LANSA®
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Review

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Where do frameworks fit into application development?

Application innovation in the insurance industry

Beacon modernizes and streamlines Insure/90

CBH's grain handling system provides a competitive edge

Pernod Ricard synchronizes data using GS1 standards

John Wiley & Sons re-engineers for the Web

ISC expands market share through modernization

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ELPA extends its services and creates new revenue

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THE LANSA REVIEW
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In this issue:

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Insurance Industry

A WORD FROM PETE DRANEY
Director and CEO

Application Frameworks

Building modern, secure and efficient, rich-client or browser-based applications can be a mountain too high to climb for many IBM i practitioners whose skills are grounded in RPG and 5250 applications. We've seen too many projects start and fail. Application frameworks, like the Visual LANSA Framework, allow developers to prototype commercial applications rapidly without coding. They also provide a ready-made shell and schema that greatly reduce the software development effort and they improve the overall quality of the application. Read the Architects Corners – it's all explained in detail.

Cloud Computing

aXes Cloud significantly enhances the current cloud computing offerings available on the IBM i. Via a Cloud Gateway IBM i running aXes Cloud, users get browser-based access to IBM i line-of-business applications wherever the IBM i is situated – providing a perfect solution for cloud computing service providers to add the IBM i to their offerings. As a bonus, the browser access to the IBM i occurs on-the-fly without having to change any of the application code and without having to install any new software at the client PC. Whether you plan for a Private Cloud or Public Cloud, read all about it on page 3.

Insurance Industry

The insurance industry's top IT concern seems to be legacy application modernization. Some of their applications are over 15 years old and cannot provide the nimbleness required by such a competitive industry as insurance. Most insurers have millions of dollars invested in their legacy systems and are constantly analyzing the risk/reward equation when it comes to application modernisation. Read the Insurance Industry Showcase article for many practical examples and success stories.

The Beacon Insurance Company, with offices throughout the southern Caribbean, provides an excellent example of insurance application modernization. Beacon has streamlined its procedures and modernized its Insure/90 system using a combination of the LANSA Workflow Framework, RAMP and LANSA Integrator tools. As a result, Beacon offers better customer service and converts more quotes into new business.

Other Case Studies

The **Plantion** case study shows, as many of our case studies do, how large systems are managed by a small IT team. Plantion is a leading Dutch flower auction and horticulture trade center. A LANSA-based system takes care of all EDI notifications, distribution, invoicing same day debit collections and integration with other systems.

Now don't think that LANSA is only used by small IT teams. **CBH** is Australia's largest grain co-operative. CBH's core grain handling system, including Web access and integration with other systems, has been developed using LANSA. Putting the system together was a very large but rewarding project with a team that fluctuated between 6 and 30 developers.

Pernod Ricard USA is the largest subsidiary of the France-based Pernod Ricard SA, a top player in the global spirits and wine industry. Pernod Ricard USA is using LANSA Data Sync Direct to synchronize supply chain information with its customers. The case study shows how they achieved business benefits, as well as becoming GS1 compliant.

Modernization case studies include:

John Wiley & Sons in the USA, a leading publisher of print and electronic products, used RAMP to rapidly re-engineer its applications for the Web as part of a project to take its systems global.

Investment Systems Company, in the USA, used RAMP to modernize and gradually redevelop its packaged portfolio management solution. The modernized solution will be offered cross-platform when the modernization project is finalized.

ELPA, Greece's leading roadside assistance company, used aXes to provide partners with secure Web access to its core system. The solution didn't require any changes to the core system and was delivered in a very short time.

Announcing:

aXes extends Cloud Computing for the IBM i

aXes Cloud, an exciting addition to the aXes family of modernisation and usability tools, significantly enhances the current cloud computing offerings available on the IBM i. Via a Cloud Gateway IBM i server running the aXes Cloud software, users get browser-based access to IBM i line-of-business applications, wherever the IBM i is situated – providing a perfect solution for cloud computing service providers to add the IBM i to their offerings. As a bonus, browser access to the IBM i occurs on-the-fly without having to change any of the application code and without having to install any new software on the client device.

aXes Cloud, installed on the Cloud Gateway, enables any device that runs a browser (e.g. desktops, laptops, mobile devices) to be automatically connected to any IBM i server.

aXes Cloud is a perfect solution to connect multiple incoming users to their multiple applications spread across multiple IBM i servers.

Users log on to aXes Cloud and it automatically routes that user to the IBM i server and the application of choice. Users don't need to be aware that the Cloud Gateway exists – they log on as normal.

- Companies can use aXes Cloud as a gateway to provide their own employees with access to different applications running on multiple IBM i servers.
- Hosting companies can host a Cloud Gateway that provides the switch connecting a single company's fixed and mobile users with browser access to that company's IBM i server(s).
- Hosting companies that host IBM i servers belonging to multiple companies can use aXes Cloud as a switch to route users from different companies to the correct IBM i server(s) within the hosted environment.
- Application software vendors can host their application with a hosting company and use aXes Cloud to offer the application to their customers via a Software as a Service model.

Remember – no additional software needs to be installed anywhere, except that aXes Cloud is installed on the Cloud Gateway server. It operates as if it were installed on each of the connected servers. Users enjoy having access to their applications from any device and any location.

What is aXes Cloud?

aXes Cloud is an extension to aXes and provides all of the aXes services for multiple IBM i servers and applications. It installs on a Cloud Gateway IBM i server and users can access applications, manage spooled files, query databases and operate the IBM i, all running on any other connected IBM i server. The aXes cloud computing software operates as a private cloud, a public cloud or a Software-as-a-Service (SaaS) cloud for independent software vendors (ISVs).

aXes Private Cloud

To configure a private cloud, companies install aXes Cloud on one IBM i server and permit users access to applications, spooled files, databases and systems management on any other of their connected IBM i servers. Company employees can access their branch office server from their desk or remote location.

aXes Public Cloud

aXes configured for a public cloud provides hosting companies with the tools to allow their customers to access applications, spooled files, databases and systems management on hosted IBM i servers or on IBM i servers located on the customers' own premises. Employees from each company log on to the Cloud Gateway server and are routed to their company's server across the Internet, or to a server in the hosting company's data centre.

aXes Cloud for SaaS

aXes Cloud provides ISVs the ability to offer their packaged application via the SaaS model. The ISV installs aXes Cloud on an IBM i server and instances of the application on one or more IBM i servers. Customers log on to the Cloud Gateway server and are connected to the appropriate server running their instance of the application.

More information at: **www.axeslive.com** ■

Figure 1: aXes Cloud - Private Cloud

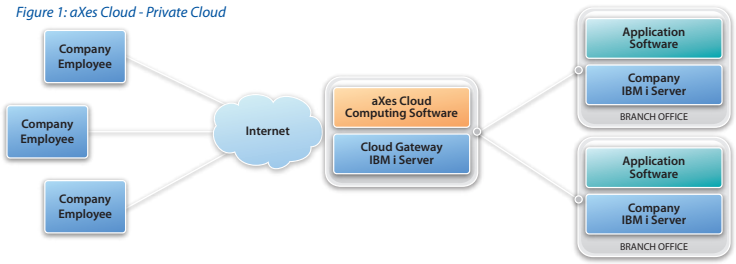


Figure 2: aXes Cloud - Public Cloud

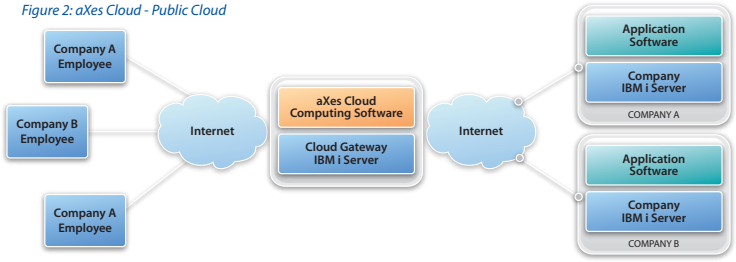
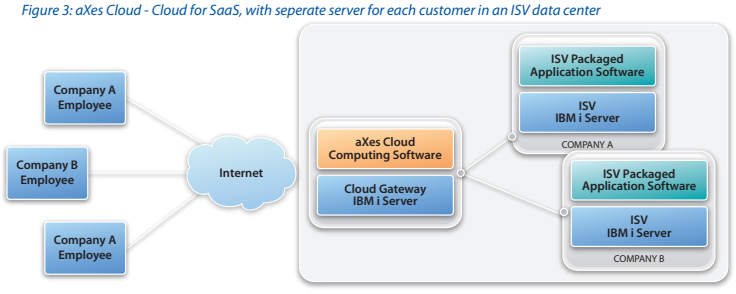


Figure 3: aXes Cloud - Cloud for SaaS, with seperate server for each customer in an ISV data center



Application Replacement: risk, cost and innovation considerations

Ed Jones – *Country Manager for the U.K. & Eire, LANSA Ltd*

The economic crisis of recent years has forced a rethink of major IT investments. Even with the supposed green shoots of recovery being discussed by our political leaders, it's hard to see how the large capital expenditure projects similar to those of five years ago will be funded today.

So even though the competitive landscape will move on relentlessly, the idea of replacing all your business applications as part of a strategic plan will probably fall on deaf ears. I still remember an ex-manager of mine saying that every time I said "strategic project funding" to him it just meant that it was going to cost the company money.

Executive Challenges

For most companies, their applications and systems do an OK job of running the business. They probably have done so for the past 10 to 15 years as they've been customized to suit your bespoke business processes. The problem today is delivering that next 10 to 15 percent of functionality required to get the business back to being a market leader again. This might then be followed by the more significant effort needed to enable the business to drive forward over the next three to five years.

As your business has changed, new systems have probably been bolted on the application portfolio, creating an evolved architecture. Evolved, or accidental architectures, usually end up constraining their hosts, as the cost of development, maintenance and testing grows ever larger, leading to paralysis in the delivery capability of your team. This application spaghetti is often the main reason IT professionals favour a rip-and-replace strategy.

Risk, Cost and Innovation

However, a rip-and-replace approach is not necessarily the right one. In order to assess the value of making fundamental changes to an application portfolio, one should look at the three core aspects of

- Risk
- Cost
- Innovation

The rip-and-replace approach may deliver lots of innovation, but is it worth the cost and risk? Are there other ways to achieve similar levels of innovation? Maybe you should look at ways to capitalize on (parts of) the existing systems and make them easier to integrate and change, and less expensive to run.

Depending on the profile of your business, you may want to maximise some of these aspects at the expense of others, but this is a business, not a technology decision. Only once the blend of these parameters is agreed, can a technology change program be considered.

Business Focus: Revenue and Profit

When evaluating change, the commercial drivers will either be to increase revenue or reduce costs (notice that I'm staying away from using the word strategy at the moment). If your company is looking for revenue growth in the short term, extending sales reach through new channels to your current market or into new areas may be required. Longer term, increased revenue may require a different product mix. By optimizing the product development life cycle through improved processes and systems, the time-to-cash can be dramatically reduced. Therefore, look for opportunities in your company where technology can help to improve the bottom line.

For example, the Internet can provide a very cost-effective way of reaching into new markets, even more so with the recent popularity of mobile commerce in the consumer market place. But it does require that organizations are able to connect their core back-end systems in real-time to a Web presence or EDI solution.

Look to drive efficiencies through your organization by reviewing working practices, the workflow of your systems and by delivering self-service capabilities, as these activities target the underlying profitability of your business. Each functional area within the business has its part to play.

One sure way to improve the bottom line of the business is to focus on improving customer service while lowering the cost-to-serve. Consider, for example, the cost difference between someone in your accounts receivable department spending 15 minutes on a call with a customer managing an invoice query, and the same customer reviewing their account themselves via a Web portal. Multiply this effort by many thousands of customer queries a year and the efficiencies are obvious.

When considering internal applications, workflow is critical. People often create their own undocumented workarounds to inefficient business systems. These activities can become so entrenched that people stop thinking about improving things. You can probably optimize the processes, although only if the underlying systems are flexible enough to support the change.

Blending Risk, Cost and Innovation

Delivering innovation in core business systems is essential in order to drive growth and profit. Innovation underpins any organizational change program and is required to take advantage of new thinking, new business practices or new technology platforms.

Without innovation your business risks falling behind in the market place as your competitors drive forward. However, in some commodity areas of your application set, delivering innovation is less important than containing costs, so there is always a balance to strike and one size definitely doesn't fit all. With dramatic change there is also increased risk and although some of this can be mitigated, it can't be removed completely.

When focusing on risk management, the challenge is to balance the rewards of change with the potential downside, which could include breaking your entire business if there are problems. Risks can manifest themselves in a number of ways: from not being able to transact business because a migration went poorly, through to not being able to complete your change program in time, causing

lower profits or perhaps being in breach of government legislation. Risks also have a positive slant such as the risk of not changing when your competitors are.

Cost is, again, a two-way street. We tend to think of cost in terms of containing capital spend, such as when implementing a new solution. However, you must also consider the cost of missed opportunity and missed revenue, because you didn't implement the solution.

When taking a strategic view (I finally dared to use the word), you can establish the profile for your business and create a general approach.

An Insurance Company Example

I will illustrate this with an example of a mid-sized insurance company when faced with having to:

- Launch new insurance lines quickly.
- Improve the workflow of their business systems.
- Reduce the cost of staff training.
- Improve the internal and external perception of their systems.

Although our sample insurance company ranked innovation as high, the most important measure was risk and that any activity shouldn't put the business at risk. When they were looking at a change strategy for their core insurance application, there was a conflict between the requirement for high levels of innovation in a short timeframe and the risk of breaking the business. Because of this, a rip-and-replace strategy on the existing systems was not seen as appropriate.

Other considerations included:

- The business must be put on hold while investigating, selecting, analyzing and delivering the new system. This prevents any innovation for months or even years.
- The implementation of a vanilla package typically delivers a backward step in functionality as it usually needs to be recustomized to your bespoke business practices. Addressing this then takes more time and resources.

Figure 1 below outlines the options that were considered by the IT management team when evaluating a blended approach. Your perspective may well be different.

By mapping the business interpretation with the IT view, they were able to select Modernise/Extend as the most suitable approach for their core insurance platform.

If you do this at a departmental, level you can use the results from Figure 1 to select the most appropriate approach for each area of your systems. Figure 2 provides an outline of this insurance company's view on how to approach the change program for their entire application portfolio.

The usual 'your mileage may vary' statement must be inserted here as the profile of this insurance company may well be different to your company.

So with the high level approach agreed for each functional area, the next challenge is to get the money in place from your sponsors and the timeline agreed for your change program (don't call it a strategic change program). And that's a whole other article. ■

Figure 1

	Innovation	Risk	Cost
No Change	Low	High *	High **
New Package	Med/High ***	High	High
Modernise/Extend	High ****	Low	Low/Medium
Modernise/Migrate	High ****	Med	Med

* High Risk to the business as it may hit a wall when IT can't react fast enough to the changing business landscape

** High Cost to the business due to cost of lost opportunities, e.g. not being able to create new lines of business

*** Innovation might be low for several years, because while a new package is being implemented, improvements to the existing system are typically put on hold.

**** Innovation where it matters most

Figure 2

	Approach
Back Office System 1	Modernize/Extend
Back Office System 2	Modernize/Migrate
CRM	No change
Personnel	New package
Finance	New package
Distribution	No change

• For more articles on application modernization, cost justification, project management, SharePoint integration and many other topics, visit: **http://blog.lansa.com**

Beacon modernizes and streamlines Insure/90

The Beacon Insurance Company Ltd, headquartered in Port of Spain, Trinidad, and with branch offices throughout the southern Caribbean, offers a full range of insurance products and financial services, including general insurance, life & health insurance, asset management and financing. Beacon has streamlined its procedures and modernized its Insure/90 core policy administration system using a combination of the LANSA Workflow Framework, RAMP and LANSA Integrator tools.

Christopher Woodhams, Vice President Information Systems, says, "Our business strategy and LANSA system allow us to focus on winning new business. We now have complete visibility and control of how documents and work progress through the organization, regardless of divisions and locations. Turnaround times are consistently fast and competitive and we can offer our clients a one window view of their business with us. The system is opening up new opportunities, allowing us to reassess how we utilize our real estate and resources."

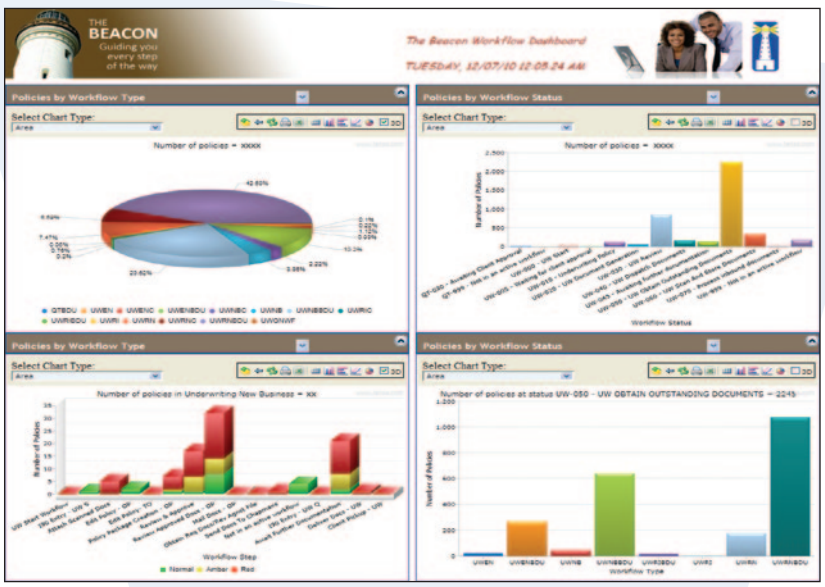
ROI Calculations

The Beacon Insurance Company Ltd (Beacon) operates from 12 locations in Trinidad & Tobago, Grenada, Barbados, St. Vincent, St. Lucia, St. Kitts & Nevis, and Dominica with a team of loyal and dedicated staff. The company regards the quality and delivery of its services its main competitive differentiators and is constantly aiming to improve on these.

In this context Beacon believes that personal attention is a top priority for direct corporate clients, while for broker customers fast turnaround is the main focus. However, until recently Beacon was hampered in implementing these improvements, as its Insure/90 system and internal procedures did not allow for either.

"Our Insure/90 implementation served as a robust database underwriting system, but it didn't have the workflow features to measure timelines or the facilities to effectively manage tasks that span two or three different divisions," says Woodhams. For the customer, the static and hierarchical organization of products and divisions meant that they had many different points of contact.

Driven by a strategic initiative to provide better customer service, Beacon started to look for a solution that would help to streamline multi-divisional workflows and give their customer representatives a 360-degree view of the customer, their policies, claims, quotes, and all past and current matters.



A high level view is available through the solution's real-time dashboard, allowing management to drill down to details.

> **"Staff now have a company wide view of quotes, policies and claims."**

Beacon analyzed various options, including a full Insure/90 system replacement. However "the risk was too big, the cost too high and the timelines too long", as Woodhams explains.

"LANSA's combined modernization and workflow framework approach for Insure/90 was the obvious choice," continues Woodhams. "One, because it would integrate seamlessly with Insure/90. Two, because it was low risk and without the need for data conversion."

Together with LANSA's Professional Services, Beacon looked at specific bottleneck processes in the old system, examining which resources were involved and timing how long they took. Next, based on a realistic simulation, estimates were made on how long these same processes would take in the new LANSA-improved system, and which resources would then be involved. These findings were part of extensive ROI calculations, which formed the basis for a presentation to management and eventual project approval.

Capitalize on Insure/90

The new solution capitalizes on Beacon's existing Insure/90 and document storage systems and extends these to provide workflow, integrated document management and intuitive navigation with rich search features.

The Workflow Framework is one of LANSA's 'CodeStart' solutions shipped with source code (and thus not carrying any annual maintenance costs). It is a generic engine, so it was quickly configured for Beacon's many desired business flows. As part of the workflow configuration, each process step was defined with a target timeline, balancing what is realistically possible and what is required for competitive differentiation. Alerts were set to highlight any processes in danger of incurring unacceptable delays, allowing for timely corrective action so that service levels can be met. Insure/90 itself was modernized with LANSA's RAMP, which has prototyping, refacing and development facilities included. It

allows refaced RPG/COBOL programs, newly developed Visual LANSA programs, .NET programs, Web sites and other applications, to all be integrated in an Outlook style portal, with tabs, filters, search results and business object details.

LANSA Integrator is a key component to Beacon's overall solution, enabling the automated PDF generation of policy contracts, claim letters and other documents, and seamless integration with Beacon's existing document management system via Web services.

Beacon's project went in stages, starting with the workflows and screens related to the client and policy business objects. This automated the underwriting processes, including the creation, routing, approval, digital-signing and delivery of policy contracts.

Beacon made organizational changes as well and formed a division entirely focused on customer contact, that way creating "a one window view of Beacon", as Woodhams calls it. Having a single point of contact was made possible because the LANSA workflow and electronic document management systems provide staff with a company wide view of quotes, policies and (soon) claims.

Complete Visibility

Renato Lezama, Vice President Trinidad Operations (and a major contributor to the system design), explains that the immediate impact of the new system was that supervisors got the ability to ensure completion of transactions and processes. "Before, it wasn't within their power to measure whether tasks were done on a timely basis, without physically going to a staff member's desk. Now they have the performance metrics to ensure that we are meeting the agreed timelines. Supervisors are alerted when tasks are threatening to fall into a time lapse zone and can take immediate action to address the issue."

"We now have complete control of the work that is moving around the organization, regardless of divisions or staff locations," Lezama continues. "We can focus our resources on areas that allow us to keep our competitive edge and dedicate more time in the field, as opposed to spending time on administrative procedures."

Although it is too early to declare that all estimated ROI predictions have come true, many measurable improvements have already been achieved. For example, the task of packaging a policy used to take on average between 15 to 20 minutes, due to the fact that physical documents had to be printed and pulled from various sources, fastened together, signed and put in an envelope. In the new system it just takes one minute. In addition, the documents are more consistent and accurate. All documents are stored, reviewed and signed electronically and then automatically packaged for delivery. Beacon puts over 40,000 policies together each year, so the savings will be dramatic.

The Beacon Insurance Company offers a full range of insurance products and financial services, including general insurance, life & health insurance, asset management and financing.

"The new system allows us to re-assess how we utilize our real estate and resources."

Quotes, which were previously done outside of any computer system, are now managed through the workflow system, allowing management to track how many quotes are converted successfully into revenue.

In addition to the benefits of LANSA's workflow automation, there are huge efficiencies and savings from RAMP's improved navigation over Insure/90, simply from the fact that 150 staff can gain information accurately and quickly.

"The new system is opening up a lot of opportunities. Previously resources needed to be physically in a specific office. Now they don't even have to be on the same island any more. It has opened up a whole new thought process of how we utilize our real estate and resources," Woodhams says.

Having the Infrastructure in Place

Most of the project was handled by LANSA Services. Beacon's own IT team has recently completed their LANSA training courses and Woodhams is now identifying what project areas his team should get involved in. He explains, "We haven't had the opportunity yet to see how our own IT resources are going to be affected. However, from looking at what LANSA was able to do and the timelines that they delivered in, LANSA's productivity is going to be a huge positive for us."

Woodhams is also impressed with the quality of the resources that LANSA Services has been providing, which he describes as extremely professional and competent. Next on the agenda might be a Web portal for brokers. Woodhams is still doing the ROI analysis, but feels optimistic it is doable. "Having the LANSA infrastructure, workflow and document management integration in place, Web access for brokers has become quite achievable," Woodhams concludes. "If our marketing department had come with that request a year ago, I would have said 'not a chance' and laughed." ■

Company and System Information

- The Beacon Insurance Company Ltd, is headquartered in Port of Spain, Trinidad, and has branch offices and Tobago, Grenada, Barbados, St. Vincent, St. Lucia and Dominica. Beacon underwrites the following classes of insurance: Property, Motor, Liability, Health and Accident, Credit Life, Marine Cargo and Hull, Engineering, Bonding, Securities and General Accident. For more information about Beacon visit: **www.beacon.co.tt**
- Beacon uses Insure/90, a software solution for the insurance industry supported by Computer Sciences Corporation (CSC).

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."

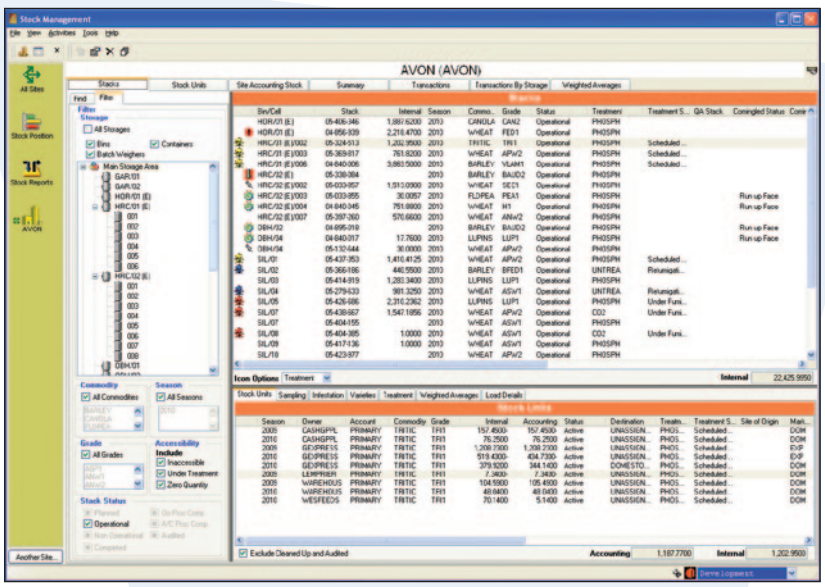
A Demanding Environment

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.



CBH's IBIS system manages grower information, harvest forecasting, intake of grain at the receival points, stock levels, quality control, grain care and transportation.

"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."

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.

The CBH Group is Australia's largest grain co-operative with operations extending along the value chain from grain storage to marketing, shipping and processing.

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

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.

Pernod Ricard synchronizes data using GS1 standards

Pernod Ricard USA is the premium spirits and wine supplier in the U.S. and the largest subsidiary of the France-based Pernod Ricard S.A., a top player in the global spirits and wine industry. The company is focused on the high margin segment and has a leading premium brand in virtually all key spirit and wine categories. Using GS1 standards, Pernod Ricard USA utilizes LANSA Data Sync Direct to synchronize supply chain information with its customers. Communication of GTIN and GLN data is via the 1SYNC data pool to the Global Data Synchronization Network (GDSN).

Shirley Hagyard, Project Manager GDSN at Pernod Ricard USA, said, "We wanted to implement Data Synchronization on our timetable. Vendor solutions were measured against specified criteria and LANSA Data Sync Direct scored well above the others. There was really not a close second. LANSA's solution allowed us to pull data directly from our ERP system, from our data warehouse or from multiple sources, without the need for duplicate data storage or maintenance. LANSA's references were also widespread and extremely positive."

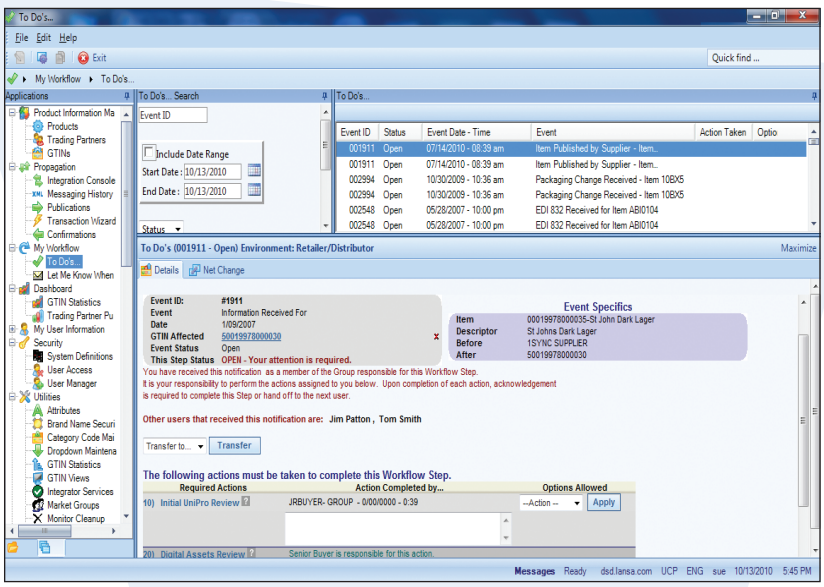
On Pernod's Timetable

Up to 2010 Pernod Ricard USA (Pernod) was primarily using email and spreadsheets to provide its customers with price updates and other product information. Most of the information was sourced from Pernod's UNIX and Oracle based data warehouse, which in turn was populated primarily by the company's JD Edwards Enterprise One ERP system, also implemented in a UNIX and Oracle environment.

Pernod stores core item attributes that are beneficial to manufacturing and distribution in its JDE ERP system, while attributes that are relevant to sales and marketing are available in the data warehouse. However, a number of item attributes, especially attributes at retail level, were not kept in either of these two systems. These attributes were historically not of interest to Pernod, as the company ships cases and pallets to its customers, not individual bottles.

Pernod wanted to streamline the process of collecting, storing and distributing product information for reasons of internal efficiency, but also because several of its customers were already participating in the GDSN and would soon require the same of Pernod.

Hagyard said, "We wanted to implement data synchronization on our timetable, before our customers came knocking on our door with their due dates."



LANSA Data Sync Direct includes an integrated workflow facility helping Pernod to manage GDSN processes efficiently.

"We wanted to implement data synchronization on our timetable."

The search for a data synchronization solution began and Pernod invited several leading vendors to go through a fairly rigorous RFP (request for proposal) process. "Vendor solutions were measured against specified criteria and LANSA Data Sync Direct scored well above the others. There was really not a close second," says Hagyard.

Collecting Missing Attributes

Pernod started its GDSN project with a strong data foundation and well defined data structure in its ERP system and data warehouse. However, the lack of retail or consumer level attributes in those systems turned out to be a challenge, as consumer level attributes were required by the GDSN, even though Pernod ships only wholesale units to its customers.

Information at retail level was mostly kept in spreadsheets, PDF documents and other unstructured data formats and was scattered throughout the company, some internally and some at sister affiliate companies globally. "Our biggest challenge was to collect all that information and put it in a format that we could load into our systems," explains Hagyard.

LANSA Data Sync Direct can pull data from multiple sources or it can be the master repository itself for attributes that are not stored anywhere else. However, Pernod saw advantages in storing the additional information in its core JD Edwards Enterprise One system and have it flow through to the data warehouse and data sync solution.

"Having all the information in a central repository turned out to be a benefit in the end, but it was a hurdle to get over at the beginning. We also had some packaging configurations that didn't necessarily fit the standard rules. It forced us to be more consistent in how we apply the rules to different levels of packaging, directly in our base ERP system," says Hagyard. ➔

"The big challenge was preparation, getting our processes and data in place. The actual implementation in terms of the LANSA software and the 1SYNC data pool was very fast and smooth and took about one month. The software was installed in November, training was in the second week of December and we synced our first item successfully in mid January."

Dick Walker, IT Director Sales and Marketing at Pernod, says, "LANSA Professional Services were good to work with and very knowledgeable. A large part of what we looked to them for was educating us on the whole data synchronization process, because it was all brand new for us. In order to understand the software, we had to understand the process. LANSA provided very good co-project management and technical support and guided us through our first few dealings with our data pool provider 1SYNC. Especially at the beginning, it is essential to have someone who helps you co-ordinate all the pieces, not just the software."

Framework for Communication

Pernod opted for a phased GDSN implementation and went live with the first three major customer groups within half a year of the initial training.

Although customers all require the same core attributes, every implementation is unique, as there is always a requirement for additional information. For this purpose and for other future integration projects, Pernod plans to make use of LANSA Composer for ongoing data mapping.

Asked about the benefits of the solution, Hagyard comments, "We have a more efficient business process in place now that all the information is in one place. You can change a product's specifications just once and it automatically flows out to every customer who is subscribed to it. It allows us to get away from sending spreadsheets and email."

The centralized product information will be used for other projects as well. Terry Collins, Vice President Collaborative Planning, Forecasting and Analysis and GDSN project sponsor at Pernod, explains, "The solution gives us a framework to communicate information with our customers both ways. Not only can we send product and price specifications to them, but because our SKUs

Pernod Ricard USA produces, imports and markets some of the nation's most prestigious spirits and wine brands.

"We have a more efficient process in place now that all the information is in one place."

(stock keeping units) are now aligned, we can also receive retail sales information back. Previously it was difficult to interpret that information and it had to be sent to a third party for cleansing and SKU alignment, before it could be reported back to us. Now we can communicate retail information directly with our customers and put some other projects together."

Collins also feels that Pernod will benefit from the fact that communication has been raised to a corporate and more professional level. "We do not have to rely on local representatives in the field to communicate information manually, with all associated accuracy issues. By putting the information in a centralized communication hub, Pernod Ricard and distributors are communicating at top level, with one data stream. It's a huge improvement above local representatives trying to push out information in a variety of ways relying on manual communications. That is going to be the real benefit. We are not there yet, but with the Data Sync solution we have put the basic steps in place."

Kathy Dandreano, Database Manager at Pernod, is pleased with the improved quality of data and the consistency between the ERP system, data warehouse and LANSA solution. "It is critical to pick a solution that pulls the information from the existing core system, eliminating the need for duplicate data maintenance. Centralizing the data allowed us to install quality checks that were not possible previously and pick up errors that may have gone unnoticed in the manual process."

Business Rather than Technology

Asked about lessons learned and tips for other companies embarking on the GDSN path, Hagyard comments, "It's all about the data and about getting the right business processes in place. Don't underestimate the time this preparation takes."

Walker and Hagyard also feel that a GDSN project is more about the business than technology and that it is helpful to have a cross functional project team.

"Everyone added value and had something to contribute," concludes Walker. "A lot of this project was about LANSA educating us on what the GDSN is and how to prepare for it. It was good to have the department representatives sitting in on that education as well. The business grabbed the whole of the process and made it work." ■

Company and System Information

- Pernod Ricard USA, the premium spirits and wine supplier in the U.S., produces, imports and markets some of the nation's most prestigious spirits and wine brands. The company is the largest business unit of France-based Pernod Ricard S.A.
- At Pernod Ricard USA the LANSA Data Sync solution integrates with a data warehouse system and JD Edwards Enterprise One, both UNIX and Oracle based. The LANSA Data Sync Direct solution itself is implemented on a Windows server with SQL Server database.

For more information visit: **www.pernod-ricard-usa.com**

John Wiley & Sons re-engineers for the Web

John Wiley & Sons is a leading publisher of print and electronic products, specializing in scientific, technical, medical and scholarly journals, encyclopedias, books, and online products and services. Headquartered in New Jersey, Wiley has operations in the U.S., Europe, Canada, Asia, and Australia. Wiley used RAMP to rapidly re-engineer its applications for the Web as part of a project to take its systems global.

Globalizing and Modernizing

Wiley recently decided to restructure from a geographically managed to a globally managed set of businesses. To facilitate this shift, systems used in some regions had to be replaced or merged into one global system. In particular, the company's Book Project Management (BPM) system used a mix of green-screen and Web-based interfaces, but to take it global, the application had to be accessible through the Web.

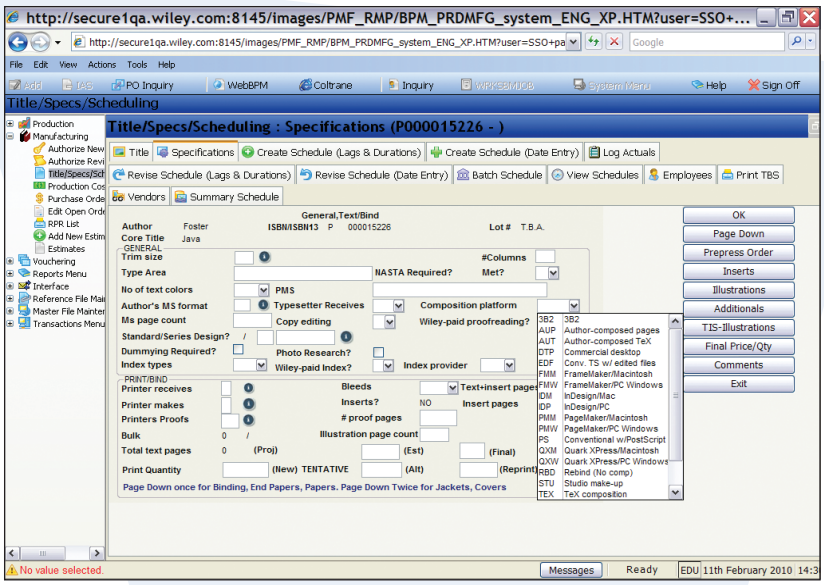
Beyond globalizing the BPM system, Wiley wanted to modernize its green-screens, provide a Web look and feel, and easily integrate with other systems. Furthermore, the system had to be accessible by a broad audience because, in addition to Wiley's employees, it's also used by editors, editorial assistants and college personnel.

Incremental Delivery

Wiley met this challenge with RAMP from LANSA. RAMP provides an application development framework that combines green-screen functionality with new visual components in a rich graphical user interface. RAMP can integrate existing 5250 screens and batch jobs with new components that can run on IBM i, Windows or Linux servers in a Web browser or as Windows rich-client applications.

Application re-engineering with RAMP includes three steps. First, use the Application Framework to design a new system that eliminates the constraints and cumbersome navigation found in both 5250 and refaced applications. Next, selectively capture functionality from existing applications and plug it into the Application Framework, thereby retaining your investment in program logic. Finally, incrementally deliver high priority enhancements to gradually re-engineer or extend your applications.

Wiley considered other options, such as screen scraping and a total rewrite, but neither alternative provided the full benefits of RAMP. Screen scraping didn't offer the same level of application integration as RAMP and a rewrite would have been costly and error prone, because existing business logic would have been discarded.



Modernized Title/Specs/Scheduling application, part of John Wiley's Book Project Management system.

Integrating the Old and New

Wiley outsourced much of the re-engineering work, and both Wiley staff and the outsourcing company used RAMP to perform their tasks. This made it easy to integrate the work of both teams.

Rather than a "big bang" approach, Wiley rolled out individual modules as they were ready. The ability of the RAMP Application Framework to integrate old and new modules made this a very effective technique.

Stephen Foster, Director of Systems Development at Wiley, reports that getting started with RAMP was fast and easy. "We have a couple of developers here who are using RAMP. They just picked it up and ran with it, without the need for any training."

Speed of Delivery

RAMP allowed Wiley to protect its application investment while moving onto the Web very quickly. "We have a lot of business rules built into our green screens," explained Foster. "Rewriting them would have involved a lot of time and a huge cost. RAMP got us quickly to the Web, without having to rewrite our back-end systems. We were able to take our current RPG code and run it through the Web. That provided the biggest benefit of RAMP: Speed of delivery."

Foster concludes, "RAMP has been a big success for us. Even people who were totally used to green-screens got onto the Web and are extremely happy. And they are not looking back. That's a tremendous accomplishment." ■

Company and System Information

- With about 5,100 employees worldwide, Wiley has operations in the United States, Europe (the U.K., Denmark, Germany and Russia), Canada, Asia, and Australia. Wiley's worldwide headquarters are located in Hoboken, New Jersey. Approximately 50% of the company's revenue is generated outside the United States. For more information visit: www.wiley.com
- This case study was originally published in IBM Systems Magazine (October 2010).

ISC expands market share through modernization

Investment Systems Company (ISC), based in Ohio in the U.S. has been providing integrated customized portfolio management and accounting software solutions since 1984. Over the years these IBM i based solutions have been enhanced to offer complete functionality, although still restricted by the limited deployment options that COBOL and RPG allow. Using LANSA's RAMP, ISC has recently redeveloped the most frequently used applications and refaced the remaining ones. The modernized solution is now available in a hosted environment and will be offered cross-platform when the modernization project is finalized.

The 80/20 rule

ISC started its business in the early eighties when they developed the Portfolio Accounting System, a COBOL-based portfolio management system, and the Shareholder Accounting System, an RPG-based mutual fund transfer agent system. ISC's client base includes mutual fund companies, investment advisory companies, family offices who exclusively manage the investments of their specific family and other authorities that need to manage their investments. Over the years the solution evolved from IBM System/34 to System/36 and then to the AS/400.

Ronni Bialosky, President at ISC says, "We offer what we consider a very solid base package and work closely with our customers to customize the systems according to their needs. But in the real world you need to have a graphical interface as well."

ISC started to look for modernization options, something that would not just provide a graphical look to the existing applications, but that would also allow partial and gradual redevelopment. One of ISC's main drivers for redevelopment was to expand its market share to Windows.

Partly New – Partly Modernized

It was at that time that Bialosky learned about RAMP from LANSA. She explains, "I liked the idea that RAMP offered a framework in which we could rewrite the 20 percent of the applications that our customers use most frequently and that we could leave the remaining 80 percent until later. LANSA's hybrid modernization and redevelopment approach meant that we didn't have to rewrite the whole system before we had something that we could take to market and show our customers."

ISC went ahead with its modernization project and used RAMP mainly for its framework navigation with searches and filters. Hardly any time was spent on repainting the screens generated by RAMP's embedded refacing tool. "Redevelopment is our goal in the long run and since that is a fairly quick process with Visual LANSA (the development tool embedded in RAMP), we might just as well spend our effort on that," says Bialosky.

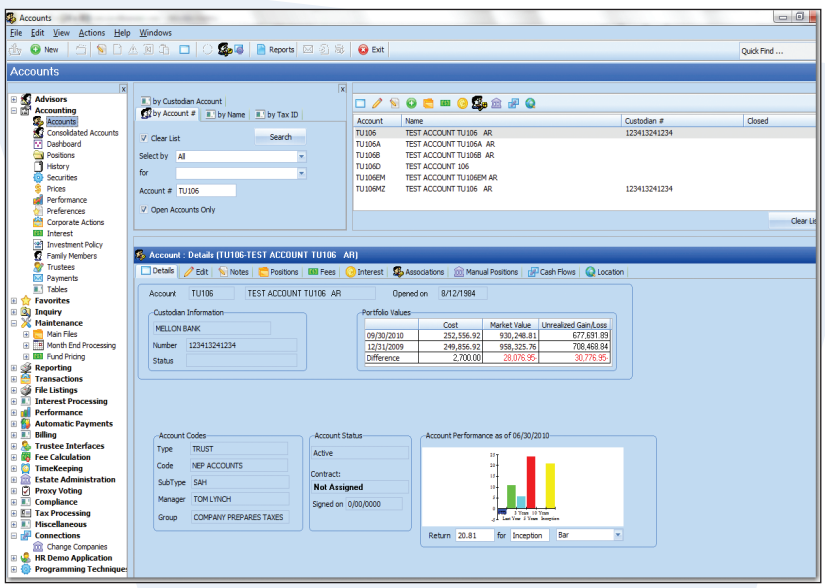
Today ISC is well on its way to redeveloping the solution. In the current 'half-way' status, ISC customers already have a vastly improved view of their data. They can graphically and dynamically sort data and drill down, whereas previously they only had static reports. The new online reporting makes research easier by letting customers, for example, list their portfolio by biggest winner or loser and then drill down into the details. Customers can also make the same dynamic data inquiry facility available to their clients over the Web.

Customers are excited about the facility to extract information directly into Excel. Data maintenance has become easier as well, because of drop-down, pop-up, calendar and other rich application facilities.

Increased Market Share

Bialosky found that there was a learning curve moving from COBOL and RPG to LANSA, but LANSA's framework feature and training services made the transition easy.

Making true on its vision that the application can be taken to market while only partly redeveloped, ISC is already noticing an increased level of interest. This is especially true for the hosted solution, for which the first few customers have already signed up. Existing customers are also pleased to see the application moving forward. ■



The framework navigation with searches, filters, sort and drill down facilities provides customers with a vastly improved view of their data.

Company and System Information

- Investment Systems Company is a software company that offers integrated portfolio management and accounting systems. For more information and an online demo of the modernized solution visit: **www.investmentsystems.com**

Plantion manages mega operation with small IT team

Plantion, based in Ede in the Netherlands, is one of the most modern and environmentally friendly flower auction and horticulture trade centers in the world. Plantion offers a wide assortment of flowers and plants at its daily auction and via intermediary services. Plantion uses a LANSA-based in-house developed system to manage grower information, incoming produce, integration with the auction system, compensation to growers, plus the invoicing and distribution to customers.

Ron Nieboer, Application Development Manager at Plantion, says, "Our development workbench has progressed naturally with LANSA. We initially used it for IBM i development, but it has expanded to include Windows applications, PDAs and touch screens. LANSA's single skill set concept and productivity, combined with the robustness of the IBM i, allow us to manage a complex and time critical mega operation with a very small IT team."

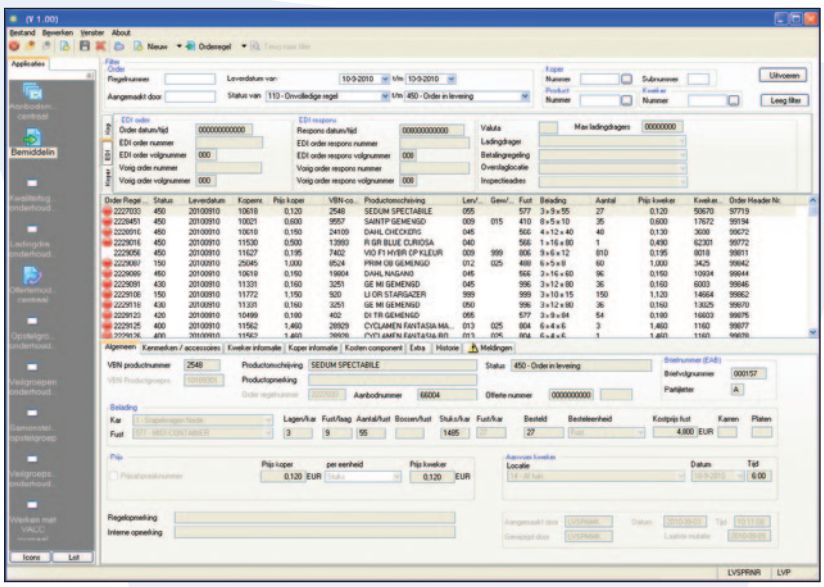
Reliability and Availability

Plantion, a co-operative owned by growers, is the result of the 2008 merger between 'Bloemen Veiling Oost Nederland' and 'Veiling Vleuten'. But it wasn't until March 2010, when Plantion opened its new €72 million building in Ede, that the two organizations fully merged from an operational point of view. Plantion's new 60,300 m² location includes an auction hall with three projected clocks and 400 buyer desks, and a 10,800 m² logistics center with 21 loading docks. Because of smart building design and energy management, Plantion is enjoying 64 percent less CO2 emissions than the two former sites added together.

Plantion's growers deliver €250,000 worth of products on a daily basis. These get auctioned in a 2.5 hour time span every weekday morning, starting at 6:00am. During the auction Plantion's IT systems need to process 4,000 sales transactions per hour. In addition, Plantion acts as an intermediary for negotiated trade between growers and buyers.

All the financial and distribution logistics are handled by a LANSA-based in-house developed system called LVS.

Peter Bakker, Director Operations at Plantion, explains, "Our first and foremost priority is system reliability and availability. The auction system, from Aucxis in Belgium, and the LANSA-based distribution system exchange transactions in real-time. If either of these systems were down, slow or inaccurate – especially during the auction – it would stop several hundred buyers and over 100 staff from doing their work. Customers would lose their trust in us and may decide to move to a neighboring auction for their purchases."



Plantion's rich-client mediation solution is developed with Visual LANSA.

"Our first and foremost priority is system reliability and availability."

Another challenging factor, according to Bakker, is the price pressure in the very competitive horticulture industry. "There is no room for inefficiencies anywhere in our company or in the delivery chain. It means that all our divisions, including IT, need to be proficient and cost effective."

Before the merger one of the two auction companies was already using the LVS solution. "After careful consideration, the LVS solution was the preferred option for the merged operation," says Nieboer. "The main reasons to move forward with the LANSA and IBM i LVS solution were its proven stability, low cost of ownership and its easy customization."

The Auction Solution

The vastness and sophistication of Plantion's LANSA-based LVS system is best illustrated by looking at the processes it manages, starting from the delivery of goods by the grower to the processing of customer payments.

In the afternoon or evening before the auction, growers send EDI transactions to provide an overview of the produce they plan to deliver. These transactions are processed by LVS and communicated in near real-time to the Windows-based Aucxis auction system. Prospective buyers have internet access to the auction system, allowing them to preview what is going to be auctioned the next day.

When the flowers arrive in the 9,390 m² receiving area, inspectors use PDAs that run a Visual LANSA-based application to confirm the delivery and to record any quantity or quality differences with the expected delivery. Differences are immediately communicated to the auction system through LVS.

At the auction, the clock starts at a high price and rapidly swings down. The first buyer to push the button gets the goods. Buyers in the auction hall have a keyboard on their desk, while remote internet buyers can bid via the Aucxis KOA module, which very smartly

manages that the internet and local bids are sequenced correctly. Each auction transaction is transmitted in real-time to the LVS for further processing.

The flowers arrive and go in front of the clock on what is called a CC-container, a standard trolley in the industry. When a buyer purchases a batch of flowers, it usually comes together with the rental of the trolley. LVS sends a transaction to a Windows-based package (Avalanche) that keeps track of the trolley balance of growers and buyers.

Buyer organizations can subscribe to receive real-time EDI messages to their office with details of relevant auction transactions. This allows the person who is bidding for the buyer to continue to focus on the clock for his next purchase. Growers can request similar EDI updates informing them immediately about the proceeds of auctioned batches.

At any time during or after the auction, buyers can walk to one of the many touch screens in and around the auction hall to print their loading-list. The touch screen application, developed with Visual LANSA, is multilingual and allows for left and right handed operation.

After the auction LVS sends EDI invoices to the buyers. All customers have an agreement with Plantion that their account will be automatically debited on the auction day. LVS transmits these debit transactions to Plantion's bank.

Negotiated Trade System

Plantion's turnover in the negotiated trade is nearly equal in value to the auction turnover, but the nature of the transactions is very different. Plantion's mediation service is often requested for the larger deals, where a buyer or grower doesn't want to be dependent on the unpredictability of the auction clock.

Plantion's mediation solution is developed with Visual LANSA and deployed in client/server mode with rich-clients, a DB2/400 database and a large number of remote server calls to existing functionality on the IBM i. The Windows and IBM i applications share business rules and other components through LANSA's Repository.

Single Productive Workbench

Plantion's in-house IT team is a team of three, consisting of Nieboer plus two infrastructure people. Nieboer manages application development and integration, with the help of a systems integrator (Ilionix) in project peak times. Nieboer says that the amazing level of productivity in development and maintenance is largely due to good application design and to LANSA. "The speed with which we can develop and maintain in LANSA is absolutely amazing and a major contributing factor to the low cost of ownership of our systems," he says.

Plantion's auction hall has three projected clocks and 400 buyer desks.

"The speed with which we can develop and maintain in LANSA is absolutely amazing."

Nieboer feels that his development workbench has expanded and progressed naturally with LANSA. Starting with LANSA for iSeries in the mid eighties for native IBM i development and deployment. Then moving to Visual LANSA for productive Windows-based development, initially still with IBM i deployment, but later with Windows deployment. All new development is graphical client/server, but some of the older applications are still in 5250 style. Nieboer may reface these programs or gradually modernize/redevelop them, but says this has a very low priority. "The older applications perform well and there is no problem mixing and matching deployment platforms as we can develop, maintain and integrate them from the same workbench."

Web and Windows

Nieboer foresees that interfacing with external parties and internal applications will become more important in the near future, and is investigating available Business Process Integration (BPI) tools. "It's reassuring to know that LANSA is offering a very practical BPI solution with their Composer product," Nieboer says.

"Another upcoming development is to release more information to the outside world by providing customers and growers with Web access. Customers can already preview deliveries and buy online via the Aucxis KOA module, but we want to provide access to account, distribution and statistical information as well. For that we can stay within the Visual LANSA workbench."

Nieboer expects that more functionality may move to Windows in the future, but that the database will remain on the IBM i, because of the platform's stability and scalability.

Bakker concludes, "The company merge has provided us with better economies of scale, but even so, we continuously strive to improve our price-performance ratio even further. Our efficient setup with a small and competent in-house team, assisted by a large system integrator for project peak times and second line support, provides a lean yet robust IT environment." ■

Company and System Information

- Plantion, a cooperative owned by growers, is a one-stop-shop knowledge and trade center for flowers and ornamental plants. For more information visit: www.plantion.nl
- The LANSA-based LVS system integrates with the Aucxis auction system (www.aucxistrading.com) and with the Avalanche CC-container system (www.today-it.nl), both Windows and SQL server based.

ELPA extends its services and creates new revenue

ELPA is the Automobile and Touring Club of Greece and the county's leading roadside assistance company. ELPA is a member of the International Automobile Federation and the International Federation of Motorcycling, and services Greek and foreign motorists. ELPA used aXes to provide its network of partners with secure Web browser access to its core application, including Web print spool access. The solution did not require any changes to ELPA's core system and was delivered in a very short time with the help of aXes business partner QSYS.

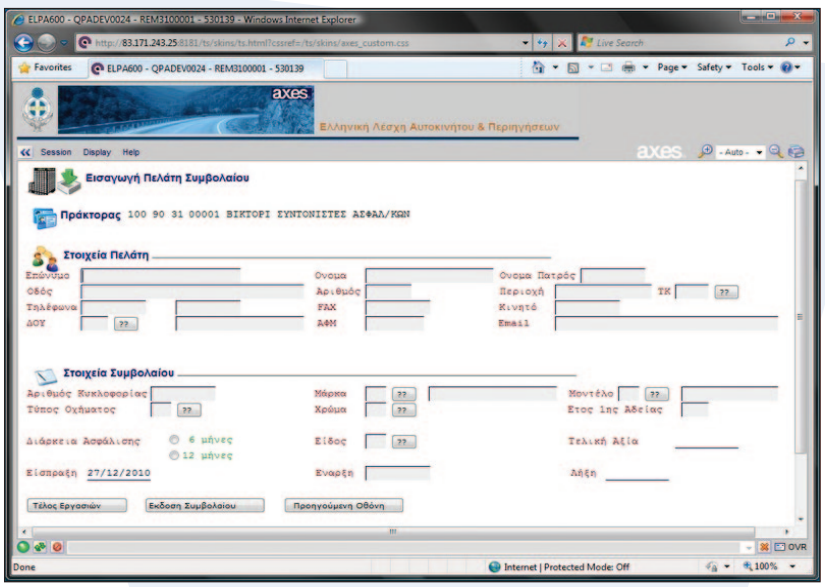
Mr Faetakes, IT Manager at ELPA, says, "Using aXes and working together with QSYS, we have added new functionality to our existing infrastructure. We are now able to offer high quality services and support to our network of partners, in a very efficient way. Our partners can access our applications directly and securely over the Web. It has allowed us to create new revenue for ELPA, in almost zero time."

The Challenge

ELPA is a charitable association founded in 1924 in accordance with the standards of the international automobile clubs. The statutory purpose of ELPA is to serve the automotive fans and tourism sector in Greece and to support the state efforts in both areas.

ELPA was looking for a solution that would allow the business to grow additional revenue through its partners, but without weighing down the central infrastructure.

ELPA's core IT system is specifically developed to support ELPA's many activities and the proposed solution had to integrate fully with the existing core solution, without the need for any redevelopment. Another main consideration was to keep the project implementation time as short as possible.



aXes gave ELPA the ability to provide Web access to its partners to add new contracts and subscriptions, renew subscriptions and view procurement information.

Mr Faetakes explained, "We had to find a solution that required minimal change, which would yield results quickly, effectively and naturally, and without having to pay an excessive purchase price."

Quick Results

ELPA chose the aXes toolset to provide its partners with Internet access to its central application and, with the help of QSYS' highly experienced technical team, was able to deliver the solution quickly.

aXes gave ELPA the ability to quickly provide Web access to its partners. Partners can add new contracts and subscriptions, renew subscriptions, view procurement information and, using aXes Web Spooler, print contracts in PDF and other formats. Partners also have the ability to view and print aggregate updates using Excel. All processes are fully automated, allowing ELPA to add new partnerships without involvement of IT.

Growth and Savings

With aXes, ELPA was not only able to provide a modern browser interface to its existing application, but also to deliver new Web applications using existing RPG skills. "aXes allowed us to capitalize on our existing infrastructure and investment in the best possible manner," Mr Faetakes says.

"The solution has been in operation for one and a half years. In that time ELPA has experienced financial growth by adding more than 300 new partners. In addition, ELPA has achieved savings by reducing the cost of printing contracts, as they are now digitally available through aXes Web Spooler."

"aXes did not need any installation of software on the client PCs or upgrading of existing equipment. Neither was there a need to change the existing applications. Yet, aXes has given us the ability to extend our services and communicate directly and effectively with our network of partners. Now there is enthusiasm in the company to offer new products and services," concludes. Mr Faetakes. ■

Company and System Information

- ELPA is the Automobile and Touring Club of Greece and the country's leading roadside assistance company. The statutory purpose of ELPA is to serve the automotive fans and tourism in Greece. For more information visit: www.elpa.gr
- QSYS, an aXes business partner in Greece and Germany, provides a comprehensive range of IT services and products with a focus on the IBM i. For more information visit: www.qsys.gr

BLOGGERS CORNER

Top ten reasons application modernization projects fail

Paul Conte – *President PCES, and a leading Application Development Strategist*

Are we done yet? With "modernizing" our applications, that is?

It seems so long ago that someone came up with the clever concept of application "modernization" as a response to how outdated AS/400 applications looked in comparison with graphical Windows applications.

But now, even after years of screen-scraping, "refacing" and crash courses in Java, there still exists an unfathomable mountain of monolithic RPG applications that – dolled up or not – simply don't serve modern business needs.

Why have so many attempts at "modernization" failed to deliver?

Read Paul Conte's full Blog (see link below) to find out his view on the "top ten" reasons why so many application modernization projects fail in IBM i organizations. Paul list the following reasons:

1. Focusing just on the user interface
2. Trying to solve the problem with "better RPG"
3. Trying to solve the problem by switching from RPG to Java (or C# or PHP or ...)
4. Not capitalizing on the value of current application assets
5. Developing without an application architecture in place
6. Not following a business-driven approach to goals and priorities
7. Not delivering real value early and often
8. Not using an iterative and incremental project structure
9. Ignoring interoperability
10. Not getting the right people on the bus and in their right seats

Paul is a software developer, consultant, widely read author in the computer software field, and a former senior technical editor for System i Network. Read Paul's full blog article at:
http://blog.lansa.com/application-modernization/top-ten-reasons-application-modernization-projects-fail ■

• For more articles on application modernization, cost justification, project management, SharePoint integration and many other topics, visit: **http://blog.lansa.com**

INDUSTRY SHOWCASE

Application innovation in the insurance industry

Marjanna Frank
LANSA Review Editor

High on the insurance industry's list of IT concerns seems to be legacy application modernization. Many of the industry's policy administration systems originate from the late 1980s and cannot provide the agility, responsiveness and analytics that the highly competitive insurance industry requires today. Most insurers have gigabytes of data and millions of dollars invested in their legacy systems and need to carefully analyze the risk/reward equation when deciding how to tackle modernization. A growing number of insurers have already gone through that process and are now reaping the rewards.

This showcase provides examples of both end user companies and solution vendors in the insurance industry who used LANSA to extend and modernize existing systems, or to develop entirely new systems.

Common New Developments

We found that the most common extensions and new developments in the IBM i-based insurance community are in the area of:

- Providing Web self-service to policy-holders and brokers, as well as quote-and-buy Web sites to prospective clients.
- Web services integration for automated data exchange with brokers and other parties. The same Web services are also used for moving to a Service Oriented Architecture (SOA).
- Workflow and document management integration. This often starts in the area of quotes, which may not have been properly automated or measured previously. Workflow and document management are then typically expanded to the policy and claims areas.
- Workflow, document management and CRM integration also allow insurers to get a corporate wide view of its customers, allowing process management over multiple divisions or products.
- General application modernization by providing better navigation between applications and a more productive GUI. Modernization typically also includes gradual replacement of legacy applications, starting with the most frequently used programs.

Most companies opt for a blended modernize/replace approach. The entries below have been significantly shortened to make this article fit in 4 pages. If you would like to find out more, please visit the full version of this article at: **www.lansa.com/casestudies/insurance.htm**

Europe

AllClear Insurance Services Limited, based in Essex in the U.K., is a market leader with their AllClear Travel insurance, which provides medical travel insurance for people with pre-existing medical conditions who find difficulty in getting travel insurance elsewhere. The company used LANSA to take their insurance product to the Web and to develop and run branded travel insurance sites for a growing number of well-known insurance companies. AllClear is now hosting nearly 100 branded travel insurance sites. AllClear also used LANSA to launch the UK's first specialist travel insurance comparison Web site in December 2010.

www.allcleartravel.co.uk has been ranked for several years in a row as one of the top 10 most popular UK Web sites in the Medical and Health Insurance industry by Experian Hitwise, a leading global online competitive intelligence service.

Allianz Ireland, one of Ireland's largest multi-line general insurance companies, is part of the Allianz Group, one of the leading global insurers and financial services providers with over 75 million customers and 150,000 staff worldwide. Allianz's back-end policy administration solution is Insure/90.

In April 2000, Allianz was the first in its field to provide private motor insurance quotes on the Internet. The Web solution was based on MDC's LANSA-developed InsureIT eCommerce framework modules (see MDC) and was soon followed by Web solutions for household insurance, pet insurance and more. After the success of these consumer Web solutions, Allianz chose LANSA as its strategic Web development tool for B2C and B2B projects.

In addition to using LANSA's Web development tool, Allianz uses LANSA's

Integration tool to extend its broker communication with Web services. LANSA Integrator is also used as part of an in-house developed smart phone quotation system that directly accesses the InsureIT rating engines for quotes.

AlphaLife Insurance Company S.A., based in Greece, is a new, rapidly growing insurance company specializing in savings and pension plans. AlphaLife promotes its products exclusively via the 600 branch office network of the Alpha Bank. AlphaLife uses aXes to provide the branch offices and HQ with Web access to its Linsys back-end system that manages the term-life products. The aXes solution provides Alpha staff with intuitive and productive browser-based access to update proposals, issue policies and manage the entire policy cycle. This was achieved without having to install anything on the thousands of PCs at the 600 branch offices and without having to change any Linsys code. The solution was implemented with support from LANSA business partner QSYS.

Chaucer Insurance, based in the U.K. and a division of Chaucer Holdings PLC, provides high quality motor and commercial insurance solutions via a nationwide broker network. Insure/90 has been underpinning Chaucer's growth since 1994, however the legacy 5250 user interface and unproductive RPG development environment became a limiting factor.

Chaucer selected RAMP and Visual LANSA to modernize and re-engineer their heavily customized Insure/90 system, as it provided a balanced approach for delivering innovation, while minimizing risk and costs. In a first step, the claims module was 'RAMP-ed' (modernized using RAMP). A second step, using Visual LANSA, was to start building new applications to support Chaucer's business strategy and deliver them in the same navigation framework as the RAMP-ed claims. In a third step, also using Visual LANSA, Chaucer will provide Web self-service access to claims for policyholders and brokers. Future steps may include modernizing the entire insurance and document management system and getting everything into a common and consistent LANSA framework.

The Groupama Group, headquartered in France, is a major European insurance and banking group with over 39,000 employees worldwide, serving over 16 million customers in 14 countries.

Groupama Assurance Credit in France uses an insurance system that is a heavily customized and extended implementation of BIS, a COBOL-based insurance solution from Practis in Belgium. Groupama AC is using RAMP to modernize this core system. The first modernized module, for managing quotation requests and engagement of buyers, is already in production. The policy management module is next to be modernized. LANSA is also used for specific system extensions. For example, for an alert management and workflow solution for processing new policy requests and for an electronic document management system.

Groupama in the U.K. is a highly respected general insurer and the U.K.'s 8th largest specialist health insurer. Groupama U.K. uses a LANSA-based custom insurance solution. The company also uses LANSA for Web service integration with imarket, the U.K.'s general insurance e-trading industry portal, managed by Polaris on behalf of its members.

Groupama Seguros in Portugal is a general insurance company and a longtime Swiss Life Network representative. In an ever changing environment requiring flexible application development, LANSA has been the company's preferred supplier for over 20 years.

Legal & General Nederland N.V. is the Dutch arm of the global Legal & General Group, a leading provider of risk, savings and investment management products, headquartered in the UK, that manages over Euro 400 billion for 6 million clients. L&G's core system was originally RPG-based and has gradually been extended with LANSA-based functionality.

In 2001, L&G was one of the first companies in the Netherlands to offer its clients and intermediaries Web access. The LANSA WAM based solution, which has been continuously enhanced, allows clients to manage their policy details and change their investment options over the Web. Intermediaries can submit their applications, view the status of policy requests, their historical production and they can drill down to details in their portfolio.

L&G also used Visual LANSA to improve productivity for internal users, such as with a workflow system, creating, accepting and distributing electronic documents and LANSA Integrator for their supply chain management.

Francis Vanoni, ICT Manager at L&G, explains, "LANSA's technology plays a crucial role in our ability to provide top quality customer service. It allows us to provide Windows and Web solutions that integrate well with the IBM i, without locking us in."

Marsh in the U.K. provides clients with the full spectrum of risk and insurance products and solutions and is a wholly owned subsidiary of Marsh, the world's leading insurance broker and risk advisor, with over 24,000 employees and clients in over 100 countries. Marsh is a member of Marsh & McLennan Companies. Marsh uses a custom developed RPG-based system to support its business in the U.K. and is using aXes to enable Web access by third party brokers to its client management and financial applications.

aXes provided a robust solution in an environment where Marsh could save cost by combining on a single server its external facing Web services with new WebSphere-based services.

MDC, a LANSA business partner in Ireland, offers InsureIT, a LANSA-based and

table-driven policy administration system and eCommerce framework developed specifically for the general insurance industry. The eCommerce framework module provides a fast and easy way of building Web-enabled insurance products and allows for real-time integration with any IBM i or Windows-based back-end policy administration system already in place, if not used in combination with Insure IT's own back-end system. Insurers and brokers who use MDC's eCommerce framework modules include **Allianz Ireland** and **TopQuote**.

Glennon Brokers has implemented the Windows-based back office InsureIT system, built using the Visual LANSA Framework, with full cycle policy, renewals and claims management. The back office system returns rates via the Polaris and InsureIT rating engines, using Web services. Glennon's own Web sites integrate with the InsureIT back office system using Web services. All Web services are developed with LANSA Integrator. InsureIT can be deployed on Windows or IBM i servers.

Several insurance companies in the Czech Republic use VERiS, a general insurance system developed by LANSA partner **BIZ Data**. Originally designed for 5250 deployment, VERiS has recently been redeveloped with the Visual LANSA Framework for Windows client/server deployment. VERiS includes Web self-service access for brokers and policyholders plus automated data exchange via Web services with brokers, regulatory authorities and other third parties. Customers include **Hasicska Vzajemna Pojistovna Insurance** (HVP), **Slavia Insurance**, **Chartis Europe** (the non-life insurance arm of AIG) and **Halali Insurance**. BIZ Data also uses LANSA for providing software services, for example at the Czech, Slovakian and Croatian branches of the **UNIQA Group**, one of the biggest non-life insurers in Eastern Europe.

Asia Pacific

Catholic Church Insurances Limited (CCI), based in Melbourne, Australia, has been helping to protect the interests of the Catholic Church in Australia since 1911. CCI provides insurance products to church and religious institutions and uses Insure/90 as its policy administration system.

As part of its front office operation, CCI has implemented Pivotal CRM, a Windows and SQL Server-based CRM system. LANSA Integrator is used to integrate the CRM and Insure/90 in real-time via Web services published from Insure/90.

Julian Ryan, Manager Applications & Business Analysis, says "LANSA Integrator helped us to streamline and automate processes that go across multiple systems and open up the Insure/90 platform by using SOAP Web services. LANSA is part of our plan whenever we need to integrate with Insure/90."

CGU Insurance is the largest provider of general insurance to Australia's regional and rural communities, a leading workers' compensation provider and one of Australia's leading commercial insurers.

For internal users, CGU uses aXes to provide a browser interface to its Insure/90 core policy administration system. aXes is also used to provide CGU's Home Warranty brokers with Web access for historical inquiries into traditional 5250 Insure/90 programs. CGU selected aXes because it allows for easy maintenance as there is no need to install additional software on the user machines, or to provide users with access to Citrix servers.

Manulife Malaysia is a member of Manulife Financial Corporation, a leading financial services group headquartered in Canada and serving millions of customers worldwide. Manulife Malaysia has extended its in-house developed IBM i-based core life insurance system with LANSA-developed Web portals for agents and policyholders and, in 2000, was one of the first insurance companies in the region to do so. The agent Web portal has been continuously enhanced and offers extensive functionality to the company's 2,000 independent agents.

Agents can follow the status of a policy request or claim, view statistics on new business and retention of existing business, drill down for current and historical details, view which of their customers have or haven't paid their premiums, and so on.

Ooi Sze Chuan, General Manager, Manulife Technology & Services Sdn Bhd, says "The level of detail that agents can zoom into and the amount of history that we keep is unique. LANSA was in 2000 one of the very few tools that could do the job, especially in an AS/400 environment, and has evolved ever since, still meeting today's productivity requirements."

Over 70 insurance brokerage companies in Japan use SompoMate, a LANSA and client/server-based solution for the insurance brokers from Sompo Japan System Solutions Inc. SompoMate provides administration of policies and claims and includes EDI facilities for exchanging details between broker and principal. SompoMate supports the administration of all the broker's insurance business, independently of whether Sompo Japan is the insurer.

QBE Insurance Group, Australia's largest international general insurance and reinsurance group, is one of the top 25 insurers and reinsurers worldwide. QBE Reinsurance has deployed a LANSA-based financial management solution and uses LANSA for in-house development.

The Americas

The Argus Group, the largest local insurance company in Bermuda, has used LANSA to redevelop and integrate its previously separate core systems for group insurance including health, life and disability, pensions and property.

More recent development has been with the Visual LANSA Framework and LANSA Integrator. Applications include a treasury

system for the recording of customer payments which integrates with other systems and credit card gateways. LANSA was also used for an international life policy application, which automates the generation and email distribution of policy statements and payment requests to customers and brokers, again integrating with third party applications.

The Beacon Insurance Company Ltd, headquartered in Port of Spain, Trinidad, and with branch offices throughout the southern Caribbean, offers a full range of insurance products and financial services. Beacon has streamlined its procedures and modernized its Insure/90 core policy administration system, using a combination of the LANSA Workflow Framework, RAMP and LANSA Integrator tools.

Christopher Woodhams, VP Information Systems, says, "We now have complete visibility and control of how documents and work progress through the organization, regardless of divisions and locations. Turnaround times are consistently fast and competitive and we can offer our clients a one window view of their business with us. The system is opening up new opportunities, allowing us to reassess how we utilize our real estate and resources. Our business strategy and LANSA system allow us to focus on winning new business."

HMS Insurance Associates, Inc., a leading independent insurance agency based in Baltimore, specializes in risk management, surety and financial services for individuals and businesses. HMS has a team of 135 dedicated insurance professionals. HMS' core policy administration system is a custom developed RPG-based solution. With the help of LANSA business partner BDK Inc, the solution has been extended with a LANSA and Windows-based solution for managing proposals. The solution retrieves data from the core IBM i system and merges information into MS Word templates for proposal generation and distribution.

Merchants Insurance Group, headquartered in Buffalo, New York, provides tailored property and casualty insurance products to businesses and individuals through a network of 650 independent insurance agents. Merchants uses WINS, an IBM i and COBOL-based insurance solution and LANSA for all Web extensions. Agents can get quotes, issue and endorse policies, enquire on policies and claims and view different aspects of billing. Agents also have various reporting functions available and can access electronic manuals. Policyholders can view their policies and bills and pay online.

Merchants uses LANSA's Integrator for publishing and consuming Web services with

third parties. For example to exchange data with the Department of Motor Vehicles to allow the instantaneous approval of commercial automobile insurance applications. Other examples include automatically obtaining underwriting reports and credit scores from outside sources, and integration with various service providers in the insurance industry.

Clark Sykes, Vice President Information Technology at Merchants, explains, "One of the main reasons to use LANSA is its versatility and ability to deploy to different platforms. Also, LANSA integrates well with WINS data and functionality, without the need for data conversion."

Western Financial Group Insurance Solutions (WES), one of the largest insurance brokers in Canada, specializes in providing unique and cost-effective insurance and risk management solutions. WES has a mixture of LANSA and .NET systems and Web sites, as well as legacy RPG applications, running on multiple Windows and IBM i servers. WES uses LANSA to fuse these heterogeneous systems in its move towards a SOA environment.

After having successfully redeveloped the front-end processes of several of its IBM i-based insurance systems with Visual LANSA, WES used the Visual LANSA Framework to develop a Windows rich-client CRM solution to keep track of prospect and customer activity. The CRM solution integrates with MS Word, MS Outlook, RightFax and several third-party Web sites, for example for address validation and mapping.

WES is going through the structured process of rebuilding many functional workflows from the legacy RPG environment into the Visual LANSA Framework architecture.

Integration between WES' .NET SQL server-based self administration Web site and the TotalGUARD quoting engine is handled with Web services developed with LANSA Integrator.

Brian Hynes, Vice President of Business Systems at WES, says, "Tight integration between our IBM i systems, Microsoft Office and our .NET-based Web sites helps to eliminate many redundant tasks, increase productivity and improve system performance. We are now looking at our systems from a holistic perspective. Our RPG and .NET developers are integrated with my LANSA team and we are all moving towards an object-oriented mindset."

Conclusion

Application modernization in the insurance industry has gone far beyond providing quote-and-buy Web access. Web service integration of the core insurance solution with CRM, document management, workflow and other internal systems is crucial. Real-time data exchange with brokers, authorities and other third parties is essential as well. Web extending to policyholders and brokers offers a level of efficiency that can be provided by no other means. And general application modernization, including gradual or partial replacement of legacy code, is on most insurers's agendas as well. LANSA can be the cornerstone in all these modernization projects. ■

Where do frameworks fit in application development?

Richard Lancaster
LANSA Product Center

Frameworks are everywhere. Frameworks are available for almost every part of software development and they are not exclusive to the IT industry. Medicine, banking and insurance all have risk assessment frameworks. Education uses learning frameworks, companies are measured by quality frameworks and the USA Department of Defense has a framework for enterprise architecture.

Why are frameworks popular? Where do they apply in software development? How can frameworks help to reduce cost and boost productivity? Before addressing these questions, we need to understand what we mean by framework.

What is a Framework?

Imagine building a house. You start with a vacant block of land, prepare the land and then you lay the foundations. The next step is building the floors, walls, ceilings and roof, followed by wiring the electrical components and connecting the water. At this point the house is operational but not livable. The next stage in the project includes painting, laying carpet, installing appliances and landscaping. Now the house is complete and livable but not finished. The last stage is moving in, setting up furniture, deciding who will occupy the biggest bedroom and so on. A project home is the ultimate framework, everything is complete and moving in is the only work to do. In contrast, the most work occurs when the starting point is a vacant block of land.

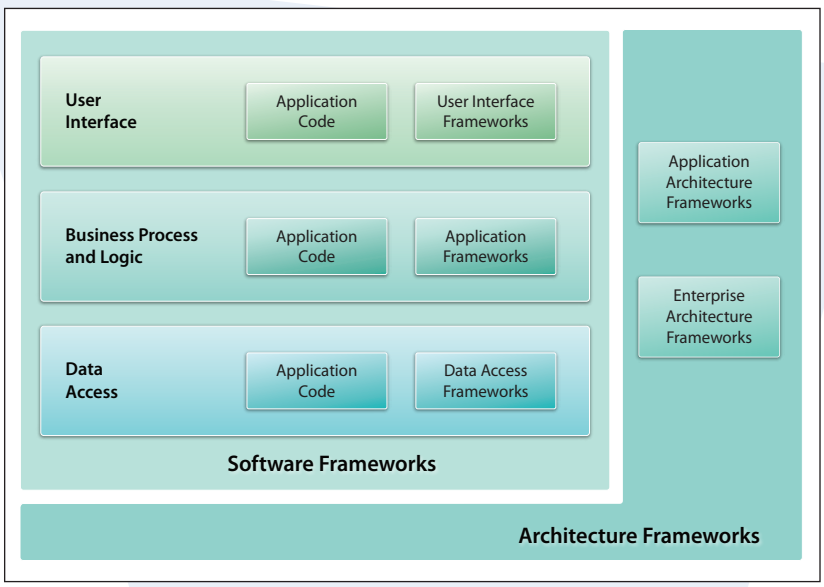
In the software context, frameworks give you something on which to build. They provide a quick start to developing an application. The closer the framework is to the finished application the better, reducing the effort needed to build the application. From the house illustration, a framework that provides the foundations, walls and roof is a quick start to finishing the house.

Software frameworks are available for use in each application layer: **user interface, business process & logic, and data access**. They fit into three categories: models, libraries or blue prints:

Model (or template) frameworks are software structures that provide a near complete foundation from which to build applications. Developers install the framework and add the application specific parts. Model frameworks are typically used in the user interface layer, where they provide assembled components upon which to build the user interface and interactions with the business process and logic layer.

Library frameworks are software collections that provide working software to accomplish specific functions, saving developers the effort to build their own. Library frameworks are available for all application layers, providing specific functions applicable to the layer in which they participate. Examples are JavaScript libraries (jQuery and Yahoo User Interface) in the user interface layer. Application frameworks (Apache Struts, Zend Framework and LANSA Workflow Framework) in the business layer. Database access frameworks (Hibernate, Spring, ADO.NET Entity Framework) in the data access layer.

Blue print frameworks are plans and guidelines for building software. These frameworks consist of concepts, practices, rules and assumptions that describe the architecture and define the way developers will build software. They provide design rules and coding standards that determine the technologies and tools that developers use to build applications.



Software frameworks are available for use in each application layer: user interface, business process & logic, and data access.

Why use a Framework?

Software development can be an expensive and imprecise undertaking. It is expensive because of the cost of the IT staff, hardware and software involved. It is imprecise because of the range of variables that influence development activities, such as the requirements definition and the experience and skills of the developers. Companies use frameworks as a way to reduce costs and introduce a higher level of predictability into software development.

Frameworks reduce the software development effort: Software applications consist of code related to the business logic and code related to the infrastructure that holds the application components together. When development projects include a framework, developers will spend less effort on the infrastructure and have more time to work on the business logic. ➔

Frameworks provide generic services: Frameworks provide the generic services needed by most applications. Examples are logging, configuration, database access and caching. They include tools and methods that simplify development for event handling, user interface management, data exchange and job processing. This infrastructure code is usually the most detailed and tedious code to write, requiring deep technical skills. Developers are more prone to making errors when working in this context. Using frameworks avoids or minimizes this situation.

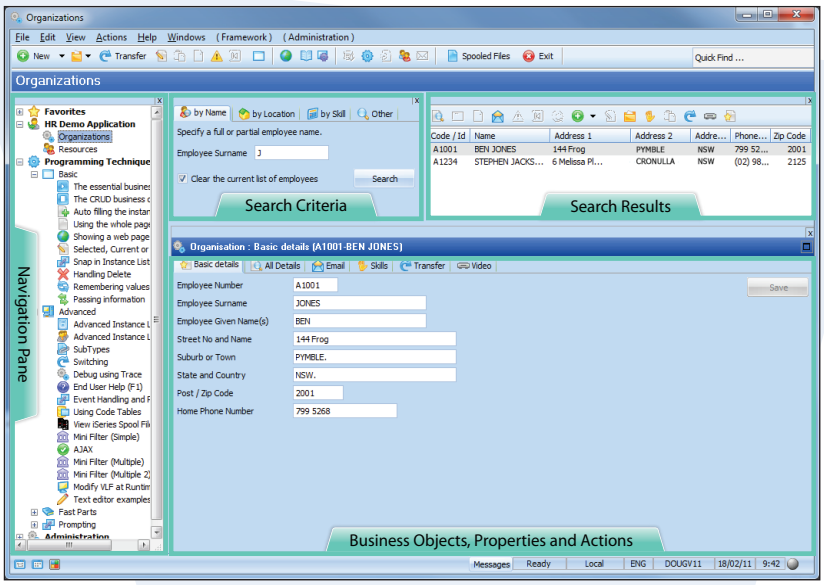
Frameworks reduce complexity: Many of the design decisions necessary when starting development from scratch are already built into the framework. The framework includes both the design decisions and the code to implement the decisions. Therefore, developers do not waste time reinventing the wheel. Less experienced developers will build better quality software by adding to a framework, rather than writing all the code. Better quality software reduces potential for errors and on-going maintenance effort.

Frameworks, like Visual LANSA Framework, encourage developers to work on component development. Components are small pieces of code that perform well defined and specific functions. They are less prone to error and easier to test. Components promote reuse, as a component can be part of several applications. Frameworks enhance componentization by encapsulating implementation details behind known and established interfaces. Component development improves software quality by localizing the impact of design and implementation changes.

Frameworks improve productivity, quality and consistency: Frameworks make the software development cycle a more predictable process by providing a standardized architecture and a standardized development approach. For example, developers work with pre-defined rules for coding and proven methodologies for building parts of an application. They also use a given set of development tools.

An architecture framework ensures that all developers work the same way to produce code that is understandable and maintainable. Developers produce software with a more consistent quality, while productivity improves because individual developers no longer need to make decisions about fundamental architecture and design issues.

Working with standardized and reusable designs facilitates automating development tasks. Frameworks often provide wizards and builders that generate code and reinforce the framework methodology. Wizards and builders improve productivity by reducing the effort to build an application.



The Visual LANSA Framework provides the infrastructure for an application including the security, user interface, search services, business objects management and navigation services.

Where do Frameworks fit in Application Development?

Frameworks provide a wide range of functionality and services. Frameworks, like Microsoft .NET, provide the basic computing services that developers rely on to build applications. At the other extreme, frameworks provide an entire application.

The following three level hierarchy illustrates the range of frameworks:

Software frameworks are the models, templates and libraries that we discussed earlier. They manage discrete components of applications. Developers use these frameworks to build applications.

Application frameworks are partially built applications or application shells. These frameworks are working applications without business code. Developers add the business code to the framework to complete the application.

The Visual LANSA Framework is an example of an application framework. Application frameworks may include the use of software frameworks.

Solution frameworks are completed and working applications. They include both business code and infrastructure code. These frameworks require configuration and integration, and may require a small development effort to add or customize specific business logic.

LANSA Commerce Edition is a solution framework for online ordering and inquiry. IBM offers industry solution frameworks, such as for the banking, government and insurance industries.

LANSA and the use of Frameworks

The Visual LANSA Framework (VLF) is an example of an application framework. It provides the infrastructure for an application including the security, user interface, search services, business objects management and navigation services.

The user interface includes a set of components common to most commercial style applications. The components are the navigation pane, search pane, search results pane and one or more tabs for viewing and/or maintaining business objects.

The VLF includes software frameworks, such as the code assistants. The code assistants are wizards that lead developers through the code generation process. By answering a set of questions and defining rules, developers generate most of the code. They can add to the generated code to complete the application.

The VLF also provides services for user management (who is allowed to use the application), authority management (who is allowed to view or edit business objects) and server management.

The VLF incorporates many design decisions, letting developers build applications with a consistent look and feel and a standardized architecture.

Applications developed with the VLF can be deployed as a client application or as a rich Internet application. The deployment options of the VLF again demonstrate how frameworks reduce cost and remove complexity from software development. ■

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