EXECUTIVE SUMMARY

Industry
American Fidelity Assurance is a leading provider of disability insurance, supplemental medical insurance, annuities, life insurance and Section 125 administration.

Business Situation
The company's DBA staff was struggling with a constant stream of new SQL Server applications, many of which had critical performance requirements. Staff resources were not growing at the same rate, so DBAs were pressed to keep up with the higher database administration workload.

Business Scenario
AFA Database Administrator Derrick McNeill was looking for a tool to help him and other DBAs with routine SQL Server monitoring. He selected Idera's SQLdm because it delivered in-depth SQL Server performance monitoring and functionality to help with database administration, yet was extremely easy to configure and use.

Benefits
With SQLdm, the DBAs could track the performance variables that they previously checked manually, as well as several additional metrics they rarely had time to review in the past. They now get an alert whenever certain thresholds are exceeded. SQLdm also provides reports that track critical variables over time, allowing them to stop problems before they affect users. This tracking and reporting on SQL Server metrics saves essentially 50 percent of the DBAs' time previously spent looking for problems.

**Product**
SQL diagnostic manager (SQLdm)

Idera Helps

American Fidelity Assurance Company

Cut Database Administration Time 50%

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

American Fidelity Assurance (AFA), a leading insurance provider, doubled the productivity of its DBA staff by implementing Idera's SQL diagnostic manager (SQLdm). The product enables DBAs to rapidly diagnose and correct performance problems. Idera made it possible for the DBA team to focus almost 100 percent on true DBA work, eliminating the routine tasks that were occupying half of their time.
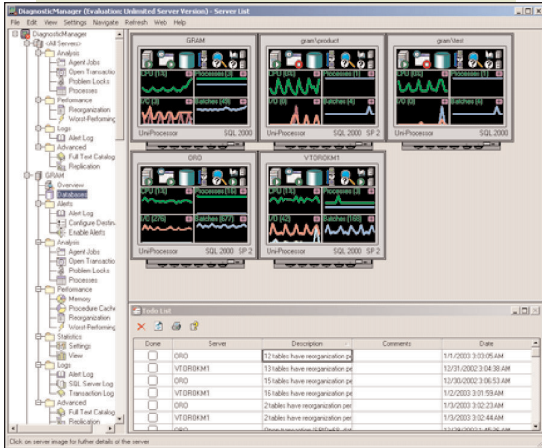
SQL diagnostic manager collects and displays real-time diagnostic data covering SQL Server, helping you quickly investigate and correct database problems.

NEW APPLICATIONS STRAIN DBA RESOURCES

Just five years ago, almost all of AFA's applications ran on Software AG's Adabas databases on a mainframe server. Since then, the company has developed new applications and implemented new 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.

Tom Thurston, AFA 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 relatively small number of DBAs, 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 AFA 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 DBA 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." ▶

SQL diagnostic manager provides reorganization details and the ability to reorganize fragmented table indexes on the Reorganization Status window.

EVALUATING SQL SERVER MANAGEMENT TOOLS

Thurston and McNeill examined a number of 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 SQLdm was attractive because its tools could run from my desktop workstation."

The company's DBAs began using SQLdm immediately to track statistics important to maintaining SQL Server performance and availability. For example, instead of manually tracking SQL Servers for index fragmentation, DBAs set up SQLdm to automatically track for fragmentation above a set level and then send an alert if a threshold is reached. Having SQLdm automatically track fragmentation offered a number of immediate benefits, including:

- By setting up the tool to automatically track fragmentation, DBAs were able to track all databases, instead of just the most important ones they previously managed.
- With a steady flow of information, the DBA 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.

Future plans for AFA include taking advantage of the capability of SQLdm to automatically run reorganization scripts.

IMPROVING PERFORMANCE BY OPTIMIZING FILLFACTORS

Further performance gains have been achieved by using SQLdm 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."

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.

INTEGRATION WITH SYSTEMS MANAGEMENT SOLUTION

"SQLdm 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 physical hardware and the Windows 2000 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 SQLdm console. That way, we can administer and monitor everything from a single interface.

"While SQLdm 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. Our plan is to take advantage of the ability of the diagnostic tools to automatically take corrective actions, providing even greater time savings. 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. SQLdm 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."

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