



Lehman's Hardware: logging on to the Amish way of life.

In Kidron, Ohio, in the midst of pastoral Amish country, family-owned Lehman's Hardware stands as a testament to the merits of a quieter, simpler way of living. Established in 1955 to cater to the local clientele, it specializes in the supply of

non-electric hardware and appliances, such as wood-burning stoves, cheese-making supplies, oil lamps and grain mills.

The store has a 300-foot hitching rail to accommodate patrons who come by in horse and buggy. But it may not be long before the clippety-clop of hooves is surpassed by the clickety-clack of computer keyboards and mice, as Lehman's attracts new customers through the Internet.

"The Web has the same potential to drive exponential growth at Lehman's as mail order did in 1978. And, with the Net.Commerce infrastructure in place, I expect sales from our online catalog to double annually."

—Galen Lehman, Vice President, Lehman's Hardware

Application	Online hardware store
Business Benefits	300% ROI in two weeks; estimated 100% annual growth in online sales; 50% lower operational costs than with Microsoft or Oracle solutions; ability to retain customers; ability to sustain growth in narrow market segment
Software	IBM Net.Commerce IBM Net.Data® IBM DB2® Universal Database™ for Windows NT®
Business Partner	Neoteric Solutions



Stocking everything from pants stretchers to pig scrapers, Lehman's Hardware offers all of its unique inventory to online shoppers.

It's about business, not just technology.



Lehman's expansive hardware store is an institution in Kidron, Ohio.

“The number one benefit was the overall efficiency of DB2. We can run Net.Commerce server on the same box that we run DB2, which was not possible either with Oracle or with Microsoft's e-commerce product line.... the cost savings easily exceed 50 percent.”

—Rick Simmons, Director of Development, Neoteric Solutions

In 1978, Lehman's expanded its business with a mail-order catalog for people across the country living without electricity or simply leading a more self-sufficient lifestyle. Then, a few years ago, e-mail requests began trickling in from people living in remote areas and those concerned about possible power outages as a result of Y2K glitches. Recognizing these Internet-savvy customers as a potentially lucrative market niche, Lehman's decided to place its catalog online.

Lehman's first Web site was driven by common gateway interface (CGI) scripts, but it lacked the functionality and visual appeal Lehman's wanted—and it was cumbersome to maintain. So, the hardware retailer turned to IBM Business Partner Neoteric Solutions for a more robust e-business solution. Now, Lehman's “Non-Electric Catalog” on the Web is powered by IBM Net.Commerce, IBM Net.Data and IBM DB2 Universal Database for Windows NT. Carrying the store's entire 3,600-item inventory, the online store draws between 1,200 and 1,500 visitors daily.

According to Lehman's Vice President Galen Lehman, the Internet store has apparently struck a chord with its online customer base. Within two weeks of its opening, revenues from the Web site exceeded four times the company's initial investment in its development. The low cost of running the site will keep online profits high. “What I see now is this whole paradigm shift,” Lehman says. “The Web has the same potential for exponential growth as mail order did in 1978. And, with the Net.Commerce infrastructure in place, I expect sales from our online catalog to double annually.”

Online catalog accommodates growth

Lehman's has carved itself a niche in the market—and retains a loyal clientele—by supplying the products customers ask for, no matter how outmoded or arcane. “We carry things that no other store is interested in—pant stretchers, pig scrapers, butchering equipment, grain mills and various parts for oil lamps,” Lehman explains. “Some of the items only sell a couple of units a year.”

In its mail-order catalog, Lehman's has tried to keep every item that it believes is worth preserving, even if the item isn't selling much anymore. But that's a very expensive proposition. The catalog is printed every six months and costs the company approximately \$1 per copy by the time it's mailed to between 200,000 and 300,000 customers. So, every product featured in the catalog carries overhead in the form of mailing, printing and other costs. Lehman notes, “While the online catalog incurs some added cost for additional storage space for new product information, that cost is minimal compared to the cost of adding pages to a catalog. And there is no incremental cost in expanding the reach of the online catalog.”

Net.Commerce makes catalog maintenance easy

Adding products isn't the only challenge. Many of the products—especially those from small manufacturers—are discontinued without warning. And, some of the old-fashioned products are subject to modern regulations. “We were recently told that a kerosene lantern we had been selling for years now needs a label warning that it cannot be used indoors,” Lehman notes. “In the paper catalog, we can't add that special warning until the next print cycle. But, on the Web site, we can make the change immediately.”

Using the administration feature in Net.Commerce through a Web browser interface, Webmaster Michael Young dials into the staging server at Neoteric Solutions and updates the catalog. The changes are then tested on the staging server and uploaded to the production server. “One of the biggest advantages of Net.Commerce from my point of view is being able to post things ourselves, instead of relying on an outside programmer,” Lehman says. “We can go in and make price changes and corrections instantly and know that the next customer who dials in will have the most accurate, complete information available.”

Many features, one flexible template

While its online store has many advantages over the printed catalog, Lehman's wanted to keep the printed version's look-and-feel as well as some of its unique features. For example, in addition to including the printed catalog's very broad range of products—from the smallest lamp wick to the largest wood-burning stove—the online catalog also retains its customer testimonials, Amish recipes and helpful hints about product use. These simply pop up as the visitor clicks on an item. Lehman's also uses a graphical “New” flag to highlight recently added products and an “Our Best” ribbon to designate top-of-the-line items.

To accommodate the broad range of product sizes, shapes and descriptions, most e-commerce developers would have created a unique page layout for each product category. But Neoteric Solutions opted for more flexibility. “Rather than impose a strict design for each type of page in the catalog, we wanted to give Lehman's complete control over the page layout,” explains Perry Cain of Neoteric Solutions. That way, they could add elements to each catalog page as dictated by the needs of the business, rather than the constraints of the template.

“One of the biggest advantages of Net.Commerce from my point of view is being able to post things ourselves instead of relying on an outside programmer.”

—Galen Lehman



Customers can order this woodburning stove online, as well as the pots and pans on it.

To that end, Neoteric Solutions designed a single, modular template with components for text, photos, hints, recipes and buttons that Lehman's could arrange as needed. To enable Net.Commerce to interpret the components on each page, Neoteric Solutions took the basic DB2 catalog schema that comes with Net.Commerce and used the extra fields to store the control data to identify the buttons, tips, recipes and testimonials. Then, Neoteric Solutions created an elaborate set of macros with Net.Data to retrieve each component from the DB2 database and place it in the desired place on the page.

DB2 enables more compact e-business solution

Neoteric Solutions used DB2 Universal Database for Windows NT to store the catalog data. Neoteric Solutions Director of Development Rick Simmons, who has experience with Oracle and Microsoft® SQL Server, comments on the value of DB2: "The number one benefit was the overall efficiency of DB2," he says. "We can run Net.Commerce server on the same box that we run DB2, which was not possible either with Oracle or with Microsoft's e-commerce product line. So, the cost of running the online catalog is obviously much lower, because we're using one less server. With administrative overhead, the cost savings easily exceed 50 percent." Cain concurs: "DB2 was also faster than Oracle, and performance is a key issue when you are loading a complete product line from the database on each page."

Simmons adds, "The other thing that is really valuable to us from a development and administration standpoint are the tools that come with DB2. The administrative tools—the interfaces for communicating with the database, for tuning it and so forth—are the most sophisticated we have seen. They provide a new level of flexibility. I have comparable experience with Microsoft SQL Server 6 and 6.5, and there's just no contest in terms of the level of sophistication of IBM's tools."

IBM: a traditional choice delivers new benefits

"When we bought our first computer in the early '80s, the only brand we would consider was IBM," Lehman asserts. "We wanted to make sure we had a computer that was reliable. It was the same consideration when we created our Web site."

As Lehman's partner in its online venture, Neoteric Solutions looked to IBM to help resolve technical issues that arose from time to time. "The IBM brand name for this product, and the fact that IBM is willing to support any size customer on this product, have really helped us out," Cain says.

As this e-business grows, both Lehman's and Neoteric Solutions have myriad ideas for adding new features and functions to the online catalog. "One of the things that is a little frightening about the Web is that it changes very rapidly," Lehman says. "From one week to the next, you never know what new Internet technology will emerge as 'the' way to do it. What impresses me about Net.Commerce is that whenever something interesting has come along, we've called Neoteric Solutions only to discover that IBM has already anticipated the demand. That's very comforting to know."

For more information, please contact your IBM marketing representative or IBM Business Partner.

Visit us at:
www.ibm.com/e-business

For more information about Lehman's, visit:
www.lehmans.com

For more information about Neoteric Solutions, visit:
www.neotericsolutions.com



© International Business Machines Corporation 1999

IBM Corporation
Internet Division
Route 100
Somers, New York 10589

Produced in the United States of America
9-99
All Rights Reserved

DB2, DB2 Universal Database, the e-business logo, IBM and Net.Data are trademarks of International Business Machines Corporation in the United States, other countries or both.

Microsoft and Windows NT are trademarks of Microsoft Corporation in the United States, other countries or both.

Other company, product or service names may be trademarks or service marks of others.

This case study illustrates how one customer uses IBM products. Many factors have contributed to the results and benefits described. IBM does not guarantee comparable results. All information contained herein was provided by the featured customer and IBM Business Partners. IBM does not attest to its accuracy.

References in this publication to IBM products or services do not imply that IBM intends to make them available in all countries in which IBM operates.



Printed in the United States on recycled paper containing 10% recovered post-consumer fiber.



G325-6607-00