



Service: Systems Development Industry: Healthcare Engagement: Redesign and Refactoring

Amentra Dials Up Call Center Performance at Large Healthcare Company

60% IMPROVEMENT IN APPLICATION RESPONSE TIME AND 300% INCREASE IN SCALABILITY

AFTER AMENTRA

- 60% improvement in application response time under load
- 300% increase in scalability
- Efficient architecture means faster development cycles
- Code reuse ensures consistency across applications

BEFORE AMENTRA

Performance issues with a large healthcare company's custom call center application reduced their operational efficiency and ability to scale to meet business needs. The nonstandard application architecture also led to difficulties with maintenance and frequent problems when releasing new versions. Further, inefficient application code and data access created significant resource bottlenecks, preventing the application from efficiently scaling to support the healthcare company's growth.

EVOLUTION OF THE BUSINESS PROCESS

The healthcare company gained the following important business benefits:

- **Improved Operational Efficiency –**

Nurses in the healthcare company's call center experienced significant wait times loading frequently accessed pages during customer calls, reducing the volume of calls that could be supported. Amentra optimized page response time so that the company's nurses spend less time waiting for the application and more time advising their patients.

- **Increased Scalability –**

Despite heavy hardware investment, the healthcare company's application and database servers were operating near their limits, so the system was unable to readily support additional users. Amentra removed performance bottlenecks and implemented more efficient data access, allowing the application to support three times the number of end users with the same hardware.



TECHNOLOGY USED

- WebLogic Server
- Microsoft SQL Server 2000
- Hibernate
- Spring
- Struts
- Open Source Code Formatting and Style Checking Tools

• Better Development Efficiency –

The healthcare company now supports multiple applications with many common features. Creating an architecture that encourages reuse of common code elements improves the consistency across all of the client's systems and allows developers to create more features and enhancements in less time.

APPLIED TECHNOLOGIES AND EXPERTISE

Amentra began by conducting a detailed analysis of the application's source code to identify performance problems, code that did not conform to best practices, and opportunities for code reuse. Based on this analysis, a packaging structure was crafted to group reusable code into an easily understood structure and isolate application-specific code. The team then created an architecture guide document to outline the packaging structure and recommend coding standards. Amentra worked with the client to study their data access requirements and recommend an open source object-relational mapping (ORM) tool, as well as a supporting framework to ensure code consistency and reuse.

During the implementation phase, Amentra first repackaged all of the application code into common and application-specific packages, using an industry standard hierarchy to ensure correct grouping of code. Next, the project team implemented and integrated the Hibernate ORM solution with the Spring data access framework, resulting in faster access times and reduced database load. Finally, Amentra refactored the code that was identified in the analysis phase as being non-standard or contributing to performance problems. After extensive load testing and tuning, the end result was the successful delivery of an application that greatly exceeded the healthcare company's requirements for performance and scalability improvement.

To find out how Amentra can help you please call 804.355.9360 or visit www.amentra.com

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