



Alacrity revitalises Worldwide Chain Stores' aging technology stack

CLIENT OVERVIEW:

Worldwide Chain Stores (WCS) is an internationally recognised provider of software solutions and services, dedicated to improving the performance and profitability of an organisation's supply chain. Specialising in warehouse management, procurement and labour management solutions, WCS has an enviable history in providing world-class solutions to large organisations in North America, Europe and Africa over a 45-year period.

THE CHALLENGE:

WCS's 2nd generation Warehouse Management Solution, although excellent and valued by clients around the world, was based on legacy technology. This presented a challenge to the long-term sustainability of the business, as unmaintainable technology would eventually lead to WCS's clients moving off the solution in favour of competitor's platforms. The technology behind this solution would need to be updated and the system redesigned in order to meet the high standards of performance and stability, critical aspects of a warehouse management system, to which WCS's customers had come to expect and rely on.

WCS started investment on the 3rd generation offering called CSnx. It was now critical to ensure that CSnx would meet their existing customers need for a modern technology stack with rich functional capacity offering superior value.

In order to achieve this, WCS required a highly skilled and knowledgeable development team, experienced in the latest technology. Owing to the high costs and shortage of resources in the United Kingdom, WCS decided to partner with Alacrity Technologies South Africa, as they could offer high quality development at a lower cost. In addition to these benefits, outsourcing the development of CSnx to Alacrity ensured that WCS would not be left with an excess of staff once the majority of the workload was completed.

"It was vital that we invested in access to the right skills, expertise and experience"

– Joshila Makan,
CEO of Worldwide
Chain Stores.



THE TECHNOLOGY SOLUTION:

In 2014, Alacrity signed a long-term outsourcing agreement with WCS to become their development partner, thereby providing technology direction, enterprise and solution architecture services, as well as a full service set across the entire systems development life cycle (SDLC) for WCS' warehouse management and procurement solutions. Under this arrangement, Alacrity would play an important and significant role in the development and architecture of CSnx, providing a next generation technology platform capable of automating and managing complex omni-channel supply chain operations.

The first priority was for Alacrity to port the CSnx application from an outdated IBM based EJB2/ Struts solution, which could only run on DB2 and IBM WebSphere, to an **open stack**.

The new stack used the most up-to-date Java standard (JPA2) for database access. CSnx could now be configured to use either OpenJPA or Hibernate as JPA implementations, thereby **enabling customers to configure CSnx using their choice of database** e.g. DB2, Oracle, SQL Server, MySQL etc. without any code changes.

Various features of the Spring Ecosystem were utilised for the middle tier of the application to cater for aspects such as security, data access, integration etc.

Additionally, Apache CXF was used to create all the REST and Web services, and all reporting was done via Jasper Reports. The user interface was built using Google Web Toolkit (GWT) and SmartGWT. GWT allowed for a rich web client with **advanced features** to be built that **would run on all the popular browsers**.

All the UI components in CSnx were defined in metadata, which could then be processed via a UI engine developed for this purpose. The engine used SmartGWT for desktops and plain GWT for handhelds in terms of generating the actual screens.

The new open (**non-proprietary**) stack allowed for CSnx to be deployed on various databases and various application servers with no change to the code. It has since been deployed on IBM WebSphere, Apache Tomcat, Oracle Weblogic and Wildfly (ex-JBoss), as well as virtual machine clusters on Google Cloud and small single servers.



“Enabling WCS’s clients to become an integral part of the next generation supply chain, where integration, easy configuration, and visualisation of key parameters of a complex environment were becoming increasingly important, was an exciting and challenging proposition for Alacrity”

– Dr. Andrew Boake,
CTO Alacrity Technologies.

THE OUTCOME:

The end result has been a robust, stable, high performing application that should be successful even through the most stringent international architectural audits, and has allowed WCS to offer CSnx to a variety of clients, ranging from small businesses to large enterprises. The system is easily maintainable; thereby significantly reducing cost and turnaround time for changes needed for specific implementations or roadmap related enhancements. This new system will ensure long-term sustainability for WCS, and enhance the potential to increase market share for their CSnx product.



“The Alacrity Team has integrated well with the WCS UK and US Teams and have become a critical component of our product development. We appreciate the amount of effort and hard work the team has put in so far, evidenced by the tremendous results achieved over the last few months. We have also received great positive feedback from the customer acknowledging the great work and effort put in by WCS to achieve very aggressive timelines - WCS could not have done it without the Alacrity Team”

– Joshila Makan, CEO of Worldwide Chain Stores.