Scott Steinacher, National Envelope's data and Web architect, built a system that presents cohesive information culled from four databases.

IBM Systems
MAGAZINE

SEALING THE
DEAL

BY JIM UTSLER

Company growth is a good thing. It lets businesses work with new customers, increase their market share and expand their product lines. But growth can come at a price, especially when fueled by acquisitions.

This is especially true if the acquired company's applications don't dovetail with those of its new parent. Heterogeneity can cause all sorts of headaches, with the acquiring company managing multiple operating systems, applications and databases.

Migrating to a standard application architecture counters this effectively, but it's often impractical, especially if a company doesn't want to disrupt its workflow or endure the expense of wholesale migrations.

When National Envelope Corporation faced such a dilemma, it adopted a hybrid approach. First, the company built an integrated, Web-based solution to tie everything together and then continued migrating disparate legacy applications to a homogenous ERP system. This approach, enabled with tools from LANSA, has let the company not only maintain multiple systems painlessly, but also reduce licensing fees and improve productivity.

A Strong Selling Point

Established in 1952 by William Ungar and based in Uniondale, N.Y., National Envelope is now the world's largest envelope manufacturer. Ungar is still active at the company, which recently made the *Forbes Magazine* "Top 500 List," but his daughters own and operate it, making it the largest women-owned business in New York.

Customers span a variety of industries—including banking, credit-card processing, shipping and specialty services such as online DVD-rental companies—and have unique, specific product requirements beyond simple white envelopes. As Scott Steinacher, National Envelope's data and Web architect, explains, "Given the virtually infinite variety of papers, adhesives, inks, shapes, sizes, windows and other design choices we offer, envelopes are a fairly complicated product to track in a computer system."

Because the company has grown through acquisitions, it relies heavily on its IBM system's LPAR capabilities to maintain several legacy applications. It carved up a POWER5* technology-based IBM System i* 570 in Frisco, Texas, to run Oracle JD Edwards World in one partition, a legacy homegrown application in a second partition, and, in what Steinacher calls a unique and creative move, an Informix* solution-based Baan application in an IBM AIX* partition.

The company also runs its e-commerce and most intranet applications under Apache on the same box. National Envelope uses Vision Solutions' MIMIX HA to mirror its data and applications to a nearly identical 570 in Uniondale. In addition

UP CLOSE

CUSTOMER: National Envelope Corporation
HEADQUARTERS: Uniondale, N.Y.
BUSINESS: Envelope manufacturer
HARDWARE: Two IBM System i 570s
SOFTWARE: JD Edwards World, Baan ERP solutions, legacy RPG applications, Visual LANSA and LANSA Integrator
CHALLENGE: Dealing with multiple applications and databases
SOLUTION: Using LANSA Integrator to tie disparate applications and databases together and building an overarching application for this integration effort using Visual LANSA

to DB2 Universal Database* (UDB) for OS/400* and Informix solutions, the company uses Microsoft* SQL Server for ancillary, Windows* technology-based applications.

When National Envelope acquired Atlantic Envelope several years ago, it inherited the Baan ERP application running on a UNIX* technology-based HP server—and another data center. For efficiency's sake, National Envelope moved Baan to the 570 and, in the process, achieved another important goal. "We jettisoned not only the HP box, but the entire data center," notes Aaron Brown, IT director at National Envelope. "Server consolidation is one of the 570's strongest selling points."

Transparent and Productive

Running different applications and databases presents myriad challenges, chiefly with data integration and transparency. For example, a national account might have orders at many National Envelope factories, and those orders could be stored

in different systems. If the customer were to call a local customer service representative (CSR), the CSR may not have had access to information about an order being processed at another plant. That lack of transparency was the genesis of a new system, which the company dubbed Unity.

Using tools from LANSA, Steinacher built a system that culls data from four different databases and presents it in a cohesive, intuitive format via the Web. This system provides a unified view of disparate data from across the enterprise. "And because Unity runs natively on the System i platform under Apache, it leverages the reliability, scalability and security inherent to the platform," Steinacher says.

Although National Envelope had an enterprise-reporting tool that consolidated data from multiple operational systems, this solution didn't provide an integrated view of order-level details. "Our reporting system was great for tracking broad trends, but it was ineffective for CSRs because they were interested in specific orders," Steinacher says.

Salespeople were similarly hampered. To gain holistic views of their customers' activity, they had to manually gather data from each operational system. Many of them expressed strong opinions about this extra work. Steinacher heartily concurred. "After all," he says, "salespeople want to be in front of their customers, not behind a keyboard."

Unity helped keep license fees in check as well. JD Edwards and Baan employ user-based fee structures, so adding CSRs to both systems had the potential to quickly become very expensive. Requisite training would only further increase costs, and moving from one application to another throughout the day just isn't productive for CSRs. "In today's environment, reducing costs and increasing productivity is more important than ever," says Ed Ringer, National Envelope's senior vice president of IT. "LANSA and the System i platform help us achieve those goals."

A Matter of Unity

The company's long-term approach is to migrate each plant to the JD Edwards World solution. But given its growth, National Envelope needed a solution in short order. Unity was the answer because it provided a low-level view of enterprise data via the Web. Knowing that it'd be homegrown, Steinacher began looking for a suitable development environment in 2005.

"After reviewing the options, we chose Visual LANSA. We were familiar with the company's wares because we'd purchased our e-commerce package, Commerce Edition, from LANSA in 2001. I liked what they had done since then with their development tools. Everything just worked out really well."

This is in part because of Visual LANSA's graphical interface. When coders work in this development environment, they can look at the database, Web pages and source code, all in one integrated view. Calling it a "full development workbench,"

Steinacher adds, "everything's on one page, at your fingertips, which is just wonderful. As an RPG guy, I really appreciate what LANSA brings to the table."

Steinacher knew Unity's interface would largely determine its success or failure. The company's canned and homegrown solutions employ green-screen interfaces that impede productivity and require extensive training. Users often complained about pressing obscure function keys to navigate a labyrinth of 5250 screens.

Using Visual LANSA's Weblets, National Envelope quickly created intuitive Web pages. "Weblets consist of HTML and JavaScript*, and are designed to perform common functions," Steinacher says. "Nobody wants to sit around programming a pop-up calendar, a sortable grid or tabbed pages. LANSA's Weblets make it easy to build functional, appealing Web apps."

Steinacher began work on the graphical front end while managing other team members' work on back-end integration tasks. Now several years old, Unity boasts a slick tabbed interface that organizes data very effectively. Tabs for shipments, production, order headers and details serve as

used in an application the company calls Web2Plate, which creates film for manufacturing.

Although the data comes to the System i platform first, the film is generated by a SQL Server application. National Envelope sought a way to move that data from the System i box to the SQL Server box. Initially, it considered a batch process, but decided against it after realizing LANSA Integrator could manage the task in real time.

"LANSA Integrator writes the data directly from UDB for OS/400 to the SQL Server tables as soon as it arrives," Steinacher says. "The amazing thing about this is that I didn't have to do any socket-level coding. RPG programs use Integrator to write the data directly to the SQL Server database tables."

All of this is invisible and seamless, with the action happening automatically behind the scenes. The only signal that such an order has arrived is a LANSA Integrator-generated e-mail that details it.

Anyone with a modicum of Web experience can use Unity, blissfully unaware of the complex systems supporting it. And

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starting points. For more detailed information, users click subject-sensitive links that let them drill into orders, or even run spreadsheets on an ad-hoc basis.

One of the larger benefits, though, is that the information is now accessible via the Web. No one has to learn how to navigate green-screen interfaces. With the proper user ID and password, CSRs, sales representatives and others can access Unity no matter where they are or what time it is.

Everything Integrated
Of course, all of this would be useless if National Envelope's IT team hadn't tackled the back-end integration tasks. The company used RPG programs and LANSA Integrator to cull data from several databases.

"Integrator, which has been a grand-slam for us, is a phenomenal way to exchange data in any format, with any database, on any platform," Steinacher says. "For example, Unity users can request spreadsheets using a variety of data filters, then click a Go button. LANSA Integrator then creates professionally formatted Excel spreadsheets that it e-mails as attachments via SMTP. And it's all running native on the System i platform."

National Envelope has been using LANSA Integrator in other innovative ways, as well. Many of the orders it receives via EDI contain overprint specifications. That information is

to make Unity even more user friendly, Steinacher incorporated an FAQ section and context-sensitive bubble help.

Side Benefits
Thanks to National Envelope's innovative use of Visual LANSA and LANSA Integrator, the company can deploy its resources more effectively to support future growth. If it acquires additional companies, it can now incorporate the new data into Unity without much difficulty. As a side benefit, National Envelope limited license fees because fewer users need to access JD Edwards or Baan. Instead, they use Unity as a conduit to the underlying data.

More important, customers receive better, faster service from CSRs and sales reps alike with the Web-based solution. And productivity is much higher. Instead of reviewing numerous green screens and even paper-based files, users can simply peruse one or two Web pages to find the information they're after. One account executive remarked that her efficiency increased by 20 percent to 30 percent. "Statements like that," concludes Steinacher, "make it all worthwhile." ⓘ

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