IDERA® | SQL Solutions Case Study

AMERICAN FIDELITY ASSURANCE

IDERA Helps Cut Database Administration Time 50%

OVERVIEW

As the number and size of SQL Server applications expand at an exponential rate within many companies, database administration requirements also grow, stretching available technical resources to the limit. What is needed is a diagnostic and management tool that can track critical SQL Server performance parameters and deliver alerts to database administrators whenever a problem arises, allowing them to focus on proactive tasks rather than continually monitoring for problems.

American Fidelity Assurance is a leading provider of disability insurance, supplemental medical insurance, annuities, life insurance and Section 125 administration. Just five years ago, almost all of American Fidelity's applications ran on Software AG's Adabas databases on a mainframe server. Since then, the company has developed new applications and implemented newly purchased packages based on Microsoft SQL Server in a Windows environment, including a document archiving and retrieval system, customer relationship management system and check reconciliation application. The company is also developing a Section 125 administration system and a data warehouse, both running on the popular Microsoft database.

ORGANIZATON PROFILE

Industry Insurance **Headquarters** Oklahoma City, OK **Website** americanfidelity.com

CHALLENGE

Tom Thurston, database administration manager, said these new applications strained the programming team's capabilities since most of the team's background was primarily in mainframe databases. McNeill, who was hired because of his experience in SQL Server administration, immediately began reviewing the challenges faced by the firm.

"You need to look at a lot of different metrics to keep SQL Server performing well," McNeill said. "In an organization like ours, with many databases and a relatively small number of database administrators, our challenge was to collect all the in-depth information we needed across all our databases. So, we had to focus on some key areas." One of the first areas they looked at was index fragmentation and reorganization status. Previously, they considered scheduling reorganizations on a daily basis. Since most applications were required to be up 24x7, however, they could not handle the performance hit or use of database administrator time. "As it was, we ended up tracking fragmentation of just our most important databases, since there just wasn't enough time each day to track all the databases," McNeill said. "In other cases, some data took a lot of time to gather. For example, we knew that excessive page splits were also causing performance problems."

"However, little information was available upon which to base the setting of the fillfactor. Ideally, the fillfactor should be based on the ratio of updates to reads, with low update tables getting higher fillfactors. But there was rarely time to track these statistics."

SOLUTION

Thurston and McNeill examined some different SQL Server management tools. McNeill said most had to be installed on SQL Server itself. “Installing anything on a server is major surgery, and I was concerned that we would see a performance hit,” he said. “IDERA’s SQL Diagnostic Manager was attractive because its tools could run from my desktop workstation.”

The company’s database administrators began using SQL Diagnostic Manager immediately to track statistics essential to maintaining SQL Server performance and availability. For example, instead of manually following SQL Servers for index fragmentation, database administrators set up SQL Diagnostic Manager to automatically monitor for fragmentation above a set level and then send an alert if a threshold is reached.

BENEFITS

Having SQL Diagnostic Manager automatically track fragmentation offered some immediate benefits, including:

- By setting up the tool to automatically track fragmentation, database administrators were able to follow all databases, instead of just the most important ones they previously managed.
- With a steady flow of information, the database administrator team could achieve an ideal balance between reorganizations and fragmentation. Instead of reorganizing at set times, such as twice weekly, a reorganization now only had to occur when necessary to maintain set performance levels.

Plans for American Fidelity include taking advantage of the capability of SQL Diagnostic Manager to run reorganization scripts automatically.

Further performance gains have been achieved by using SQL Diagnostic Manager to carefully track individual database usage so that their fillfactors can be optimized. “We watch the number of inserts, updates, deletes and reads for the tables to determine the best fillfactors,” McNeill said. “For a table with many inserts, updates, and deletes, we might set the fillfactor to 75 percent. On the other hand, for a table that gets very few writes but many reads, we would set the fillfactor to 95 percent.”

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>
> Tom Thurston **Database Administration Manager**

American Fidelity has seen significant performance improvements by taking this approach. Optimizing fillfactors and eliminating unnecessary indexes on one database made it possible to reduce the index size from 24 to 14 gigabytes, which improved response time by 20 percent.

"SQL Diagnostic Manager integrates well with NetIQ's AppManager Suite (AppManager), which helps us manage the computing infrastructure that could impact SQL Server performance," Thurston said. "Our network operations center uses AppManager to manage a physical hardware and the Windows environment. Some of the diagnostics information provided by this tool is important to us. Instead of asking them for the information, we have configured AppManager to automatically deliver the relevant reports and alerts into the SQL Diagnostic Manager console. That way, we can administer and monitor everything from a single interface."

"While SQL Diagnostic Manager is already saving large amounts of time and helping us to improve the user experience, we feel that we are just scratching the surface of its capabilities. We plan to take advantage of the ability of the diagnostic tools to take corrective actions, providing even greater time savings automatically. For example, we intend to automatically run reorganization routines when index fragmentation reaches a certain level. Or if we are running short on disk space a routine to truncate the transaction log will be actuated. SQL Diagnostic Manager is just what we need to manage more databases without increasing our staff. It handles the routine tasks and lets our skilled staff focus on those areas that require their creative and technical skills."

Summarizing: American Fidelity doubled the productivity of its database administrator staff by implementing SQL Diagnostic Manager. The product enables database administrators to diagnose and correct performance problems rapidly. IDERA made it possible for the database administrator team to focus almost 100 percent on true database administrator work, eliminating the routine tasks that were occupying half of their time.

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Tom Thurston **Database Administration Manager**

SQL Diagnostic Manager

ACHIEVE 24/7 SQL MONITORING

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