LANSA®
ADVANCED SOFTWARE MADE SIMPLE

ISSUE 42

Review

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Building business applications for mobile devices

Supply Chain automation and collaboration with LANSA

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THE LANSA REVIEW

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Welcome to 2012, LANSA's 25th year

A WORD FROM PETE DRANEY
Director and CEO

Every year since LANSA began has had its highlights and successes and 2012 won't disappoint our customers. A brand new version of LANSA, an international User Conference and a slew of real mobile development options should make this a year to remember.

Before adding some more details on the 2012 activity, I'd like to make sure that you are all aware that in 2011 we continued to invest heavily in product Research & Development and continued our drive to protect the investment in LANSA by all of our loyal customers. In 2011, we released new Versions of the core LANSA product, the Visual LANSA Framework (including RAMP), LANSA Composer, LANSA Integrator, aXes and LongReach (see later). And all of this whilst we are spending an enormous amount of effort and time to ready Version 13 for delivery this year. We're confident that we can continue to meet and exceed the expectations our customers have of LANSA's ability to deliver 'advanced software made simple'.

We've been developing and testing Version 13 of LANSA for some time now and we are aiming to have it ready-for-market in the second quarter of this year. It's difficult to single out one new feature from the many that will come, but LANSA Business Objects will certainly be one of the highlights. This will catapult LANSA further ahead of the competition as we add even more to the capabilities of LANSA's Repository. Business Objects hide even more internal complexity from application developers by enabling higher levels of application functionality re-use. Business Objects encapsulate not just Business Rules, but Business Processes as well (Web Services, 3GL Programs, RDML Functions & Reusable Parts, ActiveX and .NET components).

At the end of April in Orlando Florida, the 2012 International User Conference will be held over three days. Version 13 of LANSA will be presented at the conference. Some of the highlights include :

- Cloud-based self-paced labs, providing hands-on education with an instructor available to help out as needed. Just bring your laptop and you're ready to go.
- A new mobile track covering LANSA's mobile solutions. From Smartphones to tablets, iPhone to Android and Web to native apps – we'll cover everything you need to know.
- A full exposé of Business Objects and the significant savings in application maintenance and support that this feature affords.
- We'll also be showing you the latest Version 13 features for building cutting edge Windows and Web applications, embracing technologies such as jQuery and Microsoft DirectX.

This year we will make outstanding product announcements under the "LANSA Mobile" banner. Most of you will know already that we have released LongReach, an iPhone, iPad and iPod Touch mobile application that provides file and folder creation, management and transfer between mobile devices and IBM i servers. The application can manage documents, presentations, spreadsheets, photographs, audio recordings, video, and text files. Files can be created on the mobile device or on the server and synchronized securely between the two. LongReach is an easy first step in taking IBM i mobile. Later this year, we will announce a brilliant new product that will enable both LANSA and RPG programmers to design and develop native mobile applications without having to significantly increase their current set of programming skills. This product will again underscore LANSA's motto of 'advanced software made simple'.

It's shaping up to be an exciting 2012 and I hope that all of you can share in some or all of the products and events that we have planned for roll-out this year.

Announcing:

LongReach for secure mobile file management

LANSA has released LongReach – a free* native iOS application that provides secure file and folder management and intelligent synchronization between enterprise IBM i servers and iPhone, iPad and iPod Touch mobile devices.

With LongReach you can manage documents, presentations, spreadsheets, photos, audio recordings, video, text and many other types of files. Files and folders can be created on the mobile device or on the server and can be synchronized securely between the two.

All files are encrypted while on the mobile device and remain encrypted during transfer between device and the server. On the IBM i server, user permissions control a user's ability to create files and folders. Your company is in control of which staff and/or business partners will be issued with a LongReach account.

In standalone mode, LongReach provides you with a powerful tool to organize (create, copy, paste, rename and delete) files and folders. You can share files with other apps and work with any file type that has a viewer or application installed. LongReach comes with its own text editor.

What can it do?

With LongReach you can:

- Create, manipulate and store a complete range of files on your mobile device, especially mobile device specific files such as photos, videos, audio recordings and geolocation data that cannot be easily accessed by traditional browser-based applications.
- Securely upload files and folders from your mobile device to an IBM i server's IFS.
- Notify an IBM i-based Line-of-Business (LOB) application of arrival of uploaded files by sending a message to a message queue at completion of the file upload.
- Securely download files and folders, created by an IBM i-based application, to your mobile device.
- Refresh the mobile device's view of files and folders on the IBM i server, without having to download any files or folders.

What can you use it for?

LongReach allows organizations to collect data at the location of the data source, using a mobile device. Upon uploading files to the server, you can optionally insert the data into your company's LOB applications and trigger processing.

For example, a vehicle crash repair quotation process fits easily with LongReach. An insurance assessor, allocated to assess a crashed vehicle, downloads all relevant information for the job to his mobile device from his company's corporate server via LongReach. The assessor then uses his mobile to take photos and record a video of the damaged car and the accident site, make notes and record a voice memo. All these files can then be transferred to the server with a notification of delivery for immediate action by an IBM i application.

There are many more uses for LongReach. Here are just a few:

- Share enterprise files, where your company controls account access
- Circumvent email attachment size and storage restrictions
- Secure distribution of reports, downloaded as required
- Issue customers with a LongReach account so they can share files
- Securely backup files from a mobile device to the server
- Collect data in pre-formatted forms while on the road

You can use LongReach as a B2B communications tool to share information and to pass data, forms and messages between an organization and its closed community of staff and business partners.

LongReach is an organization's own private Cloud solution for information sharing, in contrast to DropBox for the public Cloud.

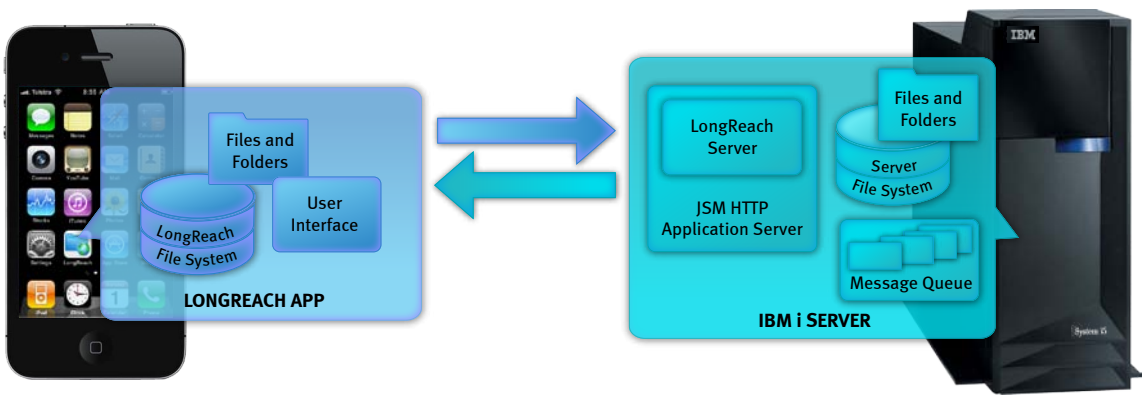
Download and pricing information

LongReach comes in two parts:

- The iPad/iPhone application is downloadable from the Apple iTunes App Store.
- The server software, for communication with the IBM i server, is downloadable from LANSA's Web site, see the link below. Installation on the IBM i is simple and initial communication configuration is performed via an iPad/iPhone.

***LongReach Pricing:** The LongReach iPad/iPhone App is free and the IBM i server software is free for the first 1,000 server licensees.

For more information and download instructions visit **www.lansa.com/longreach**



LongReach consists of two components: server-side management services and an application that runs natively on a mobile device.

HFA's up-skilled RPG team on equal footing with Java team

The developers that maintain RPG applications that 'just work' are often underutilized when it comes to the more exciting new Web and Windows development projects. Yet it's often the RPG developers that have a deep knowledge of their company's business and IT systems, plus the maturity to understand what adds to business value and what doesn't.

At the Harry Fox Agency (HFA) IT management decided that its RPG team was far too great a resource to exclude from new development projects. HFA implemented a practical plan to up-skill its RPG developers and by doing so doubled its resources for new development projects, putting the RPG team on equal footing with the Java team.

RPG Team in Maintenance Mode

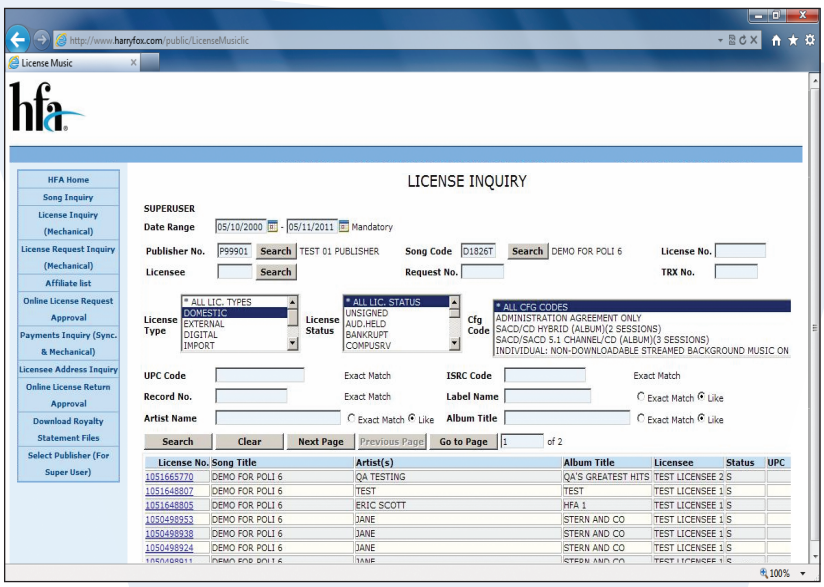
HFA is the USA's leading provider of rights management, licensing and royalty services for the music industry. With over 46,000 music publishing clients, HFA issues the largest number of licenses for the use of music in both physical and digital distribution formats.

HFA's business IT systems, mostly developed in-house, evolve around a few key areas: its inventory of musical compositions (songs), license requests from music distributors, license approvals by publishers, and royalty collection and distribution.

The song applications are mostly written in Java and run on Windows and Linux servers, while most of the licensing and royalty applications are RPG and IBM i-based. Until recently, the only application that wasn't RPG or Java-based, was eMechanical (eMech), the company's online license request solution for music distributors. It was developed by a LANSA consultant in 2005. HFA's own developers weren't trained in LANSA, nor involved in any LANSA projects, and since eMech was humming along happily, there was no need to get involved.

A few years ago Ellen Rosa joined HFA as the Project Manager for new application development, spanning both the RPG and Java platforms. Back then everybody was standing in line for the Java team, because the perception was that they were there to build all the new and exciting applications on Windows and Linux, while the RPG team was there to maintain legacy applications on the IBM i. As Rosa's focus was on new development, she had little interaction with the RPG team.

More recently Rosa was promoted to Director of Core Applications Engineering and became more involved with the RPG team. She got a better understanding of the team's capabilities. "These guys have a deep understanding of our business and IT systems. They handle the guts of our processing. Plus they are extremely professional and disciplined in the whole process of writing good code, testing it and rolling it out to the users. If only the team had a better tool than RPG, they would be very capable of delivering modern applications," Rosa says.



Publishers use the POLI+ application to respond to license requests and manage their songs and license transactions.

> **"What really sold me was LANSA's rapid development and multi platform deployment."**

In her new role, Rosa's goal was to modernize HFA's core IBM i applications and to better utilize the skills of the RPG team. The RPG team was enthusiastic about the plan and longing for something new to work with. One of the applications on top of the list for redevelopment was the Publisher Online Licensing Interface (POLI+), used by the publishers to accept/reject license requests and manage their transactions. Now replaced, the old POLI+ was HFA's last 5250 application for external users.

Since the eMech Web solution for music distributors was doing so well, LANSA came first to mind for redeveloping POLI+, but Rosa also gave consideration to IBM WebFacing, PHP and Java. WebFacing required little training, but was rejected because it was too limited for taking POLI+ forward. PHP was determined to have a bigger learning curve than LANSA, and Java even more so. "Java is not for everyone, you might just as well train RPG programmers to become brain surgeons," says Rosa.

Redeveloped in Two Months

LANSA was selected as the development platform for the new POLI+ Web project, but not just because the tool was already lying around. "What really sold me was its rapid development, plus the fact it runs on multiple platforms," says Rosa. Rosa and her team also found it a major benefit that LANSA can call RPG programs and that LANSA has native access to DB2/400 data. HFA has a huge amount of RPG code that is well written, presenting great business value. Taking advantage of existing back-end practices made good business sense.

All six members of the RPG team undertook training in Visual LANSA Web Application Modules (WAMs), a much newer development method than used for the six year old eMech solution. Three of the developers were taken away from their regular maintenance duties and given the job of developing the new POLI+ Web application. At the beginning of the project, a LANSA consultant was available for mentoring and best practice guidance, helping the team to do things right from the start and meet the tight project deadline.

"POLI+ is a large application," explains Rosa. "There are 10 tabs, each with a range of interactive update and query functions. The developers rewrote this large application completely in LANSA within two months. New functionality was added as well."

LANSA's graphical and event driven WAMs present a totally different development paradigm to RPG, but even so, the tool was picked up quickly by the team. "Our developers can do RPG in their sleep and whip up a database maintenance program in no time. Using LANSA they are able to program with almost the same time estimate as with RPG, maybe just slightly more at this stage, because they are still relatively new to LANSA," says Rosa.

"The RPG developers loved the challenge and felt energized by the project," continues Rosa. "They could not stop working. I got emails at all hours of the night when they discovered something new."

The new POLI+ application went live soon after development was completed and was very well received by the publishers. "We got a ton of compliments," says Rosa."They even tweeted about it on Twitter."

Rosa attributes the success of the project to a combination of the developers' experience, maturity and willingness to innovate, with an attention to quality and business value that other development options often struggle to produce.

Productivity and Moral Boost

"By training our RPG team in a modern and practical development tool, we doubled our development resources," says Rosa.

The doubling of resources is extremely welcome as HFA needs to continuously update its systems to keep up with the fast changes in its industry. Since the digital music revolution there are a huge number of players, many license type varieties such as downloads, streaming and ringtones, plus licenses are often issued for a single song rather than an entire album. As a result, HFA's processes are now far more complicated and data volumes have sky-rocketed as much as 800% over the last year.

Ellen Rosa with the RPG/LANSA development team.

"LANSA enabled us to very quickly modernize an application and make it easier to maintain."

HFA Senior Vice President and CIO Louis Trebino explains, "While complexity and volumes have gone up dramatically, revenues have not increased to the same extent. So productivity and efficiency are more important than ever. In our industry we need a very fast speed-to-market approach to support new types of transactions and services. Anything we want to do in Java is generally a fairly extensive development effort. With proper foresight and planning that's okay, because we can schedule for it. In the past when we identified an opportunity that needed action quickly, Java was not always the best choice. RPG was much quicker, but it lacked the graphical and cross platform capabilities."

"And that's where LANSA really came into play and enabled us to very quickly modernize a core application and make it much easier to maintain, evolve and expand in functionality. We have proven we can take a quite substantial core application that was dated in terms of appearance and flexibility, and very quickly modernize it for the Web, take its code forward and position it for growth."

Business Needs Determine the Tool

"Historically the RPG team was ignored when it came to new development efforts, because no one wanted the legacy applications they produced. Now, with LANSA in place, the RPG team is on equal footing with the Java team. Business considerations, productivity and resource availability determine the choice of tool and platform," says Trebino.

Many, if not all, one-off user requests that require new development on the IBM i are now handled with LANSA instead of RPG. The RPG team has also started on its next big LANSA project: a new Audit Uplift system for internal users, this time with a rich Windows interface rather than a browser interface.

"The Audit Uplift project had been on the table for two years, but we kept putting it off because it was going to be an extensive effort using Java, estimated to take at least twelve months development. Now, using LANSA, we're well on the way to what we expect to be a 6 month development effort. There was simply no business reason to do this project in Java," concludes Trebino. ■

Snapshot

Customer: Harry Fox Agency is the USA's leading provider of licensing and royalty services for the music industry. www.harryfox.com

Challenge: The RPG team had a deep understanding of HFA's business and IT systems, but not the right tools to contribute to modern development

Solution: The RPG team up-skilled with LANSA.

Key Benefits: The team was productive in a very short time. Now applications are easier to maintain, evolve and expand.

Product Used: Visual LANSA.

ITWAL takes control of its online order platform

Ordering goods over the Web may sound like the most common of all eCommerce requirements, but when your business model doesn't quite fit the standard B2B or B2C mold, the efficiencies and benefits that online orders may offer can be greatly diminished by the lack of control and flexibility that come with a hosted out-of-the-box Web solution.

ITWAL, Canada's national network of independent distributors, replaced a hosted shared code eCommerce system with a custom-developed online order solution. Being in control of its online order platform has allowed ITWAL to deliver focused functionality to its members, better alignment with its internal procedures and additional services to its suppliers.

The Challenge

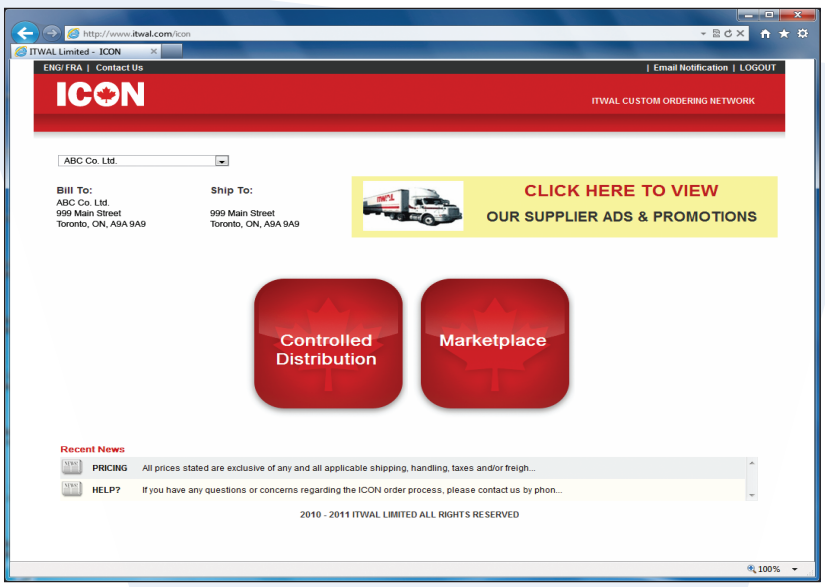
ITWAL Limited, based in Ontario, Canada, was founded in 1966 by a small group of independent wholesale distributors, who were mostly active in the confectionery and tobacco sectors. They formed ITWAL to combine their collective buying power, thereby enabling them to compete effectively for the benefit of their customers. Since those early days, ITWAL has evolved into a national distribution network of wholesale distributor members, offering a wide assortment of grocery and foodservice products, and operating 149 warehouses across Canada.

By consolidating the orders of its member distributors, many of whom serve Canada's rural areas, ITWAL can offer economy of scale and supply chain efficiency to both member distributors and suppliers, while benefiting from large volume buying. Additionally, ITWAL offers its members specials and deals that are exclusively available to them.

"There are many elements in play that help us reduce the cost of getting goods to market. This makes it possible for consumers in rural areas to buy their goods at a similar price to what other people pay in metropolitan areas," summarizes Tom Mavroidis, president of NTM Consulting, on who ITWAL relies for its IT management.

Virtually all of ITWAL's IT systems are IBM i-based and in-house developed COBOL or RPG applications. Although a true blue shop, several Linux and Windows servers have been added over the years.

Simplified for ease of explanation, ITWAL's IT systems revolve around suppliers and member distributors. Suppliers provide their product and pricing information, which is made available to distributors to place their orders against.



The ITWAL Custom Ordering Network system offers focused functionality that targets directly what it is that members need to do to place an order.

ITWAL then consolidates these individual orders and either fills them from its warehouse, or places an order with the respective supplier. In addition, ITWAL organizes a 'MarketPlace' show once a year, the largest trade show of its kind in Canada, where suppliers can showcase their products directly to ITWAL's distributors and offer trade show specials.

"Two and a half months after the project started the site was rolled out to a pilot group."

ITWAL's standard warehouse orders are handled by a Linux-based eCommerce system that NTM Consulting designed and implemented some 15 years ago. It involves a Windows component on the distributor's client PC that allows for secure encrypted exchange of information with ITWAL.

Until recently, the majority of the special order types were handled through a hosted eCommerce solution that ITWAL subscribed to four years ago. The hosted solution handled the job, but wasn't very well suited to ITWAL or its distributors. As a result, screens were cluttered with irrelevant menu options, fields and other information.

Only Four Months To Go

ITWAL decided to re-evaluate whether or not to continue using the third party system for its members and investigate alternatives. "We had two options," says Mavroidis. "One was to go back to the fax/email system that we had in place before we started using the hosted platform. The other option was to develop a suitable Web solution ourselves. Reverting back would mean letting our distributors down, so we had to move forward. When management approached me to look for alternatives, it was late September 2010. The next ITWAL Marketplace show was taking place in March, giving us only four months to develop a workable solution, an almost impossible task because of the scope of the project."

"At first I considered handling the project in-house, but I quickly put that idea to rest since ITWAL did not have the right resources or skill-set. Next I looked at bringing in additional NTM resources, but everyone was committed to other projects," continues Mavroidis.

"Then I remembered LANSA. I had approached them several years prior when

I was researching technology options for another project. Back then other priorities took precedence and nothing ever transpired with the grand plan, but I was left with an extremely positive impression of LANSA's ability to bring a project to fruition. I knew LANSA could deliver on time and on budget. It has the services and the tools to support the project completely. During my original discovery phase I had spoken with some of LANSA's active customers and they spoke admirably about them. We decided to give it a try."

The Project

The first project scope meeting for the new ICON (ITWAL Custom Ordering Network) system was held in mid-October 2010. Because both time and budget were limited, Mavroidis decided to limit the number of order types ICON would handle to the most important ones (at least for stage one). Those were the Marketplace orders, that are shipped through the ITWAL warehouse, and Controlled Distribution orders, such as Limited Editions, New Products and many more.

Mavroidis also decided to develop the reports with ITWAL's own IT team and let the LANSA Professional Services consultants work solely on Web development.

Mavroidis and two other members of the IT team attended LANSA's classroom training. In addition they found it very convenient to use LANSA's remote mentoring assistance. "It's good to know that someone is available to walk you through a problem when you are stuck on an issue. I'd much rather have a programmer make a quick call to a mentor instead of spending hours digging through pages of documentation. Mentoring support is just one of the many advantages of using LANSA."

"Everyone from LANSA who worked on the project was very professional and disciplined. Also, from a contingency planning point of view, it's comforting to know that there is a large pool of LANSA programmers that we can depend on if the need arises."

The project proceeded smoothly and in January, two and a half months after the project started, the Web solution was rolled out to a small group of pilot users, soon followed by the full rollout. "It was because of the commitment and dedication of the whole team at both ITWAL and LANSA that this project was as successful as it was," says Mavroidis.

Labor Savings and Better Visibility

"Now the solution is completely under ITWAL's control and its focused functionality targets directly what it is that the members need to do to place an order," continues Mavroidis. "The screens aren't cluttered with irrelevant information and the whole solution flows a lot nicer than before. ICON is one of the most frequently used applications by our member distributors and the labor savings are significant. Our members have nothing but praise for the new system."

At ITWAL's annual Marketplace show, suppliers can showcase their products directly to ITWAL's distributors and offer trade show specials.

"LANSA has the services and the tools to support the project completely."

Annè Nielsen, Marketing & Communications Manager at ITWAL, agrees. "The ICON solution is very efficient and completely tailored to our members. It takes just a few clicks for them to place an order."

"Another major efficiency for the distributors is that they now have better visibility of all the suppliers' offerings within an order type, e.g. 'New Products'. Previously they would have to select one supplier at a time," says Nielsen.

ITWAL is also achieving internal efficiencies because it can align the ICON order platform with its internal procedures. For example, the product information that a supplier provides is published with a consistent layout both on the ICON Web site and in the warehouse notes. Previously there were inconsistencies that could cause confusion.

Because of ICON's tight integration with ITWAL's IBM i back-end system, the entire ordering process is more transparent for the distributors.

ITWAL's suppliers are excited about ICON as well, because they have improved visibility within the supply chain, all the way down to the details of the individual orders placed by ITWAL's members. Knowing who is buying what allows suppliers to better target their sales and marketing efforts. In addition, suppliers have the opportunity to advertise on ICON.

Practical and Extendable Platform

Mavroidis considers the implementation of ICON phase one a tremendous success. "The definition of what was required was spec'd out well, in all its nuances. Everyone did their part and it all worked well. What was promised was delivered, on time and within the budget. We didn't have any difficulties whatsoever," he says. "Phase two of ICON is in planning and likely to handle additional order types and provide portal access to suppliers."

"There is so much variety of technology out there, that it sometimes isn't clear what it is we should be concentrating on. With LANSA we now have our own practical and extendable platform on which to build and further grow ITWAL's business. We are making real gains in delivering Web solutions to our partners ourselves." ■

Snapshot

Customer: ITWAL is Canada's national network of independent distributors. www.itwal.com

Challenge: The standard hosted shared code eCommerce system was not a good fit.

Solution: Develop a tailored online order solution.

Key Benefits: Focused functionality to members. Better alignment with internal procedures. Additional services to suppliers.

Product Used: Visual LANSA.

iPad search of diamonds boosts Trecenti's sales

TRECENTI
Jewelry for happiness

Trecenti sells fine jewelry, mainly engagement and wedding rings, at its 13 shops in Japan. The company was originally a subsidiary of Oriental Diamond, a diamond importer that develops, manufactures and sells diamond jewelry. In 2007 Sumitomo Corporation, 100% shareholder of Oriental Diamond, sold and transferred its Oriental Diamond business to Nissen. Consequently Trecenti has become a member of the Nissen Group.

Trecenti's main products are engagement and wedding rings with diamonds. To meet the diverse wishes of its customers Trecenti offers a wide assortment of rings, ranging from readymade off-the-shelf rings to custom made designs that are based on the customer's own choice of ring frame with one or more loose diamonds.

Mr. Minami, Manager of Business Information Systems at Oriental Diamond.

Shift of Business Model

In the past, customers chose their ring and diamonds from samples in the shop and from catalogues. After the customer had made their choice, sales staff had to go to the office at the back of the store to call the product department at Trecenti's head office to check whether the customer's choice of ring and diamond(s) were in stock, and if not, what the scheduled delivery date would be. If the delivery date did not suit the customer, sales staff had to ask the customer to make another choice, repeating the whole process. Many customers visit the shops on weekends and therefore Trecenti's head office product department staff needed to work on weekends as well.

Trecenti's business model is shifting towards custom made jewelry and to support this change in business model, procedures had to be improved. Discussions about introducing a system to support custom jewelry sales had been going on for a while, but no decisions had been made yet. In the summer of 2010 Mr. Minami, Manager of Business Information Systems at Oriental Diamond, was visiting Trecenti to consult with management on system development, and he renewed the discussion regarding a system to support custom jewelry sales.

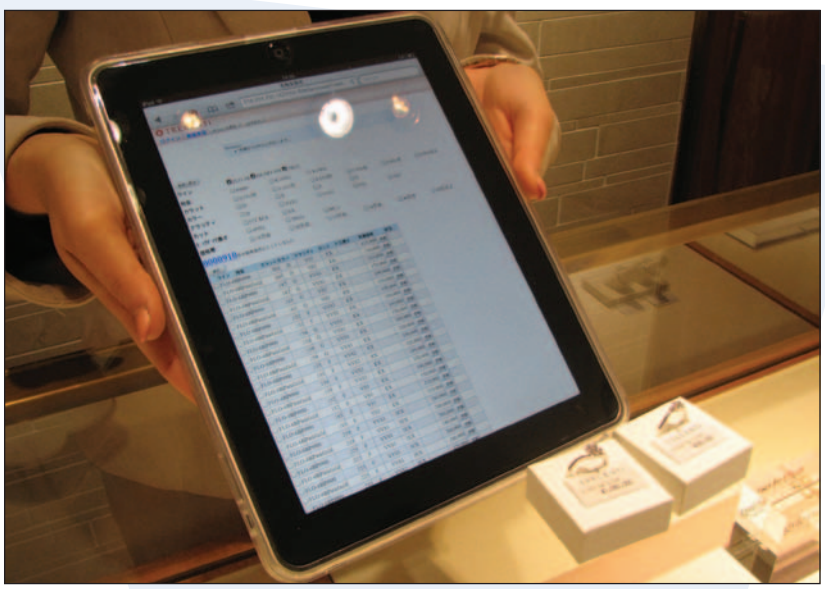
Web system developed with LANSA required no change for iPad's Safari browser

Mr. Minami particularly took note of Oriental Diamond's Loose Diamonds Web System built using LANSA. Oriental Diamond is a long-time IBM i user, that has developed a number of business systems using LANSA since 1995, while Trecenti's core business system is running on Windows.

"Sales staff had to go to the office at the back of the store to check stock availability."

Oriental Diamond's Loose Diamonds Web System is an Internet-based application that allows potential buyers to search the inventory of loose diamonds and secure the selected diamonds, all in real time. The system, to which over 400 diamond suppliers are connected, was implemented in 2008. The system was built using Web Application Modules (WAMs), LANSA's component-based technology for building Web applications using XML/XSL. Benefits include better quality screen expression and fewer development man hours.

Oriental Diamond's business partners have been satisfied with the Loose Diamonds Web System in a B2B scenario. Mr. Minami suggested re-using it for Trecenti's B2C custom jewelry



The LANSA-based solution allows customers to search loose diamonds by carat, color, quality, price, line, bare metal, and other criteria using Safari, iPad's browser.

order system, allowing customers and sales staff to check the availability of diamonds at the shop counter while discussing the ring design.

The original plan was to set up PCs at the shop counters and show the search results to the customers. However, when discussing the specifications in more detail, Mr. Tsukuda, President of Trecenti, decided iPads should be used in the shops rather than PCs. Letting customers use iPads at a jewelry store is quite rare, but Mr Tsukuda thought that iPads would allow for a more enjoyable experience for the mostly young female customers and their fiancés while choosing their ring design.

Oriental Diamond set up a Logical Partition (LPAR) for Trecenti on its IBM i 9406-560 server. Except for the new inventory master, which was created by Trecenti for pre-purchased loose diamonds, the existing LANSA-based Loose Diamonds Web System could be used without any change. This made the implementation period very short. Trecenti went ahead with its system decision in November 2010 and rolled out the iPad solution to all its 13 stores nationwide in January 2011.

Trecenti, established in 1988, has its head office in Chuo-ku, Tokyo. Trecenti employs over 60 staff and has 13 stores nationwide.

Sales Close Rate Increased

The system allows customers to search loose diamonds by carat, color, quality, price, line, bare metal, and other criteria using Safari, iPad's browser. Thanks to the systems' self-service and real-time search capability, business negotiation with the customer is less time consuming. The iPad solution has been received well by customers. Even male customers visiting as fiancés like it. The president's wish to make choosing a ring design a more enjoyable experience for both male and female customers has been met.

"The duration of business negotiation with the customer has been shortened and the sales close rate increased."

As sales are rapidly shifting from ready-made rings to custom designed rings, the business opportunity for using iPads has grown. Since the system was introduced, Trecenti's sales close rate has increased and business efficiency has improved. Customers can select their ring and diamonds even when not attended by a sales clerk. Also, Trecenti's product department doesn't have to come to the office on the weekends anymore to answer inventory related questions. Both customer satisfaction and staff motivation have increased. The system has delivered results beyond expectation.

Planned enhancements to the system include adding a customer survey capability and sales analysis features. ■

Snapshot

Customer: Trecenti in Japan sells custom jewelry. www.trecenti.com

Challenge: Sales staff had to continuously phone Trecenti's head office to check on the availability of the customer's choice of diamonds.

Solution: Trecenti uses iPads in its stores to let customers and sales staff search the real-time inventory of ring frames and loose diamonds.

Key Benefits: The solution, which is based on an existing LANSA-based system, was implemented in a very short time and has improved both customer service and efficiency. Sales have increased significantly.

Product Used: Visual LANSA.

• This article is based on a case study published in the May 2011 issue of iMagazine Japan. www.imagazine.co.jp

J-Oil Mills web-enabled its business system in an hour with aXes

J-Oil Mills, based in Japan, develops, produces and markets domestic cooking oils, such as Ajinomoto Sara-sara Canola Oil, industrial oil and fat products, health foods, cornstarches and fine chemicals.

J-Oil Mills used aXes to very rapidly provide inquiry and data entry access over the Web to its sales staff on the road and to customer service staff. The aXes solution also played a crucial part in the company's implementation of pandemic countermeasures in 2010, allowing staff who were exposed to swine flu to work from home.

Order and Shipment Data to be Viewed Outside the Office

J-Oil Mills was established in 2004 when Honen Corporation, Ajinomoto Oil and Yoshihara Oil merged their respective edible oils operations. In order to reach synergy in procurement, production, logistics, sales, marketing, R&D and other business areas, the merged company has been working on system integration and restructuring the organization.

With regards to system integration, the sales and administration systems, such as order management and distribution, were consolidated onto IBM i. Manufacturing systems, including procurement and product management, were consolidated onto Windows, as were the financial systems.

The plan for Web enablement came about in response to a strong request from the users, especially from the sales team, to be able to view order and shipment information from outside the office. Mr. Miyamae, Assistant Manager of the IT department, recalls "Our main focus was how to make it easy and simple for our sales people to view information while on the road, using their laptops."

Previously the company didn't allow their employees to view business data from outside the office, because of security concerns and also the IBM i system's communication speed at that time was not sufficient. This meant that sales people had to call the office every time they needed to check inventory or customer order information.

However in July 2009, when J-Oil Mills decided to upgrade its IBM i server, it was a good time to review the IT systems and some of the company's related policies. With a focus on improving operational efficiency and moving applications to the Web, three candidate solutions were evaluated: RAMP from LANSA, a similar product by another company and PHP.

With aXes eXtensions you can take the design and layout of your 5250 application to the next level.

"About an hour after the installation we could see the screens in a Web browser."

Sudden Urgency

Exactly at the time when J-Oil Mills started to review and compare these products and went through the first few demonstrations, swine flu became a major worry in Japan. People who caught the virus or who had a family member with the virus had to stay at home. Providing staff with Web access, so they could work from home or anywhere else, became a top priority in the implementation of pandemic countermeasures.

Because of this, aXes, a Web enablement tool sold by LANSA partner K.I.S.S in Japan, was added to the shortlist of candidates. "The other three products needed considerable time to discuss in detail with the team. On the other hand, aXes could webify the 5250 screens on-the-fly and as they are, being fully compatible with the current screens. aXes' short learning curve, quick implementation and affordable pricing were also positive factors," says Mr Moriyama, Manager of the Information Systems department.

aXes was selected and implemented immediately. "Our thought was to start simple with aXes and just Webify the applications quickly, then spend more time later to beautify them with aXes eXtensions or modernize the system further with RAMP, a next modernization step that can re-use work done with aXes."

"aXes installation and implementation was surprisingly quick," Mr. Miyamae and Mr. Moriyama agreed. "About an hour after the installation we could see the screens in a Web browser. aXes automatically recognized the menus and 5250 screens and created the browser GUI, without any manual effort. It

was so quick, that I could hardly believe the implementation was completed properly," Mr. Moriyama added.

The new Web enabled system is not only used by sales people, but also by customer service operators. The version used by customer service is non-customized, with exactly the same fields as the 5250 display, while the version for the sales people has a mask on some of the fields so that they are not displayed.

Ms. Okuni, in charge of the Web enablement project said, "If you are not after fancy screens specially designed for a Web browser, what aXes produces out-of-the-box is sufficient. If needed, you can use aXes eXtensions for a richer user interface or add scripts for automated processing. One day of training was enough to learn how to use the product."

Automatic Reconnect and Screen Control

One of the aXes features J-Oil Mills highly values is the 'automatic reconnect' feature, which the other products examined by the company didn't have. A system's connection can be interrupted for a number of reasons and it usually requires the involvement of a system administrator to re-establish the connection, adding to the workload of both the IT department and the user. However, with aXes users can restart their work from the screen they were at, by ticking the 'reconnect' button on the screen. J-Oil Mills finds this built-in resilience to automatically reconnect after a network interruption very efficient.

Another feature J-Oil Mills highly appreciates is multiple-screen control. Initially the system provided only a single screen per user, but staff at the customer service center requested multiple screens per user to improve the efficiency and usability of the 5250 application. aXes could immediately meet this request as well.

J-Oil Mills had originally planned to use the system for data inquiry only, but usage was expanded to also include data entry. Some of the configuration settings were initially not paid attention to, which resulted in problems being reported. "We discussed these issues with K.I.S.S. support, who responded quickly to investigate them and they gave us appropriate advice on how to configure the settings. We are very satisfied with K.I.S.S. support," said Ms Okuni." All the issues were solved quickly and the system has been actively used since implementation."

J-Oil Mills Inc. produces and sells cooking oils, industrial oil and fat products, health foods, cornstarches and fine chemicals.

"One-day training was enough to learn how to use the product."

Access for Business Partners

J-Oil's future plans include using aXes to provide business partners with Web access to its system.

aXes was originally chosen as a data inquiry solution, just because it met the minimum requirements to quickly respond to the sales team's request for data access from outside the office and because it allowed to quickly establish pandemic counter measures. "However, we would like to continue using aXes since its operation is highly valued by the users. Eventually we would like to move on to the next modernization step, such as RAMP," Mr. Miyamae expressed his hopes. ■

Snapshot

Customer: J-Oil Mills, based in Japan, develops, produces and markets domestic cooking oils. www.j-oil.com

Challenge: Provide sales staff with data access from outside the office, plus allow staff who were exposed to swine flu to work from home.

Solution: aXes provides staff with data enquiry and data entry access over the Web. aXes will also be used to provide business partners with data access.

Key Benefits: aXes webified J-Oil's 5250 screens on-the-fly, had a short learning curve, quick implementation and affordable pricing. The 'automatic reconnect' and 'multiple-screen control' features of aXes are also of value to J-Oil Mills.

Product Used: aXes.

• This article is based on a case study published in iMagazine Japan. **www.imagazine.co.jp**

No looking back for Groupama AC

Groupama Assurance Crédit (Groupama AC) is a division of the Groupama Group, a mutual insurance, banking and financial services group headquartered in France. Groupama has over 39,000 employees serving 16 million members and customers. Groupama AC chose RAMP from LANSA to modernize its COBOL and IBM i-based business application, BIS-Inforis, with new functionality and modern technologies, while preserving its existing investment. The solution includes Web services, Windows integration and workflow automation.

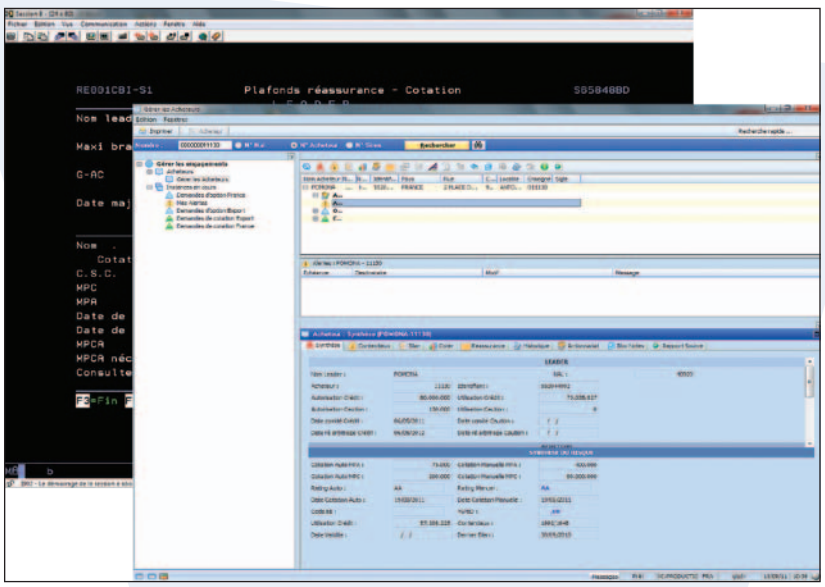
Jean-Luc Even, IT Director at Groupama AC, says, "We are enjoying modern screens, enhanced user friendliness and flawless integration between IBM i and Windows applications. Users are more efficient and development has been simplified for our IT team. Nothing in the world could make us go back to the old system."

User Productivity Hindered

Groupama AC is in the credit insurance business. It provides cover against payment defaults arising from the poor state of the accounts of its customers (insolvency and other market risk), or from political and economic situations in the countries its customers export to (political risk). Groupama AC serves a highly diverse clientele, ranging from small and medium enterprises to exporters and commercial growers.

From the AS/400 days onwards, almost 20 years ago, Groupama AC has been using a heavily customized and extended implementation of BIS-Inforis, a COBOL and IBM i-based insurance solution. Over the years BIS has been extended with various Windows-based applications, but up until recently its core functionality was still accessed mostly from 5250 (character-based) screens.

The 5250 screens were limited to 24 rows and 80 columns, considerably restricting the possibility to add content. In addition to the shortcomings of the 5250 screens, Groupama's users continuously needed to switch between 5250 and Windows applications, having to login over and over again for each operation. Navigating between the poorly integrated applications was significantly hindering the day-to-day productivity of nearly 100 business users.



In the modernized application navigation is clearer, faster and more intuitive, allowing users to work more efficiently.

Groupama AC was eager to switch to a single, modern graphical user interface that would allow for easy navigation between applications. Yet the company wanted to keep all insurance data on its existing IBM i system.

Mr Even explains, "Our two main priorities were without a doubt making the screens more user friendly and boosting efficiency. However, in the process of modernizing, we didn't want to put the business at risk by migrating our data to another platform. So, we had to find a tool capable of upgrading our business package without compromising the data held in our existing system."

"Nothing in the world could make us go back to the old system."

Revamp and Redevelop

Mr Even and his team researched a number of application modernization tools. "After comparing the offers from several vendors, we decided that we didn't want to choose between revamping screens and redeveloping code. We wanted both. LANSA was the only company that offered an integrated set of product modules, allowing us to gradually evolve and eventually truly overhaul our business solution," he says.

LANSA's RAMP, which contains a screen Web enablement/modernization component and a 4GL development tool, was selected. A joint project team was set up that included members of Groupama AC's in-house development team as well as LANSA consultants. For several months they worked closely together, discussing every step of the legacy application modernization project.

In November 2010 the RAMP modernized insurance solution was rolled out to a large pilot group of users. At that time, 30% of the old core system had been redeveloped with RAMP's embedded Visual LANSA Framework tool and 70% had been visually redesigned. The pilot rollout was a huge success. ➔

Users and IT Team Benefit

"The pilot was barely implemented before we started to get positive feedback from the users. They told us that nothing in the world could make them go back to the old system," says Mr Even.

"In the RAMP framework, all applications integrate seamlessly. Using RAMP we have been able to expand and improve our business package, thus meeting user needs better."

"The system is more productive in two ways. For end users, navigation is clearer, faster and more intuitive, allowing users to be more efficient. The old 5250 screens were limited and users often had to access multiple screens to accomplish a single task. Now, information is consolidated and from just a single screen users can access a wide variety of information."

"For the IT team, development has been simplified. Our developers have gone from a procedural language to a high-level object-oriented language. In the long-term, that's undeniably a source of productivity."

The learning phase for LANSA was short, according to Mr Even, "Compared with the learning curve for other languages, it took our developers very little time to learn LANSA and become productive with it."

LANSA has also improved the flow of information with insurance holders, brokers and financial institutions. By optimizing the daily tasks for all parties that are involved in delivering on Groupama's commitments, the needs of policy holders are met more quickly.

Users can access all the information they need from their desks. For example, when they need information about a buyer from one of our customers, from a single redeveloped application they can access information in Groupama's own database, as well as information from third party institutions (financial analysis, credit rating and other registered information). All the information links are integrated into the redeveloped application. Everything is automated and available with a few mouse clicks.

Karine Bensamoun, Risk Analyst at Groupama AC, says "Our business is to hunt down information. We must be able to respond fast and provide accurate and reliable information at all times. In my 15 years at Groupama AC, the working methods have never been so user friendly as today. Access to various information channels has been simplified, our screens are modern and navigation is much more intuitive."

The IT development team at Groupama Assurance Crédit – Left to right: François Beau, Jean-Paul Arnould, Jean-Luc Even, Yves Arnaud, Nathalie Laloux.

"Our screens are modern and navigation is more intuitive. It's incredible how much time is saved."

"It is incredible how much time is saved. Previously a given task would require that we enter the same piece of information four times in as many screens. Now it's all done with just a single click. Multiply that by the number of daily requests and you quickly realize that the difference is like night and day."

All Promises Delivered

Now, a few months after the pilot implementation of the modernized solution, Groupama AC is fully satisfied with its choice of RAMP. The modernized solution is already used by 50% of Groupama AC's users and the company is planning to roll out the RAMP-ed solution to all its IBM i users.

"We are enjoying modern screens, enhanced user friendliness and flawless integration between IBM i and Windows applications. The Groupama AC challenge was successfully met by the LANSA company and its consultants by implementing the RAMP modernization solution," says Mr Even.

Mr Even concludes, "LANSA delivered on all its promises. The initial objectives were reached and we even had a few pleasant surprises regarding features and functionalities. We are completely satisfied. The next step is to equip all our staff with the modern solution. Our relationship with LANSA therefore has a promising future." ■

Snapshot

Customer: Groupama is the leading mutual insurer in France. www.groupama-ac.fr

Challenge: The core business application needed to be modernized beyond screen revamping, but a data migration had to be avoided because of its associated risks.

Solution: RAMP offers a framework that integrates both redevelopment and GUI redesign. At Groupama's first roll out 30% of the system was redeveloped and 70% visually redesigned.

Key Benefits: Groupama can gradually evolve and eventually truly overhaul its legacy system. Immediately at a first rollout users enjoyed productivity gains and application development was simplified.

Products Used: RAMP and Visual LANSA.

Kawasaki's supplier portal provides quick ROI

Kawasaki
Let the good times roll.

Some companies choose to implement big ERP packages that require them to change their business procedures to what their ERP vendor has determined best business practice. In these environments it often becomes technically and financially challenging to add or customize business functionality. Kawasaki Motors Manufacturing Corp., USA decided to go along a different path and is reaping the benefits.

Kawasaki's consumer products plant in Lincoln, Nebraska, operates on a 'just-in-time' basis to eliminate expensive warehousing and over-ordering of parts. For this, the company needs to work closely together with its suppliers. Using the skills and knowledge of its in-house IT team, Kawasaki's Lincoln plant developed an online supplier portal that paid for itself in just a few months. The supplier portal, underlying ERP system and the entire process of generating purchase orders, packing slips, box labels, invoices and EDI transactions consists of LANSA-based applications.

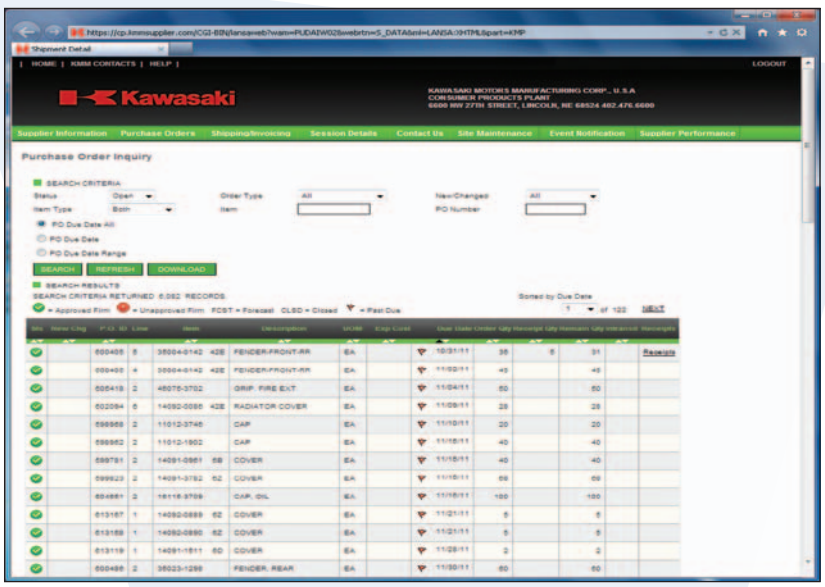
Too Many Parties

Kawasaki Motors Manufacturing Corp, USA (KMM), is part of Kawasaki Heavy Industries, Ltd. Kawasaki, the first foreign vehicle manufacturer to open a manufacturing plant in the USA, opened a consumer products facility at Lincoln in 1971. Then in 2001 Kawasaki opened a light rail car plant, also at the Lincoln site. Kawasaki's Lincoln employs over 1,000 people. The Maryville plant, opened in 1989, produces general purpose engines and employs 600 people.

Both the Lincoln consumer products plant (KMM CP) and the Maryville engine plant use LANSA-based solutions on IBM i power servers, but independent from each other and tailored to their individual needs. KMM CP has been using LANSA ERP Frameworks since 2002. For its communication with suppliers KMM CP uses LANSA EDI Direct, which is now an integral part of the LANSA Composer product.

For those suppliers that cannot handle EDI, KMM CP previously used a third party Web portal. Since there were significant fees involved for the supplier (and for KMM CP), use of the third party portal wasn't widespread. As a result, many suppliers used fax or email, with all the associated inefficiencies.

The third party portal offered some efficiencies, but was still far from perfect.



Once an order is acknowledged, it becomes part of the supplier's open orders that can be viewed and filtered by several criteria.

Paul Kramer, based at the Lincoln plant and Assistant Manager Information Systems at KMM explains, "There were too many links in the chain: the supplier, the third party portal, another EDI processor (used by the portal) and us. If there were hiccups in the connections between any of these systems, transaction files would not arrive."

"The portal was easy to roll out and is well accepted by our suppliers."

"Errors could go unnoticed until late in the process and, when finally discovered, it would be hard to trace where things went wrong. Some of the shipments that arrived at the receiving dock could not be processed because we had not yet received the ASN (Advance Shipment Notification), even though the supplier was sure they had submitted it."

KMM CP decided that it would be better to have its own supplier portal. "We could simplify the communication process by eliminating third parties and we could save our suppliers money by offering the portal for free. Consequently, the uptake would be bigger and we could even consider enforcing it. Plus, having the portal under our control would allow us to tailor it to our needs and integrate it with our ERP system," says Kramer.

Moving the Portal In-house

A project team was put together consisting both of KMM CP's in-house developers and LANSA Professional Services consultants. Using LANSA WAM development technology in combination with LANSA's prebuilt industry standard Web components, the team built a custom supplier portal.

The Material Requirement Module in KMM CP's ERP system recognizes demand and creates purchase orders that are automatically published in the supplier portal. Orders that haven't been acknowledged within a certain timeframe trigger an alert and email a reminder to the supplier. Once the orders are acknowledged, they become part of the supplier's open orders that can be viewed and

filtered by several criteria.

When due dates come around, the supplier goes back to the portal to indicate which orders will be shipped, specify the exact number of items per box, assign box-ids, double check totals and merge boxes if needed. When shipments are confirmed, the portal creates box labels. The labels, PDF documents generated by LANSA Integrator, contain the proper barcodes and all the other information needed to identify a box and its contents. Once the boxes have shipped, the supplier can use the portal to generate an invoice on KMM CP's own system.

"The supplier only needs a browser," explains Kramer. "Also, the supplier doesn't need an expensive barcode printer or complex set of fonts, because the PDF labels already contain the barcode images."

Behind the scenes the portal generates EDI transactions (ASNs, invoices, etc) which then follow the same path as EDI files transmitted directly by non-portal suppliers. "We didn't have to change any of our programs to process the transactions from the portal," explains Kramer.

Major Efficiencies

"It works really well," says Kramer. "Boxes are identified immediately upon arrival when we scan the box labels. The goods are automatically marked as received and go through a computerized 3-way-match, meaning that when the price and quantity of the purchase order, packing slip and invoice match, the invoice is marked as ready for payment. And obviously, they do match because they are all on our system and based on the same correct data," explains Kramer.

"Previously we spent hours on shipments, because it involved manually marking the received items against the packing slips. Now we can receive and process large shipments in a fraction of the time. Multiply that by the number of shipments we handle a year and it's clear that the labor savings are enormous."

"There are significant savings in straight dollars as well. Because our procedures are now so quick and efficient, we have the ability to negotiate better payment discounts with our suppliers. Using our electronic payment system we can schedule payments just before the due date, allowing us to maximize interest and still pay the supplier within the agreed terms."

Paul Kramer, Assistant Manager Information Systems at Kawasaki Motors Manufacturing Corp USA.

"When you add up the labor savings and payment discounts, ROI was very quick."

"The portal was easy to roll out and is well accepted by our suppliers. It affects many business areas, from how parts are ordered to how they are received and paid for. When you add up the labor savings and payment discounts, the return on investment was very quick. The portal paid for itself in just a few months."

Suited to the Business Needs

The supplier portal is only a small part of KMM CP's overall solution infrastructure. For its core manufacturing, distribution and financial systems, KMM CP uses the LANSA ERP Frameworks. This ERP solution comes with source code, thus eliminating ongoing maintenance fees. Visual LANSA is used to add Web and Windows functionality, while the core financial modules have been modernized with RAMP.

KMM CP uses LANSA's original EDI Direct tool for exchanging transactions with its suppliers and the newer LANSA Composer product for EDI transacting with Kawasaki's Rail Car Division, which runs SAP. LANSA Integrator is used for PDF generation and also plays a role in KMM CPs electronic banking.

"LANSA's programming language isn't complex at all and our developers picked it up quickly. We use LANSA's rapid development for Web, Windows and green screen applications. We don't have to use different tools for different types of clients, not even if we deployed to SmartPhones or tablets."

"LANSA provides a very good base system and the flexibility to customize it to our business needs. So often you hear about ERP packages where you have to change your business practices to match the way the package works. That's not the case for us. We can build the applications to suit our processes," concludes Kramer. ■

Snapshot

Customer: Kawasaki Motors Manufacturing Corp, USA Consumer Products (KMM CP) www.kawasaki.com

Challenge: Most suppliers were relying on manual procedures as EDI was too expensive, resulting in laborious procedures for processing shipments and invoices.

Solution: A portal for suppliers to respond to POs and generate the EDI files, PDF box labels and invoices.

Key Benefits: Significant reduction of labor cost, faster processing and savings from payment discounts.

Product Used: Visual LANSA, ERP Frameworks, RAMP, Composer and Integrator.

Top ten checklist for evaluating modernization tools

Paul Conte
President PCES, and a leading Application Strategist

"Give us the tools, and we will finish the job." – Winston Churchill, February 9, 1941

While application modernization isn't as daunting as the challenges Churchill faced during World War II, developers and IT managers may feel his words perfectly express their sentiments as they face a mountain of 'legacy' code that needs updating.

Some developers may wish for the kinds of bombs and artillery Churchill wanted, so they can blow the legacy code to smithereens and start afresh without all the headaches of gnarly old code. Dropping a bomb on an enterprise's code portfolio might be gratifying to the IT team, but it would likely destroy the enterprise along with the code.

When more sensible views prevail, development teams often start looking for the right application modernization tools to help them do the job.

To help in that search, here's my top ten checklist for finding the right tool.

1) Get a good handle on what 'modernization' means so you know what tool capabilities you need.

You may need the ability to create a variety of user interfaces – Web, mobile, etc., but 'refacing' isn't where modernization ends. Go deeper and look at the full range of modernization issues that need to be addressed.

2) Kick a few tires to get a real world feel for the variety of tools that are available.

I'm not talking about lengthy test drives, that comes later. Watch some videos on vendor Web sites, visit trade show and conference expo booths, and invite some vendors to present their demos on-site. Keep written notes of what looks promising, as well as concerns over shortcomings in the products you look at.

3) Get advice from your peers in the IBM i social network.

Hearing about other IBM i developers' experiences with modernization tools is invaluable. You wouldn't buy a car without plugging into the discussions on www.edmunds.com would you? To use your time productively, I'd suggest getting customer references from product vendors and using that 'legacy device', the telephone, to call. For some reason, serious IBM i application developers don't seem to hang around Facebook to share their insights.

4) Sketch your Use Scenario and your Enterprise Application Architecture.

Once you had some exposure to what's really out there in the product world, it is time to shut your office door and draft a concise description of where you are and where you want to go.

A Use Scenario is a collection of use cases and other information that describes your situation and needs. For example, are you focused on making your applications run on platforms in addition to the IBM i? Is support for mobile devices a priority? And so on.

An Enterprise Application Architecture describes how a set of building blocks and principles should be used to design, implement and adapt applications that fulfill the enterprise's business objectives. A well-thought-out application architecture not only provides a conceptual structure to guide developers. It also lays the foundation for a corresponding framework and toolset that can automate much of the application development effort, an essential prerequisite for greater agility, productivity and reliability.

You can learn more about these two subjects in my eBook trilogy "Transforming IBM i Applications" www.beyondmodernization.com

5) For most IT organizations: Go with an integrated product.

In theory, your organization can assemble disparate tools to implement your architecture. In practice, this may require additional staffing to support this type of infrastructure.

Modernization isn't a one-time facelift or code conversion. Modernization is a transformation of your application development strategies, so you can efficiently

deliver the right information and capabilities to the right people at the right time, as determined by changing business needs and initiatives.

For most IBM i organizations, purchasing an integrated application generator is the most practical way to deploy the tools necessary to fulfill this objective.

6) You're going to need a tool that provides an 'application repository'.

An application repository provides persistent and structured storage for all the information that defines applications. The repository may also contain information related to requirements, standards, environment and other aspects of application development and deployment.

The pivotal advantage of a repository is that shared application items can be stored, managed and re-used effectively. Items like data element definitions, business calculations, user interface templates, code snippets and so forth, can be defined once and used across many applications and developers in a consistent manner. Having one definition for a shared repository item yields application consistency, and greatly simplifies application maintenance.

7) Take any candidate product for a hard 'test drive'.

One of the most common mistakes I've seen when an IT group evaluates a modernization tool, is that their 'test drives' usually are comparable to making sure the wheels roll and the brakes work during a new car test. Not very demanding.

What you need to do is what I did when I tested the sport sedan that I later bought. I went to a large, vacant parking lot, accelerated to 40 mph and then jammed down hard on the brakes while whipping the steering wheel sharply to the left. Impressively, the car rolled right through the sharp turn with no skid at all. That's when I knew the car measured up to its promotional literature.

So, throw hard cases at any prospective tool to see how well it handles under pressure.

8) Spend a lot of evaluation effort and reference checking time on how well a tool enables you to exploit the functionality of your existing code.

For many IBM i development teams, the biggest hurdle to modernization is the insurmountable cost required, not to mention the risk, to 'rip and replace' legacy RPG code. Consequently, the ability of a tool, such as an application generator, to incorporate existing application functionality is critical and varies widely among available products that support the IBM i.

9) Evaluate risk realistically.

Humans are notoriously bad at correctly assessing risk, and IT professionals aren't immune to this limitation. Management is likely to be uneasy about the risk of acquiring tools for application development that aren't as widely used in the industry as Java or SQL.

The reality is that no comprehensive application modernization tool for the IBM i will ever reach the level of use enjoyed by these two languages or some of the popular code-centric Integrated Development Environments (IDEs), such as Visual Studio and Eclipse. But here's another reality: No version of RPG and its associated IDE will ever have much of a market presence either.

There are tools and application generators that produce industry standard code, freeing up developers from low-level coding complexities and allowing them to focus on business functions, a wider range of user interfaces and better integration with internal and trading partner applications.

Although I don't have concerns about the IBM i or RPG compiler going away, corporate mergers and acquisitions that force IT to support a different platform (as well as, or instead of the IBM i), are just one of the 'risks' that IT must also consider in choosing a development strategy. Application generators that target additional platforms, as well as the IBM i, can mitigate this category of risk.

There aren't any canned answers to balancing risks, so give this critical dimension of your modernization strategy very careful consideration.

10) Beware of 'shelf ware', budget adequately for training and mentoring.

With any powerful tool or toolset, your organization will benefit tenfold by having adequate initial training and mentoring.

While good tools can automate and standardize much of the 'glue and plumbing' code required in modern applications, the same tools provide such wide latitude to developers, that you want to get off on the right foot using 'best practices' learned from training and mentorship.

More Wisdom

There's another bit of wisdom that Churchill passed along, which seems appropriate to IBM i developers and managers facing the challenges of application modernization: "A pessimist sees the difficulty in every opportunity; an optimist sees the opportunity in every difficulty".

I certainly think there's lots of opportunity in a well-planned IBM i modernization strategy.

Paul is a software developer, consultant, widely read author in the computer software field, and a former senior technical editor for System iNetwork. Paul is a guest blogger at http://blog.lansa.com/ ■

Supply Chain automation and collaboration with LANSA

Marjanna Frank
LANSA Review Editor

Supply chain effectiveness has become a major point of competitive differentiation, as customers are quick to shift their purchases to those companies that can deliver reliably. In addition, supply chain efficiency is also crucial in managing costs and improving margins.

Supply Chain Management (SCM) aims to make the supply chain more efficient by synchronizing the efforts of all parties involved in meeting a customer's needs, from suppliers and manufacturers to wholesalers, distributors and retailers. In the past, supply chains relied heavily on people and paper-based procedures, which limited the speed of delivery and often resulted in inaccuracies and miscommunication between stakeholders. Over the last two decades the supply chain has re-engineered itself and IT has been instrumental in this transformation.

The pursuit of supply chain efficiency is forcing companies to stretch their Enterprise Resource Planning (ERP) systems and IT infrastructure to accommodate tasks that were not important, or not even a consideration, when their ERP solution was originally implemented.

Some companies are embarking on massive ERP migrations, as they feel their existing 'legacy' ERP system cannot handle the job. Other companies are choosing to extend and modernize their existing ERP system to meet today's SCM needs, especially in the areas of collaboration, just-in-time processes, and federal/industry compliance.

This article showcases some of the companies that use LANSA to make their supply chain more efficient, either by using LANSA's toolset for extending their existing solutions, or by implementing a LANSA-based custom or packaged solution.

Sourcing and Making

The entire supply process starts with manufacturers working with their suppliers to deliver the goods and services needed to create their product. This includes processes for managing inventory, receiving and verifying shipments, authorizing supplier payments and more.

LANSA built supplier portals and ERP systems include:

Kawasaki Motors Manufacturing Corp., USA's Consumer Products plant in Lincoln, Nebraska (Kawasaki), operates on a 'just-in-time' basis to eliminate expensive warehousing and over-ordering of parts. In order to work closely with its suppliers, Kawasaki developed an online supplier portal using LANSA's WAM technology in combination with LANSA's prebuilt Web components.

Kawasaki uses LANSA ERP Framework as its ERP system. The Material Requirement Planning module of this ERP system recognizes demand and creates purchase orders which are automatically published in Kawasaki's supplier portal. Suppliers can indicate which orders will be shipped, specify the number of items per box, assign box-ids and create box labels. Suppliers also use the portal to generate invoices on Kawasaki's own system, allowing for a quick payment cycle.

Behind the scenes the portal generates EDI transactions, which then follow the same path as EDI files transmitted directly by suppliers.

High Liner Foods Inc. is one of North America's largest processors of frozen seafood and pastas. From its headquarters in Canada, High Liner markets its products under the High Liner, Fisher Boy and Gina Italian Village brands. High Liner used LANSA to build a custom portal for its suppliers, buyers and planners. High Liner implemented its portal as an extension to JD Edwards One World.

Forecasted raw material demand information, from JD Edwards' manufacturing planning system, is published to High Liner's authorized suppliers over the Web. Suppliers respond and High Liner accepts their orders. Suppliers then use the Web site to 'build' a shipping container, with exact specifications of what is in each container and where.

Orders are then automatically created and processed in the JD Edwards system.

The solution allows all stakeholders inside and outside the organization to track orders, shipments and delivery dates in real-time, from anywhere in the world.

Everlight Chemical Industrial Corporation, headquartered in Taiwan, is one of the world's major manufacturers of dyestuffs, UV stabilizers, electronic chemicals and imaging products.

Everlight uses LANSA-based Web procurement and sales management systems developed by Innatech, LANSA's business partner in Taiwan. Suppliers can access the procurement system to view Everlight's material requirements and respond with quotations. Customers can access Everlight's sales system to place and trace their orders. Both the procurement and sales solution integrate with Everlight's in-house developed RPG-based core ERP system

Communicating Item Specs

It is crucial in any supply chain that suppliers and retailers communicate efficiently about product specifications. This is accomplished through the Global Data Synchronization Network (GDSN) – a worldwide initiative intended to resolve product data inaccuracies among trading partners.

LANSA Data Sync Direct (DSD) is a scalable GDSN solution implemented across many industries. LANSA DSD includes Product Information Management (PIM) capabilities allowing companies to capitalize on multiple sources of item information.

Pernod Ricard USA is the premium spirits and wine supplier in the USA and 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 DSD to synchronize supply chain information with its customers via the 1SYNC data pool.

At Pernod, the DSD solution integrates with a data warehouse system and JD Edwards Enterprise One, both UNIX- and Oracle-based. Pernod's DSD solution itself is implemented on a Windows server with SQL Server database.

The Hillman Group, based in Cincinnati, Ohio, keeps over 21,000 retailers across the Americas stocked with an assortment of over 55,000 small hardware items.

Hillman installed a customized version of LANSA DSD and made that its main Product Information Management system. Instead of LANSA DSD being fed by Hillman's three ERP systems, the DSD system was customized to become Hillman's main repository of item information – including images and packaging levels – to feed a bespoke RPG system, JD Edwards World and a Linux/Oracle based JD Edwards Enterprise One system, as well as the product catalog and GDSN.

In addition to implementations at hundreds of end user companies, LANSA has business partner relationships for its Data Sync Direct product with Oracle for its **Oracle Product Hub** solution and with Lawson Software for its **Lawson S3 Supply Chain Management Healthcare solution**.

Selling the Goods

The efficiency of sales and customer order procedures impacts the supply chain, especially when just-in-time methods are followed. Back in 1997, LANSA was one of the first software vendors to help its customers streamline sales and order procedures through the implementation of eCommerce Web sites, that integrate in real-time with the core ERP system. Today there is a huge number of organizations who deploy LANSA-based B2B and B2C Web sites, often in combination with a LANSA-based EDI solution.

National Envelope Corporation, based in Frisco, Texas, operates facilities across the USA and produces more than 180 million envelopes per day. National Envelope uses LANSA Commerce Edition, a component based B2C and B2B eCommerce framework, to give customers access to its JD Edwards ERP system. In addition to placing orders, customers can view shipments, inventory, invoices and other critical information. The solution emails order confirmations and shipment notifications to customers.

LANSA Commerce Edition was very appealing to National Envelope as it came with the source code. The company didn't want to build an eCommerce site from scratch, or be dependent on a vendor for maintenance tasks. National Envelope also uses LANSA to provide internal users with a unified view of enterprise data across JD Edwards, Baan and home grown ERP systems.

Carole Fabrics, Inc., a Hunter Douglas company located in Augusta, Georgia in the USA, manufactures custom draperies and other quality home decorations.

Carole Fabrics uses LANSA Commerce Edition to provide its business customers with online order entry and inquiry, including a Web-based Configurator for custom orders. Previously, over 40 percent of Carole's custom orders could not be completed without calling the customer. Now the smart question-answer script helps Carole to get all orders right the first time. The Web solution integrates with Carole's MAPICS system.

Goods Delivery

This is the part of SCM that is usually referred to as logistics, where companies co-ordinate the receipt of orders from customers and get the goods delivered.

Wells and Young's Brewing Company is the UK's largest privately owned brewery and a leader in cask beer and premium lager. Wells and Young's outsources its total distribution, meaning all order information from pubs, wholesalers and retail chains needs to be fed to its distribution partner.

For this Wells and Young's uses LANSA Composer's AS2 solution. Composer's mapping facility and EDI mapping examples allowed Wells and Young's to deliver an EDI solution in less than 12 weeks, without the help of an EDI specialist. The solution takes raw data as extracted out of Wells and Young's System21 ERP and creates standard TRADACOMS EDI transactions and transmits those using AS2.

Wells and Young's save significantly in transmission costs by sending orders directly to its distribution partner without having to use a VAN message broker service. From an IT point of view the company now has total visibility of its EDI transmissions.

Port Logistics Group (PLG) is the USA's leading provider of gateway logistics services. PLG's just-in-time retail store replenishment division is using a LANSA-based solution for its warehouse management system. The company's Web and AS2 communication with customers is also largely based on LANSA technology.

Exchanging information electronically has cut costs for PLG and its customers. It has also improved accuracy and taken hours from order fulfillment procedures.

ITWAL Limited, based in Ontario, is Canada's national network of independent distributors, offering a wide assortment of grocery and foodservice products, and operating 149 warehouses across Canada.

Through ITWAL's LANSA-developed Custom Ordering Network (ICON) suppliers publish their product and pricing information, which distributors can place orders against. ITWAL then consolidates the members' individual orders and either fills the orders from its warehouse, or places an order with the respective supplier.

Because of ICON's tight integration with ITWAL's custom ERP system, the entire ordering process is transparent for the distributors. ITWAL's suppliers benefit as well, because they have improved visibility within the supply chain, all the way down to the details of the individual orders for their goods as placed by ITWAL's members.

Warranties and Returns

Supply chain planners need to create a responsive and flexible network for receiving defective and excess products back from their customers and to support dealers and customers with warranties, repairs and maintenance services.

Honda Australia MPE is part of the global Honda company, the world's largest engine manufacturer. Honda Australia MPE distributes motorcycles, marine power equipment and personal watercraft through over 1,000 dealers. Honda's dealers use a LANSA-based Web solution for warranty claims, sales registration and cash back management.

When dealers enter sales registrations, they include the unique Vehicle Identification Number (VIN). LANSA Integrator then creates a PDF confirmation with sales and warranty details, which the dealer can print and give to the customer.

In the case of an equipment problem, the dealer searches online to determine whether or not a product is still under warranty, and enters claim details for approval by Honda.

E.P. Barrus Ltd recognizes it is essential in any supply chain of machinery and equipment to give dealers easy access to spare parts. Barrus, based in the UK, designs and manufactures engines and distributes a diverse range of products including MTD lawn and garden machinery, moto-roma scooters, Mercury, Mariner and Yanmar marine and industrial engines.

Barrus extended its System21 ERP with a LANSA-based Web solution that allows dealers to order parts, check stock availability and track order status. A special feature of the site is that it allows dealers to search for parts without having to know the part number. Barrus does this by using LANSA Web services to link to Epitomy's Web site (a specialist in exploded diagrams). Dealers can dissect the diagram of an engine till they arrive at the part they need. The graphic search is a handy feature, as Barrus offers over 400,000 spare parts on their site.

Conclusion

LANSA provides practical tools and solutions that allow our customers to achieve supply chain efficiency, either by extending their existing ERP solution with additional functionality, secure Web access, AS2/EDI transacting and Web services, or by replacing aging ERP modules with more flexible ERP framework solutions that can be adapted to the customer's business processes.

For more information on SCM solutions see: **http://bit.ly/scmsolutions** and for more SCM case studies see: **http://bit.ly/scmrefs** ■

Building business applications for mobile devices

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LANSA Product Center

These days almost everyone has a mobile device, ranging from iPhone, Android, Blackberry, Symbian, or Windows phones to tablets such as Apple iPad, Motorola Xoom, or Samsung Galaxy. How do you design mobile applications and what tools do developers need? Will the existing methodology for application life cycle management be adequate for mobile applications? This Architects Corner is a primer on designing, developing and managing business applications for mobile devices and suggests issues to consider.

Mobile Devices are Different

Corporate applications have been around for a long time. They typically run on servers that are mature, reliable, housed in a fixed location, fed with a constant power supply and have an almost unlimited upgrade capacity (memory, processors and storage).

Mobile devices have been on the market for a relatively short time. They have experienced rapid growth together with constant change in capacity and capability. Mobile devices are many and varied in both manufacturer and operating system. Examples of manufacturers are: Apple, HTC, LG, Nokia, RIM, and Samsung. Operating systems include – Android (Google), Bada (Samsung), Blackberry OS (RIM), iOS (Apple), Symbian (Nokia), and Windows Phone (Microsoft).

The many combinations of devices and operating systems complicate mobile application development. One of the major obstacles is that development tools for native applications are incompatible across mobile devices. Should you develop for all devices, or just a few, and, if just a few, which ones?

Some of the physical characteristics that make mobile devices different from laptops, desktops and servers are:

The screen size is smaller. Therefore you can show less information and you must provide a simple method for moving around the display area. **Keyboards** and on-screen touch keypads are small and unsuitable for sustained content creation and data manipulation. **Processing power** and the duration of operation are limited by battery capacity. Constant polling to a server will quickly drain a battery. **Memory capacity and local storage** are limited. **Communications** are slower and uncertain.

	Native Mobile Applications	Centralized Browser Application	Hybrid Browser Application
Cross-platform	Least potential for cross-platform portability. Development and testing is needed for each mobile device type and version.	Cross-platform operation, provided the application runs in a browser available on the mobile device.	Cross-platform operation, provided there is a container app available for the mobile devices you wish to use.
Data – external	Yes, when connected.	Yes, when connected, which is the only option.	Yes, when connected.
Data – local	Yes, local data access.	No local data.	Yes, local data access via the container.
Access to OS and hardware	Yes, can access OS and hardware such as camera and GPS	No direct interface, except for services provided by the browser.	No direct interface, except for services provided by the container.
Application Deployment	Requires download to and installation on the mobile device.	No deployment is required, except for a browser (already installed on the device).	Requires download to and installation on the device.
Development cost	Relatively high, especially when the app needs to run on multiple types of devices.	Relatively low, development occurs only once, with some additional work to ensure the app works with each browser.	Moderate, development occurs only once. The additional work is packaging the app into the container and testing it on each mobile device.
Development tools	Development tools are specific to the mobile device and operating system. Also, programming languages vary, e.g. Android uses Java and iOS uses Objective-C.	No development tools are required for the mobile device. Only Web development tools on the server.	No development tools are required for the mobile device. Developers build the application using Web development tools and use a container to package the app for each device type.
	To develop an application for multiple types of devices you need to either: (a) Build a native application for each device; (b) Use a multi-platform application framework that generate a native application for each device; (c) Build the application to run in a browser. Building native applications that are portable across platforms can be a lot of work, due to multiple development tools/languages and few standard APIs.		
Not connected	Native applications can operate when the device is not connected to a network, especially when the data the application uses is stored on the device.	Browser applications only operate when the device is connected to a network.	Hybrid browser applications can operate when the device is connected to a network and also when disconnected.

Mobile Applications are Different

The physical characteristics described above suggest that mobile applications need to be small, agile, and focused on discrete tasks to minimise the number of screens, local storage requirements and communications traffic.

Mobile applications can be browser-based, native to the device, or a hybrid of both.

Native mobile applications run directly on a mobile device's operating system, are fast and have access to all hardware features.

Native applications can operate connected and disconnected from a network. Several of the features that make mobile devices unique (e.g. location awareness) require a network connection. Building an application that uses these features will need thoughtful design when disconnected operation is a requirement.

Native applications that collect data to send to server-based applications and additionally operate in disconnected mode, must synchronize the data periodically with the server-based applications. This requirement adds to the complexity of the mobile application.

You should use a native application when either, (a) you need access to hardware features on the mobile device; or (b) the application needs to run in disconnected mode or use local storage; or (c) communication costs are high.

Centralized browser applications are typical Web or rich Internet applications. This style of application is server-centric, as the database, business logic and Web serving is managed by one or more servers. The browser manages the user interface with HTML, JavaScript and CSS. These applications have no direct interface with the mobile device hardware or operating system, except for services provided by the browser.

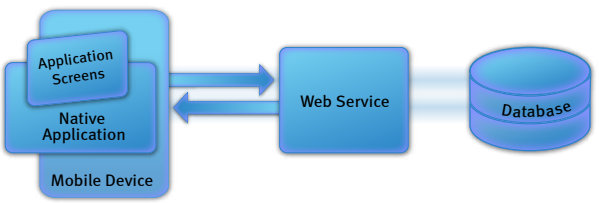
Browser applications designed for larger screens may 'work' on a mobile device, but they become unwieldy when viewed on a small screen. In such cases you need to design the user interface for a small screen.

You should use a centralized browser application when you wish to offer the widest reach across devices with the least development effort.

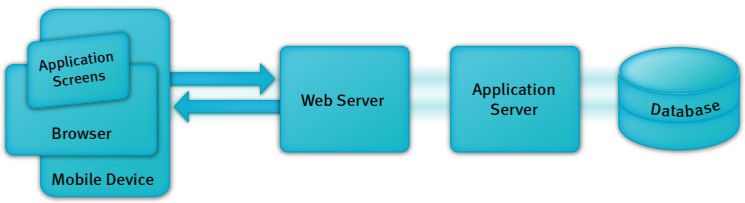
Hybrid browser applications are browser applications packaged into a container (or framework) that is a native application on the mobile device. The browser application runs in the container using HTML, JavaScript and CSS like a typical browser application. In contrast to server-centric browser applications, hybrid browser applications can run when devices operate in disconnected mode, as the container provides access to local storage.

Hybrid browser applications do not require the server-side infrastructure of server-centric browser applications.

You should use a hybrid browser application when developers are more skilled with HTML, JavaScript and CSS, than with development tools available for native mobile applications.



A native application operating in connected mode, accessing a database via a Web service.



A centralized browser application used via a browser on a mobile device.

Design Considerations

When designing mobile applications, architects must consider the limitations of the device and the effort required from users to perform tasks with the device. Think about how to best use the device resources.

Limited local data storage: You should use the centralized browser model for mobile applications that need access to large amounts of data. When disconnected operation is required, minimize and optimize the information that's stored locally. Also, ensure that your application manages out-of-storage conditions.

Power constraints: Avoid power intensive features, such as excessive graphics activity and constant communication with servers. Design for minimal power usage.

Reduced memory and processor speed: Design mobile applications that are modular and focused on discrete tasks. Information should be returned to the user in the least possible time and progress updates should be provided while the user waits for completion of a task.

The user experience: Scrolling from screen to screen is confusing and typing information for long periods on small keyboards is cumbersome. Users expect immediate response from mobile applications, with information that is understandable in one view. Architects should design mobile applications that accomplish one, or at most a few, small discrete tasks. Single task focused applications will run quickly, consume less power and simplify the user interface.

Follow the conventions and display rules inherent in the operating system. Also, it's worth reading design guides published by the device manufacturer.

Communications and networks: Although wireless communications have increased in speed over the past few years, they offer lower data transfer rates and are less reliable than fixed networks. Wireless networks face variables, such as transmitters and receivers on the device and geographic coverage of mobile networks.

A mobile application that expects a synchronous-like connection to a server will fail when reception is intermittent or poor. Continuous polling to servers will drain the battery quickly and may incur excessive communications costs.

Design mobile applications to use

communications services in short bursts. Network activity should be assigned to a separate thread to avoid locking the user interface and inhibiting other applications.

Your First Mobile App

Once you decide to build applications for mobile devices, how do you choose an appropriate first application? The choice of a mobile application ought to be a business requirement that uses features of the device to gather information and improve business processes. Choose an application that is not mission-critical, but will produce a useful business outcome and a realistic development experience.

Duplicating existing functionality is the easiest transition into mobile application development, but try to improve on it by taking advantage of the mobile device's features. For example, a restaurant chain can provide a list of locations on its Web site and customers can use their mobile device to view that list. From a business perspective, this functionality provides limited incentive to encourage customers to come to a restaurant. A mobile application with access to the GPS for location awareness may direct the customer to the nearest location, show what's on special and offer a discount. The extra features are more likely to drive customers to the restaurant chain.

The take-away message is to consider how a mobile application can respond to the needs of the user and provide improved service.

Ongoing Management

In addition to issues associated with developing applications for mobile devices, you must plan for the ongoing management of both the mobile devices and applications. Deployment and ongoing management costs will be a significant proportion of the overall cost of mobile applications. Some of the contributing factors are: who owns the mobile device, security requirements, information protection, support, configuration and application deployment, and communication costs.

Ownership: The first policy to determine is whether the company supplies mobile devices to employees, or allows employees to bring their own mobile devices. When a company owns the mobile devices it can control and lock down device features. With a bring-your-own policy, IT administrators lose control of when operating system upgrades occur and what other applications are installed on the device. You need to weigh up the pros and cons of each option as it applies to your context, especially for data security.

Security is a primary concern when mobile devices carry sensitive corporate information. Mobile devices are easily lost or stolen. So, a security plan must include facilities to remotely destroy or lock information. Two of the tools available are remote wipe and remote lock. Remote wipe is an appropriate action when the company owns the mobile device. However, since remote wipe will remove the employee's personal information as well, that may cause problems. The situation is even more complicated when employees purchase devices that do not have a remote wipe feature.

To avoid this problem, do not store corporate information on mobile devices. Instead use centralized browser applications. The trade-off is that these applications are unavailable when the mobile device is not connected to a network. The sensitivity of the information will determine how drastic a measure you need to take to secure corporate data.

Support costs: Mobile applications and mobile devices will increase the workload and cost of IT support. Support costs are likely to be more manageable when IT administrators have control of and can limit the range of devices and operating systems.

Deploying applications: Especially in the case of native apps, configuration and application deployment require careful planning to avoid excessive cost and to ensure the current version of an application is in use. The complexity of the deployment task increases with the range of mobile devices and operating system versions a company has to support.

Communications and network costs are more predictable when mobile devices operate on unlimited data plans, or when using public or private Wi-Fi. However, telecommunications companies seem to be moving away from unlimited data plans and, as a consequence, communication costs may increase. The administrative overhead of examining monthly bills in order to separate company usage from private usage may be prohibitive. Companies may bear the full communication costs, or may determine a policy to reimburse a fixed amount or percentage of the monthly bill.

This article is an excerpt of a white paper that can be found at: **www.lansa.com/resources/whitepapers.htm** ■

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