

SQL Server monitoring on 125 TB of healthcare claims data

U.S. healthcare insurer uses Spotlight® on SQL Server Enterprise and keeps its infrastructure up to 10-second SLA for responding to inquiries

CUSTOMER PROFILE

Company	Major Insurance Company
Industry	Healthcare
Country	USA
Employees	1,000-2,000

BUSINESS NEED

A team of database administrators (DBAs) for a major healthcare insurance company needs 24/7 performance monitoring on 125 TB of SQL Server databases.

SOLUTION

Using Spotlight® on SQL Server Enterprise, the DBAs smoothly monitor instances at multiple sites for production, test, reporting and disaster recovery and keep infrastructure optimized for near-real-time responses to inquiries from healthcare providers.

BENEFITS

- Ensured compliance with 10-second service-level agreement (SLA) for responding to eligibility inquiries
- Monitored performance for nearly a decade, gradually covering 125 TB of SQL Server databases
- Helped in root-cause analysis with playback database for continuous recording of environment

SOLUTIONS AT A GLANCE

- Performance monitoring



“Beyond 12 terabytes in production we have 28 test environments that support the production environment, for another 112-plus terabytes. In total it’s about 125 terabytes for just one system and test.”

DBA Manager for Major Healthcare Insurance Company

When your company has to respond in less than 10 seconds to an inquiry about a claim or else pay a stiff fine, you'd better have a tool that monitors everything affecting SQL Server performance.

SQL Server databases don't live in isolation, so optimizing them for continuously high performance also depends on the systems and layers underneath them. Running out of memory or disk space, for example, can hamper performance and stretch out response times.

At a large U.S. healthcare insurance company, a team of DBAs is responsible for monitoring, diagnosing and optimizing SQL Server, including the databases behind its healthcare IT solutions from Cognizant/Trizetto. Those solutions integrate and manage data on patients, care, claims and revenue for more than 1.5 million subscribers, and its production instance has grown from 1 TB to more than 4 TB over ten years.

THREE INSTANCES IN PROD AND 28 IN TEST

"That application contains years and years of data that our claims department keeps on file," says the company's DBA manager. "Besides the main instance we maintain a reporting environment and a disaster recovery environment, so three instances that add up to more than 12 terabytes. Beyond those we have 28 test environments that support the production environment, for another 112-plus terabytes. In total it's about 125 terabytes for just one system and test."

Those are not the only systems that the DBAs must keep online, up to date and functioning. The company also uses Microsoft's BizTalk Server to automate processes and integrate applications with one another. When a healthcare provider like a doctor or a hospital wants to know whether a patient is eligible for benefits, BizTalk moves the inquiry among healthcare software solutions that confirm insurance coverage. The company has an SLA to reply to all inquiries within 10 seconds or else pay a fine, and the DBAs are responsible for ensuring that the IT infrastructure can meet that SLA.

"People get sick or hurt all the time," says the DBA manager. "There is no off-time for BizTalk and the applications it integrates. It's critical that they perform the best they can so we can meet a 10-second SLA and respond day in and day out."

SPOTLIGHT MONITORS PERFORMANCE EVEN WHEN THE NETWORK IS DOWN

Spotlight has been the company's SQL Server monitoring tool of choice for many years, steadily growing in usefulness as the company's infrastructure has grown.

The company started with a single Spotlight server monitoring a few SQL Server databases. Then, as the IT landscape grew to include failover technology and AlwaysOn availability, the tool kept the DBAs apprised of failovers of an availability group, disk I/O speed issues and cluster failovers.

When IT built its disaster recovery site a few hundred miles away, it included a second Spotlight server and then took advantage of a feature in Spotlight to federate the two servers.

"With federation, each Spotlight server monitors all the SQL Server databases at its site and continues monitoring even when the network connection between them goes down," explains the DBA manager. "We need to monitor all the time because we need our systems up all the time. Suppose a backhoe damages a cable and breaks our network connection, or suppose we lose our link for some other reason. Spotlight on SQL Server Enterprise can still monitor performance at both sites, collect information about servers and notify us of any issues."

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PRODUCTS & SERVICES

SOFTWARE

Spotlight on SQL Server Enterprise

“That means we can stay on top of any issues, get into those sites remotely and fix issues. Spotlight continues to monitor 24/7 even though our network could be down, which is really amazing.”

MOST USEFUL FEATURES: ALERTS AND PLAYBACK

The DBAs have come to depend on the alerts, alarms and email notifications that Spotlight sends. They monitor elements as diverse as availability groups, synchronization health, availability connection failovers, cluster failovers, quorum failovers, disk usage and database unavailability. The team must comply with a tight SLA should the database go offline, so they need the immediate notification that Spotlight provides.

“Spotlight allows us to customize our alarms,” says the DBA manager. “So we’ve placed links to Microsoft articles in the email alarms that Spotlight sends out. That way, if the alarm goes to a new DBA or someone who doesn’t have a lot of experience with the problem, they not only receive the alert that something is wrong, but they also have links to the official Microsoft pages. Our alerts contain the first few steps so our DBAs can start troubleshooting right away, which is pretty cool. If those steps don’t work, they can escalate the incident to higher-level support.”

The DBAs also place great value on the playback database in Spotlight, which allows them to rewind their dashboards and diagnostic drilldowns to the moment an issue arose, then step through the timeline slowly. They use it in root-cause analysis to examine the SQL Server environment at the time of the incident and study information that would otherwise have been lost.

“Windows has a performance monitor,” says the DBA manager, “but unless you’re tracking that all the time on hundreds of

servers — which isn’t feasible — you can’t capture much information. The playback database in Spotlight is like a big flight recorder capturing everything that’s going on and keeping us from having to guess what’s wrong and where the problem lies. Mysteries aren’t good in our business, and the playback database in Spotlight makes them go away. That’s phenomenal.”

STRONG VENDOR RELATIONSHIP WITH QUEST

Finally, the DBAs have been pleased with their strong, multi-year relationship with Quest and the Spotlight engineering team. When the federation feature was introduced, the DBAs were among its early adopters. Over the years, they have continued reporting real-world insights, situations and suggestions, which the engineers have incorporated to improve Spotlight.

“Quest has enhanced Spotlight based on feedback we’ve provided,” says the DBA manager. “That cooperation has not only improved the tool but also made the product better for us to use. We’ve seen tools from other vendors that do SQL Server performance monitoring, but we keep coming back to the features we like that Quest provides. The cooperative relationship we have has been more than enough justification to stay with Quest over the years.”

ABOUT QUEST

At Quest, our purpose is to solve complex problems with simple solutions. We accomplish this with a philosophy focused on great products, great service and an overall goal of being simple to do business with. Our vision is to deliver technology that eliminates the need to choose between efficiency and effectiveness, which means you and your organization can spend less time on IT administration and more time on business innovation.

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