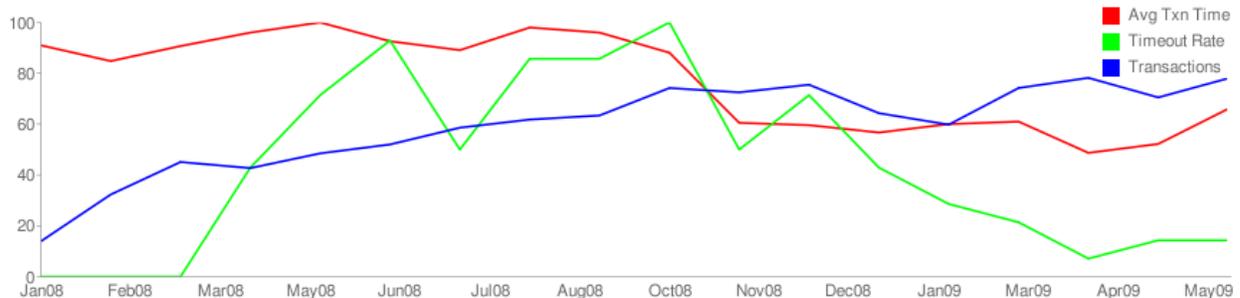


## Executive Summary

By leveraging SQLBeat and SQLBeat's onsite DBA Services, Planet Payment has been able to reduce average transaction processing time by 30% and average transaction over-time ratio (a measure of the number of transactions that run longer than target runtimes) by 75% - all while supporting an increase in transaction volume of more than 100%. SQLBeat DBAs have also implemented application level monitoring, and a comprehensive Disaster Recovery plan.

Using SQLBeat's integrated data warehouse, SQLBeat DBAs have also constructed a Dashboard Reporting system that allows Planet Payment staff to monitor database and enterprise performance, and to track trends in their own application-level transaction processing.

Presently, SQLBeat DBA staff manage Development, Quality Assurance and Production database environments. Planet also uses SQLBeat to provide real-time performance monitoring of their production systems, and SQLBeat staff is on-call 24/7 to address any issues that arise. SQLBeat staff also provides development support, code reviews and deployment management – on average, 30 hours per month.



## Company Details

Company Name: Planet Payment

Contact Name: Paul Whittle

Title: Senior Vice President – Front End Systems

Industry: Financial/Banking

Number of employees: 50+

Annual revenues: 40m+

Planet Payment® is a multi-currency payment processor dedicated to enabling internationally focused processors, acquiring banks and merchants to accept, process and reconcile credit card transactions in multiple currencies. Cardholders travelling or working outside their home jurisdictions who use these services, can enjoy the certainty and convenience of viewing prices and settling transactions in their home currencies. Planet Payment's leading-edge solutions work within the popular credit card infrastructure, and integrate with top acquirers, processors, gateways and POS solution providers in the United States, Europe and the Asia Pacific region. Planet Payment's systems also enable it to provide enhanced data reporting and data mining to help merchants using multiple systems in different countries make informed business decisions.

Planet Payment's suite of innovative multi-currency processing, mobile payments and data management tools are designed to facilitate commerce and improve profitability. From solutions that allow businesses to attract more customers and sell more effectively through pricing localization, to a secure voice application providing merchants with a valuable new sales channel, Planet Payment solutions let merchants efficiently and effectively improve customer satisfaction while driving sales.

## Problem Description

In March of 2008, Planet Payment approached SQLBeat and presented with the following symptoms:

- 1) Transaction volume had increased significantly due to growth in the business, and end user application performance was not acceptable. New clients were scheduled to come online over the following months, and short term improvement was needed.
- 2) Databases were experiencing intermittent timeouts and inconsistent application-level transaction performance.
- 3) Application-level transaction performance was not meeting contractual targets.
- 4) Maintenance tasks were not able to complete within designated time windows.
- 5) Database backups were not being taken in a consistent, reliable fashion.
- 6) Disaster Recovery testing revealed significant issues that prevented performance as expected.
- 7) Best practices were not being followed in database development.
- 8) No visibility into application level transaction performance.

## Implementation and Problem Resolution

SQLBeat staff arranged an on-site visit to implement SQLBeat's SQL Server Database Monitoring software, and to set up real-time alerting. Immediately, SQLBeat began to build a data warehouse that was used extensively for tuning and troubleshooting over the next 12 months.

First, sources of blocking were identified by SQLBeat. Using SQLBeat's data warehouse, weekly reports were prepared detailing blocker/blockee and code review sessions were held to resolve issues. This was used to introduce an overall Best Practices plan to Planet Payment development staff. Using this Best Practices plan, SQLBeat staff were able to recommend a range of code changes which all but eliminated unwanted blocking.

Second, daily maintenance and ETL processes were reviewed and overhauled. SQLBeat was used to identify Maintenance Windows, into which ETL tasks could be moved to reduce end-user impact. Running times and performance were analyzed, and a schedule was developed to coordinate rolling improvements over a period of several months – as a result, reliability and performance of these processes is no longer a significant operating concern.

Third, index performance was evaluated using SQLBeat's exhaustive record of query data. Changes were proposed and implemented which immediately resulted in a significant improvement in transaction processing time. Using SQLBeat's Dashboard, Planet Payment development staff were able to integrate performance/stress testing into the QA cycle so that all new schema and code changes are evaluated for performance impact.

Fourth, a capacity analysis was performed of the existing SQL Server hardware. As a result of this analysis, SQLBeat DBA staff identified a significant hardware instability on the production clustered SQL Server hardware. This instability resulted in sub-optimal disk performance, affecting database performance principally during periods of heavy load. Measurements were taken by SQLBeat DBA staff which established a 20% performance impact due to this configuration. Consequently, a plan was developed and executed on to replace the production hardware.

Finally, Disaster Recovery was addressed by SQLBeat DBA staff. Existing hardware was leveraged to build a comprehensive plan to mitigate risks to both security and physical infrastructure. Leaning on Transactional Replication, this system enabled Planet Payment to seamlessly transition between hardware – and most importantly, to have peace of mind.

With SQL performance stabilized, SQLBeat DBA staff turned to analysis of application performance and developed a comprehensive dashboard to allow Planet Payment staff to track and report on transaction timing and overall performance. This was further extended to create a system of automatic alerts against application performance.

### **Final Notes**

The SQL environment at Planet Payment has stabilized into a proactive maintenance mode. With stable hardware, a clear measure of system performance, and code which adheres to established Best Practices, Planet Payment is in a position to look forward. By leveraging SQLBeat and SQLBeat's DBA consulting services, Planet has been able to cost-effectively tackle both short and long term projects.