trends and predict future developments. The analysis capabilities of these cubes provide greater visibility into trends and opportunities that allow them to be proactive for improved care management and benefits design.

“The solution provides actionable insight. When we identify a group of patients that are at high risk, we can react quickly – for example, setting up programs to engage with early-stage diabetes patients and help them manage their condition more effectively, or to deal with high cholesterol before it leads to serious heart problems. This kind of insight helps us work with our doctors and hospitals to improve outcomes for patients, and that is what really matters.”

He concludes: “The combination of IBM Cognos Business Intelligence and Netezza gives us a lightning-fast analytics platform that has significantly increased adoption of business intelligence across the organization. As a result, we can make better, faster decisions based on more timely and accurate information – delivering competitive advantage, increasing operational efficiency, and helping us achieve our target of spending 90 percent of all premiums on the care our members need.”

For more information

To learn more about IBM Cognos software, contact your IBM sales representative or visit: ibm.com/cognos

To learn more about Blue Cross Blue Shield of Massachusetts, visit www.bluecrossma.com



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