



## Achieve Healthcare Technologies

### EMC Global Services re-architects software system to improve performance, reliability, and scalability

Achieve Healthcare Technologies ([www.achievehealthcare.com](http://www.achievehealthcare.com)) focuses on the long-term care industry by providing comprehensive technology solutions to nearly 3,000 customers nationwide. Achieve Matrix is a fully integrated, web-based software solution that helps manage clinical, financial, and business operations through a single source. Achieve helps remedy long-term care challenges through electronic health records capabilities, integrated mobile charting technology, and corporate reports and dashboards. Achieve recently formed LTC Technology Services—a division of Achieve that aims to complement a facilities' current technology infrastructure.

To better meet the needs of its customers, the company wanted to enhance Achieve Matrix so it would electronically complete and submit the Minimum Data Set (MDS), a federally mandated standardized assessment performed for each resident. Timely and accurate submission of the MDS is critical to facilities because they cannot receive government reimbursement for covered costs until the Center for Medicare and Medicaid Services (CMS) accepts a resident's MDS.

To speed time to market for this functionality, Achieve purchased the source code to an existing product, but it needed work. Built on non-standard, early web technologies, Achieve asked EMC® Global Services, a trusted development partner, to re-architect it to bring it up to date, enable it to work across multi-facility environments, and increase the levels of performance, reliability, exception handling, and scalability to match those of the existing Matrix system.

#### **Broad expertise helps ensure success**

Without an automatic MDS submission capability, facilities have to manually log in to the Matrix system using the government-provided interface via a dial-up connection. Achieve wanted to provide its Matrix customers with the ability to automatically create and submit MDS information and have it tightly integrated with the system's accounts receivable system.

Achieve felt that the best way to reduce development effort for this new feature was to work with an outside consultant experienced in architecting realtime systems. Selected for its broad expertise in various web architectures, the EMC Global Services team determined that many of the purchased MDS submission product's issues were due to its architecture. To eliminate the outdated technology platform on which the product was built, the team ported the system to Java to match the existing architecture of Matrix.

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The EMC Global Service team then increased system performance by re-architecting how the data was stored, retrieved, and transmitted. Reliability was enhanced by improving exception handling, allowing for earlier detection of errors and facilitating automatic retransmissions when CMS was unavailable. Many parts of the software were redesigned as well to make it more efficient. For example, a single record retrieval using 36 database calls was reduced to one.

Technology used by EMC Global Services to carry out this initiative included: Java/J2SE/J2EE, JBoss Application Server, OpenSymphony WebWork 2.2, Microsoft SQL Server 2000, and Microsoft SQL Reporting Services.

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**Mike Bordelon, Vice President, Research and Development**

“MDS is quite functionally complex and EMC did a great job making sure that all of the function points were accounted for,” says Mike Bordelon, vice president, Research and Development. “The new system has shown itself to be very stable and extensible, it’s easy to maintain, and has had very few defects.”

### **A single-step approach leads to simplified compliance and rapid reimbursement**

With support from the EMC Global Services team, Achieve Matrix now includes a complete MDS system so users can process and validate data as they complete it. An automatic transmission capability then enables users to transmit complete and validated assessments from Achieve Matrix in a single step—with the server automatically connecting to the CMS site to upload the assessment. Any warnings or error reports from the CMS site are downloaded back to Achieve Matrix and the facility is alerted so corrections can be made immediately.

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