LANSA Case Study

CBH's grain handling system provides a competitive edge

The CBH Group is Australia's largest grain co-operative with operations extending along the value chain from grain receival, storage, care and transport, to marketing, shipping and processing. CBH's core grain handling system, including Web access for growers and other stakeholders, has been developed using LANSA. Integration with other systems, such as SAP Financials and CBH's port control systems, are largely based on Web services, also developed with LANSA. LANSA partner Lateral WA played a major role in delivering these LANSA-based systems.

Jezz Bennett, Team Leader Design & Application Support, CBH Group, says, "The LANSA-based systems are key to managing the supply chain process from receiving growers estimates, to delivery and storage of the grain, to selling, billing and shipping. These systems have been developed specifically for CBH and the way we do our work. Being able to develop, enhance and integrate those systems using LANSA has allowed us to move quickly on opportunities and has given us a competitive edge."

A Demanding Environment

The CBH Group is based in Western Australia (WA), the country's largest wheat producing state, and is owned and controlled by around 4,800 grower shareholders. CBH receives, handles, stores and outloads bulk grain at almost 200 receival sites throughout the state's 300,000 km² grain belt. CBH's total storage capacity exceeds 19 million tonnes and on average, 10 million tonnes is received from WA's annual harvest. Over 90 percent of the annual harvest is exported.

CBH initially used the Synon development tool for their core grain management system. In 1999 this was complemented with a LANSA-based Web site to collect harvest estimates from the growers.

In CBH's demanding environment, Synon started to fall short, as it was lacking in productivity and could only generate character based applications. "We were looking for an up-to-date development environment that was Windows-based and that would allow us to create both rich Windows and Web applications," says Bennett." Another requirement was that we wanted a quicker development life cycle."

LANSA, already used for giving growers Web access, met CBH's requirements and was elevated to become the strategic choice for developing CBH's core grain handling system. LANSA's productivity through reuse of components was also a major contributing factor in this strategic decision.

"LANSA has allowed us to move quickly on opportunities."

One Interface to Multiple Systems

Using their own team of six analysts and assisted by LANSA business partner Lateral WA, CBH set out to redevelop their existing grain handling system with LANSA, a large project that would take nearly three years with a team that fluctuated between six and thirty staff members and contractors.

The new system, called IBIS (Integrated Business Information System) has a rich-client interface and is used by 750 staff at CBH's corporate office and, through Citrix servers, at CBH's receival points. External parties have access through a LANSA-based Web solution called LoadNet. IBIS and LoadNet both run on the IBM i platform and integrate with many other systems, mostly through Web services built with LANSA Integrator.

Parties that use LoadNet include growers; advisors who negotiate on behalf of the growers; marketers who act as

agents for the growers and sell the grain to end user companies; and transporters.

Growers use LoadNet to provide harvest forecasts and to schedule deliveries to a receival site. The receival sites are highly automated and have computerised weighing and sampling equipment connected to Linux-based systems that update the load information in IBIS through WebSphere MQ, allowing growers to view their load details a short time after delivery.

Growers can sell, transfer or contract their grain through LoadNet. Using Web services, LoadNet integrates with a price discovery application called DailyGrain. Marketers enter the prices that they are willing to pay for certain grains in DailyGrain and growers can upload their deliveries from IBIS through LoadNet into DailyGrain. Through the LoadNet interface and based on certain parameters, the integrated solution will then suggest the best price offered by a marketer, which the grower can accept or reject.

The change in ownership triggers billing into SAP. Growers can look at their payment details through LoadNet's interface with SAP, which is based on Web services and SAP XI.

LoadNet also has links to an application for online contract writing, which allows growers and marketers to arrange contracts and PayRite, where contract information is stored and payments to growers are calculated. Again, integration is via Web services.

Mark Leigh, Business Alignment Analyst, CBH Group explains, "LoadNet started out as the Web front-end for IBIS, but now it also integrates with other systems. The grower needs only one interface from which they can see information from multiple systems."

A third party control system manages the movement of grain at the ports and at the Metro Grain Center at Forrestfield. IBIS and the control systems exchange reference and loading information through WebSphere MQ and LANSA Integrator.

From a Business Point of View

An example of CBH being able to react swiftly on an opportunity was in 2007 when Australia's government decided to deregulate the grain market and remove the single desk policy for grain exports. CBH Group, its operations arm already being Australia's largest grain bulk handler, has since expanded its CBH Grain marketing arm to become Australia's largest grain exporter. CBH's IT systems went through a major change to support the new business processes.

IBIS and LoadNet have introduced some great efficiencies, according to Bennett, such as improved services to growers, marketers and other organizations, more transparent grain prices, more time for marketing decisions and simplified invoicing. In addition, better planning of logistics has resulted in overall efficiencies and reduced costs.

Carlie Lakeman, Manager of the Grower Service Centre, says, "IBIS has a productive GUI with graphs and maps in addition to the transactional information. We hire casual employees during the harvest period. They always learn IBIS very quickly, which shows the system is intuitive, even for newcomers."

"Consistent reuse of components is crucial in large application environments."

Lakeman and other users all had input to IBIS. Feedback from growers regarding enhancements to LoadNet is encouraged as well. Examples of recent enhancements include improved display and search functions, contract validation tools, plus growers can export data from LoadNet to Microsoft Excel.

From an IT Point of View

CBH reviews its IT architecture every five years and the decision in 2002 to redevelop its core systems with LANSA was not taken lightly, neither was the decision in 2007 to continue using LANSA. Did LANSA keep its promises? Bennett and Leigh certainly believe so. When asked for examples of why LANSA is working well for CBH, they mention the following reasons:

"The systems are robust. There have been only two unplanned outages since June 2005. That's not only thanks to LANSA, it also has a lot to do with the stability of the IBM i platform," says Bennett.

"Another reason is that LANSA covers multiple technological paradigms and works across multiple platforms. This lets CBH use LANSA for rich-client and rich internet applications and access multiple database formats on IBM i, Windows and Linux servers. CBH uses LANSA Integrator in a variety of integration scenarios: Web services over HTTP or WebSphere MQ, FTP services and EDI," continues Bennett.

"LANSA has proven its productivity claims. It has a short learning curve. Plus its repository of reusable components saves time as well," according to Leigh, who also notes that the LANSA Repository is important for the quality of the applications. "Consistent reuse of code, business rules and other components is of extreme importance, especially in large applications environments like CBH."

Conclusion

"IBIS is now nearly six years old," says Bennett. "We are looking at its use both in the medium to longer term. So far IBIS has done extremely well and it has provided us with an environment where we are able to quickly react to the ever changing market conditions. At the end of the day it's going to be a business decision whether we will continue with a bespoke solution that can be easily and readily enhanced to give us a competitive edge, or to go with a packaged solution."

CBH has three senior analysts looking after IBIS and LoadNet and relies on LANSA partner Lateral WA for development, integration and additional analysis resources. "Lateral has a core group of six people who are totally familiar with our systems and in peak times they can allocate extra staff. We have a very good business relationship with them," concludes Bennett.

Company and System Information

- The CBH Group is Australia's largest grain co-operative. For more information visit: www.cbh.com.au
- Lateral WA is a LANSA partner located in Perth, Western Australia. For more information visit: www.lateralwa.com.au
- Some of the statistics for IBIS and LoadNet include: 1,284 physical files, 2,375 logical files, 512 trigger functions, 2,293 server type functions, 2,015 Windows forms, 2,429 reusable parts in the Repository, 1.2 million lines of Visual LANSA code, 850,000 lines of traditional LANSA code.
- CBH production environment runs on an IBM i M50 plus a development machine – Model 520.

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