Executive Summary

By leveraging the full suite of SQLBeat's monitoring systems, Georgia Department of Education (GaDOE) staff have been able to troubleshoot complex performance issues, interactions with third party software, resource contention, track and report on performance over time and manage enterprise accountability. SQLBeat tracks more than 100 servers of all types, including SQL Servers, SharePoint servers, Web Servers, File Servers, and Oracle Database and Application Servers.

Using SQLBeat's integrated data warehouse, SQLBeat DBAs also constructed a Dashboard Reporting system and carefully targeted monitoring that allows SQLBeat and GaDOE staff to monitor database and enterprise performance, track trends in their own application-level transaction processing and correlate website and database activity in real-time.

Engaging SQLBeat has resulted in significant improvements in customer satisfaction, increased security, tighter configuration management controls, a significant cost savings and an overall reduction in "emergencies."

Customer Feedback

"The SQL Beat implementation was a snap. The SQLBeat team installed and configured the software, and we began receiving alerts immediately. It was like a light switch had been turned on.

Prior to SQLBeat, there was no pro-active plan in place to deal with server health and monitoring. With over 120 servers, it was like trying to fly a jumbo-jet from the back seat. Before SQLBeat we typically found out about outages from the Help Desk when end users would begin to call in reporting problems. This was just too late! With SQLBeat in place, we are never surprised by a server outage. We are able to take a more pro-active stance and get ahead of issues."

Company Details

Company Name: Georgia Department of Education (GaDOE)
Contact Name: Darryl James
Industry: Government/Education
Number of employees: 200+

The Georgia Department of Education is a state Agency that oversees public education through the state of Georgia. The agency ensures that laws and regulations pertaining to education are followed and that state and federal money appropriated for education is properly allocated to local school systems. Through this endeavor, the agency maintains dozens of applications from small to large hosted on a multitude of platforms. These include the Public Website, Web Portal with over 70,000 users, financial applications and data collection applications.

Problem Description

In 2008, GaDOE approached SQLBeat seeking assistance in the following areas:

1) Inconsistent monitoring between staff, application and support groups across the enterprise methods made it difficult to track performance, manage accountability and measure success at meeting customer expectations
2) No server or SQL monitoring in place; frequent untracked outages were impacting solution delivery.
3) A need for SQL Server troubleshooting and tuning. Periods of peak user load were causing performance based outages. Server configurations not in compliance with best practices were causing periodic outages.
4) No SQL Job monitoring in place to ensure critical functions were completing.
5) Best practices were not being followed in database development.
6) No visibility into application level performance, outages and customer experience.
7) Enterprise server availability, errors and performance were not being consistently monitored.
8) Website activity and performance were not being tracked.
9) Inconsistent user-installed software and patches on enterprise servers causing unexpected outages.

Implementation and Problem Resolution

SQLBeat and GaDOE staff implemented SQLBeat's SQL Monitoring Suite, real-time alerting, weblog monitoring, installed software monitoring and WMI counter polling. SQLBeat's suite immediately began to identify, track and record outages across servers, applications and services in a standard format for reporting and analysis. Further, the visibility provided by SQLBeat's real-time alerting, data warehouse and dashboards allowed GaDOE staff – in all environments – to immediately move to a proactive stance and address issues before they began to have a customer impact.

Using reports provided by SQLBeat's data warehouse, GaDOE Configuration Management staff assesses enterprise performance on a weekly basis. This reporting provides a single-format source for dozens of staff, application and support groups across the enterprise and allows for a consistent, systematic evaluation of high-level performance from week to week. Furthermore, SQLBeat's monitoring supports executive dashboards and provides the perspective of a neutral third party observer.

SQLBeat's monitoring suite produces email alerts in real time as updates and user software installed on enterprise servers changes, allowing GaDOE staff to track, audit and synchronize servers. Additionally, SQLBeat's reporting allowed GaDOE staff to compare installed software across servers and manually synchronize configurations. This was immediately useful in troubleshooting interactions between third party software programs that were at the time causing weekly unexpected outages. Overall, this visibility lead to the development of an enterprise-wide procedure of deployment for patches and new user installed software, in which these are applied and evaluated through Development, Functional and QA environments before being applied to Production servers.

Under SQLBeat staff direction, third parties were engaged by GaDOE to provide remote website user experience monitoring and real-time alerting. This third party monitoring has enabled GaDOE to measure site performance, response time and uptime for internal and external accountability purposes.

As GaDOE began to incorporate SharePoint into the enterprise, SQLBeat's monitoring allowed GaDOE staff to evaluate performance, monitor stress testing and review performance through SQLBeat's dashboards.

SQLBeat's weblog monitoring maintains a data warehouse for GaDOE, and in real-time monitors errors, website traffic patterns and performance of individual servers within the IIS and Oracle web farms. Using the SQLBeat data warehouse, GaDOE has been able to reduce website errors per week by 90%, from 300,000 to 30,000. As new code is moved through environments at GaDOE, SQLBeat's monitoring alerts QA staff to new sources of errors and allows for these to be corrected before they ever have an end user impact. Immediately upon implementing SQLBeat's weblog monitoring, issues were identified with third party internal uptime monitoring tools which resulted in a load (from that tool) upon GaDOE web servers of an order of magnitude more than all user traffic – once this load was removed, overall website performance improved measurably.

GaDOE staff engaged SQLBeat DBA support in reviewing overall indexing and evaluating specific application areas to identify where suboptimal performance could be improved by indexing. As a result, overall SQL Server load has been reduced, and application responsiveness significantly improved. Furthermore, through SQLBeat's dashboards DBAs are able to review index performance throughout the development cycle to stay abreast of incoming releases which require indexing changes for optimal performance.

SQLBeat's staff created custom monitoring enabling GaDOE to monitor application level logging and performance. This includes event log monitoring for application specific events and real-time flat file log analysis, all integrated into the SQLBeat data warehouse, dashboards and outage reporting.

SQLBeat DBAs maintain an onsite presence at GaDOE one day per week, and SQLBeat's remote monitoring is used to provide 24x7 coverage, as well as immediate remote DBA response to critical outages during non-business hours.