

Monolith Software Solutions serves up powerful, SaaS-based business intelligence for the quick-serve restaurant industry.

The Company

Monolith Software Services, headquartered in Charleston, S.C., provides software and services to the Quick Serve Restaurant (QSR) industry. The company brings powerful and highly cost-effective solutions to restaurant owners and operators by combining state-of-the-industry, open-source technologies with a product philosophy that lets customers leverage existing investments in hardware and other technology infrastructure.

Monolith, founded in 2000, is unique in the depth of its QSR expertise; virtually every executive in the company has significant, relevant restaurant operations experience. The company offers solutions for POS, payroll and business intelligence (BI) and operational reporting solutions for companies that operate multiple QSR restaurants.

Monolith's suite of proven tools enables companies – typically those operating multiple restaurants, frequently under multiple brands, and operating in an industry known for razor-thin margins – to more effectively track and manage restaurant performance, typically at a cost significantly below that of its competitors.

Challenge

Monolith's early success and reputation for extensive restaurant industry expertise enabled rapid growth in an industry filled with tough competition. As its Above-Store Monitoring solution – offered online in the Software-as-a-Service (SaaS) model – began to be adopted by larger companies, Monolith began to consider upgrading the solution.

First, the company wanted to continue its rapid growth in customers and volume – but that would mean ensuring maximum scalability within their hosted solution. The current “LAMP” solution – developed with open Linux, Apache, MySQL, Perl and PHP technologies – would enable that scalability, but it wouldn't address a second, important factor: scalability.

To compete with BI industry giants – many of whom definitely pursue the QSR market – Monolith would need a more powerful, flexible BI solution, with Web 2.0-like user interfaces and a wide range of reporting, ad hoc query and analytics capabilities. This kind of solution, combined with the company's unparalleled QSR knowledge, would enable Monolith to win more business from nationwide chains.

“We were a highly successful, regional provider,” says Bruce Belvin, President at Monolith. “We wanted to compete on a national level.” So the Monolith team initiated a strategy to replace its LAMP solution with a newly architected data warehouse and BI solution, while retaining the SaaS model.



Company:

Monolith Software Solutions

Industry:

Software / Solution provider

Solution:

Above-Store Monitoring Solution, SaaS-based solution built with Jaspersoft Business Intelligence Suite including JasperETL Powered by Talend

Results:

State-of-the-industry ETL, reporting, dashboarding and analytics are helping Monolith transition from regional provider to nationwide competitor.

FIND OUT MORE

Jaspersoft and its suite of BI products
jaspersoft.com

Talend and its Open Data Solutions
talend.com

JasperSoft open source community
jasperforge.org

“New prospects see the dashboards, the drag-and-drop ad hoc query, and aesthetics, and say: ‘Wow. We didn't know you guys could do this.’ And it's getting us new business – lots of it.”

– Bruce S. Belvin
President, Monolith Systems

Choosing solution components: multi-tenancy and beyond

Among Monolith's requirements for a viable solution, support for multi-tenancy – in which a single instance of software serves multiple client organizations – was critical. “The nature of SaaS dictates that you have one implementation serving many different companies,” says Belvin. That meant every application or infrastructure software component in the solution stack would need to accommodate this need.

The requirement exists, in part, because of the highly variable nature of QSR business organization. “Some of our customers have two or three restaurants,” says Belvin. “Others have two or three thousand.” Reporting and analysis layers and dimensions are plentiful as well; an ownership group might three or four companies, each of which operated multiple restaurants.

“Our solution has to let owners consolidate, separate, and analyze their store performance along a lot of dimensions – geography, product type, product grouping, and a range of demographics,” says Belvin. “So the technology had to be able to let people access things according to their current need.”

Managing input from thousands of different restaurants – with a wide range of POS technologies and data formats – posed another challenge, and would require flexible capabilities for filtering and transferring data.

The architecture takes shape

To create a competitive, robust and highly appealing SaaS solution, the Monolith team decided to continue its reliance on open source software components. The proposed solution stack was founded on the Linux OS and, for the data warehouse, the MySQL database platform. The warehouse would be fed using specialized restaurant data polling software developed in-house, and ETL (extract-transform-load) capabilities that would, it was hoped, be part of an identified BI solution.

To deliver a flexible mix of reporting, analytics and limited data entry to customers, Monolith chose the open source LifeRay portal solution. Monolith also planned to leverage other open technologies for key development and performance assurance tasks, including the NetBeans open source development environment and the Glassfish application server.

The critical ETL and BI components had to meet a wide array of additional requirements. They included:

- **Full range of functionality.** Monolith wanted the simplicity of working with one vendor that could implement a wide range of functions – in this case, operational reporting, analytics, ad hoc query, dashboarding and ETL. “Working with one group of people who could support us in all of these areas was really important,” says Ken Scwhartz, a consultant from Alas Systems.
- **Low cost.** The QSR industry's low margins require operators to seek cost-effective solutions. Licensing and other costs for some BI solutions can be prohibitive, and the team eliminated some candidates for this reason alone.
- **Vendor support.** As a small, focused team, Monolith depends on fast, reliable support from software vendors. While the open source model ensures a comforting backstop – made up of thousands of developers dedicated to both quality and reliability of the software – Monolith wanted a vendor it could trust.
- **Multi-tenant architecture.** This requirement was critical: most available solutions did not support this key feature during the time Monolith was designing its solution. That meant the selected vendor must demonstrate the readiness and will to help build this capability.
- **Time to market.** Monolith had an opportunity to bid for a particularly attractive contract with a major restaurant chain ... but would need to show its new, more robust solution in order to compete and win the business. For this reason and others, the team sought a BI solution and vendor that would help them move quickly.
- **Flexible ETL.** Monolith needed to be able to integrate data extraction functionality into its polling software, while preserving the ability to create custom ETL routines when unusual situations developed.

Focusing on open source providers, Monolith carefully evaluated technology from Pentaho, with its Kettle ETL engine, and Jaspersoft, who provides complete ETL functionality powered by Talend.

“We chose Jaspersoft for a couple of key reasons,” says Belvin. “They could do everything we needed them to do. The teams were a good fit. The pricing model was ideal. And they gave us the best assurance we heard anywhere that they would help us implement the multi-tenancy features we need.”

Multi-tenancy features, at the time, were already on the Jaspersoft product roadmap, but not yet implemented – creating an inviting opportunity for both companies to work together toward their goals. JasperETL, powered by Talend, was best suited for Monolith’s data integration needs, because it generates code that can easily be integrated with other software.

Jaspersoft’s full range of BI functionality was just as important: Monolith clients and prospects were expected to enthusiastically embrace its modern user interface, self-service dashboards, ad hoc query and flexible analytics.

Building the solution

With an eye to rapid development, the Monolith team leveraged the iterative Agile development methodology to assemble, configure and develop the technology components.

“Using Agile was crucial for getting our product to market quickly,” says Ken Schwartz. “The approach helped us at every stage – from working with the sales team to rolling our new Jaspersoft capabilities as soon as we had them wired in. And the shorter cycles let us learn and quickly adjust as we went.”

Functionally, multi-tenancy was again the most critical issue. “We had to re-design our database structure – this was a key part of making it all work,” says Belvin. “The Jaspersoft team was very helpful in getting this done well, and done quickly.” Ultimately, the design required the Monolith team to establish a separate MySQL database for each organization – and properly configure both Jaspersoft and LifeRay solutions to navigate the data successfully.

The fully-implemented SaaS solution now serves more than 4,500 end users in more than 60 ownership organizations. Data is polled daily from more than 3,000 individual restaurants, using custom software developed by Monolith in combination with the data integration functionality in JasperETL.

Data polling, reporting and analytics are staggered, to some extent, because restaurants and management teams are spread across four time zones. But performance is critical – both for decision-making and user adoption – so the Monolith team worked carefully to ensure a highly scalable solution.

The solution has proved a good fit with Monolith’s go-to-market strategy. “Staying open source throughout the stack has let us keep our cost model where we want,” says Belvin. “Our potential buyers are small business owners who have to make careful choices about where to invest. When we can go fast and price aggressively – without per-seat licenses, for example – we have a real competitive advantage.”

Results

With its new, state-of-the-industry Above-Store Monitoring solution, Monolith is seeing precisely the result it desired: a legitimate presence on the national stage.

“We’re winning more new business,” says Belvin. “The graphically-oriented reporting, what-if analytics and dashboard creator are adding a real ‘wow factor’ to our solution. More and more, prospects see the drag-and-drop ad hoc query piece and say ‘Hey – we didn’t know you guys could do this.’”

“And we can. It’s making a huge difference – we’re moving from being a regional provider to competing on a national level. Household brands are choosing us for nationwide deployments.”

Part of the success is speed-related. “We were just a bit behind the curve with reporting and analytics,” says Belvin. “Now we’re at the front of the pack, and we can move rapidly on new opportunities.”

To make his point, Belvin cites a market need in the delivery pizza business, where customer information – names, addresses, frequent orders, etc. – is the key to success. Recently, a franchisor developed a data warehouse and tools to manage this data, but prohibitive user licensing costs prevented franchisees from opting in.

Now, the Monolith team is creating the same capability – in a fraction of the time, and at a much lower price point, thanks to the lower costs of subscription-based, open source technology. “People are amazed at how quickly we’re delivering this, and at the price level,” says Belvin. “And that’s exactly what we wanted.”

About Jaspersoft

The Jaspersoft Business Intelligence (BI) suite spans the continuum of BI. Jaspersoft provides the most flexible, cost effective and widely deployed Business Intelligence suite in the world, enabling better decision making through highly interactive, web-based reports, dashboards and analysis. Leveraging a commercial open source business model, Jaspersoft provides end-to-end BI capabilities at a fraction of the cost of other vendors. The BI suite includes pixel-perfect enterprise reporting, ad hoc query, dashboards, OLAP and in-memory analysis, and data integration. Jaspersoft is the only BI vendor that enables companies to adapt to the new, virtualized world by providing a complete spectrum of on-premise, multi-tenant SaaS and cloud-based deployment options for both embedded and standalone business intelligence. Unlike traditional BI vendors, Jaspersoft is built on a modern, light-weight, standards-based architecture and offers greater vendor independence thanks to its open source codebase. Unlike niche BI vendors, Jaspersoft represents a safe choice with tens of thousands of production deployments across a wide range of industries.

Jaspersoft's open source business intelligence software has more than 11 million product downloads worldwide, 160,000 production deployments in 100 countries and over 13,000 commercial customers. Its BI suite is advanced regularly by a development community of more than 150,000 registered members. For more information visit: www.jaspersoft.com and www.jasperforge.org.

About Talend

Talend, the first provider of open source data integration software, makes data integration available to all types of organizations, regardless of their size, level of expertise or budgetary constraints. Talend's solutions connect to all source and target systems and they can be downloaded at no cost. Talend also offers data quality solutions, fully complementary to its data integration solutions.

Talend Open Studio manages highly complex integration processes in even the most demanding environments. Talend Integration Suite, the leading open source enterprise data integration solution, supports the tough requirements of enterprise development, scaling to the highest levels of data volumes and process complexity. Talend On Demand, the industry's first data integration Software as a Service (SaaS), enables project teams of any size to consolidate their work in a centralized and shared repository.

Talend Open Profiler enables business users and data management staff to gauge, at a glance, the level of quality of critical business data. Talend Data Quality extends Talend Open Profiler, adding data cleansing capabilities, enterprise-grade features and technical support.



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