



Big Data and Business Process Management

Project tackles petabytes of data, exceeds 60 percent improvement in processing times

According to IBM, organizations and individuals create 2.5 quintillion bytes of data every day. Collectively, human beings have generated 90 percent of the world's data in just the last two years. One of the priorities for businesses today is to mine the valuable and actionable information in this massive amount of data to achieve a business advantage.

Global payment processing companies are experiencing increasing transaction volumes and the exponential growth of associated data. For many of these companies this means that yesterday's data management solutions and strategies can become outdated seemingly overnight. When one global payment company had the opportunity to upgrade and improve its practices in this area, the decision was made to focus on dispute management processes as a critical starting point within the context of broader BPM and big data initiatives.

The objective established for the project appeared straightforward -- deliver comprehensive automated workflow that manages the dispute lifecycle from initial claim entry to final resolution. Like other BPM initiatives, management wanted to improve visibility into enterprise-wide processes and support continuous process improvement. In addition, the company wanted the ability to react and, in some cases, anticipate changes due to regulatory scrutiny, contractual obligations, margin pressures and growing customer demand for new services.

To achieve these goals, the processor brought in its long-term partner, RS Software. RS Software is uniquely positioned to help define and implement the processes necessary to transform a high-volume transactional business. The company's deep domain knowledge in financial services and its process consulting and technical expertise with leading BPM suites and SOA platforms would be critical to the success of the project.

The RS Software team analyzed the functions, capabilities and limitations of the processing company's existing IT infrastructure and then evaluated available design and technology options to develop a custom roadmap. The business requirements and the supporting infrastructure, data sources and analytics were then used to lay out a long-term, pragmatic approach to big data and BPM for the client.

Next, the RS Software team began mapping out key functional dispute management processes focusing on retrieval requests, chargebacks, re-presentments and adjustments. The team delivered a process blueprint and a rules analysis intended to help identify and manage business rules in a separate management system. This blueprint would guide the next phase of the project and be used in the future to ensure continuous improvement.

The RS Software team then evaluated the technical realities of the client's current operations, specifically the central analytics environment. The team discovered limitations with the existing processing environment for the sorting and aggregation of the required data sets. The data sets – including the main source and subsequent sources used to enrich it – were very large approaching a terabyte in size individually. The result was that it took the payment processor up to 20 days to complete the entire dispute management cycle.

From its previous experience, the RS Software team knew that the Hadoop environment was better suited for handling the petabytes of data the processing company was accumulating. The team embarked on an intensive project to migrate the existing central analytics processes from the Ab Initio platform to a Hadoop environment.

The reduction in CPU usage allowed that platform to handle more essential tasks while reducing the end-to-end dispute management lifecycle to less than 7 days. In addition to this 65 percent improvement in processing speed, the migration to Hadoop delivered cost savings from the reduction of hardware license fees and improved data storage capacity.

With the underlying systems in place to handle the heavy lifting of big data, the RS Software team built, tested and deployed the BPM solution. Using the process blueprint, the integration team effectively aligned IT resources with business goals to deliver an application that exceeded the project objectives. The successful delivery of the project allowed the payment processor to be able to consistently meet strict deadlines and reduce penalties and financial write-offs. In addition, the project delivered:

- Faster item processing, identification and resolution
- Improved accuracy
- Enhanced workflow
- Generation of fraud reports, such as SAFE and Fraud Advice for card associations, and
- Prevention of unauthorized access to cardholder and other sensitive data in line with the Payment Card Industry (PCI) regulations

RS Software is a leader in providing vertically integrated solutions for highly complex, mission-critical payments environments. RS Software's exclusive focus on the payment industry for over 20 years forms the basis for its proprietary processes and methodologies that improves time to market for its clients. The company's global delivery model and knowledge transfer disciplines ensure that its cross-culture experience enables maximum value to the customer from start to finish. For more information, please visit www.rssoftware.com.