

Revenue in multi-millions expected from B2B site served from old PC via Linux

Executive Summary**Problem:**

Medical supply distributor, Midland Medical, wanted to create a B2B site to allow its customers to order supplies via the Web, and they wanted to develop in Java so they weren't tied to any one vendor or platform. The problem was no one in their IT department knew Java, nor did they have the time to spend learning it.

Objective:

A secure live **B2B Web site** to give hospitals and clinics another buying channel, and a convenient, real-time method of placing their orders.

Results:

The site, which was initially launched in a beta test to a handful of customers less than three months before press time, just took in an unexpected \$100,000 in online sales this month alone, exceeding projections by \$60,000. The solution was built in Java servlets with the mrc-Productivity Series, and is currently running on Linux, and being served from a Pentium III PC tied back to their live iSeries data. The entire set up cost them between \$500-\$1000. Their projections for the year are in the millions.

The Basics

Linux OS, a Pentium III, an iSeries, a motherboard, and a couple of Dingers. It might sound like the assemblage of a Star Wars jury, but with the mrc-Productivity Series and some IT ingenuity, this list of ingredients instead created a major mon-eymaker for one Nebraska medical supplier that is now looking at online sales projections **in the millions.**

Midland Medical, a medical supply distributor based in Lincoln, Nebraska, wanted to grow its business by creating an easy to use B2B e-commerce site for its customers to place orders via the Web, and also wanted it to run on an open platform. But, the problem was, its IT department had no knowledge of Java, and had even less available time. They certainly didn't have the 8-10 dedicated months to devote to learning it.

Dennis and Ben Dinger, Midland Medical's IT director and manager, respectively, began to look for another way, and they found their solution in the mrc-Productivity

Series. With the mrc-Productivity Series, an old Pentium III PC, the Linux OS, their new iSeries, and a brand new motherboard they had lying around, they were able to create an inexpensive, fully portable B2B Web solution in Java that is not only secure, but tied live to their iSeries backend.

And, now that it's up and running, their sales are exploding off the charts, and the projection from their success the last four months is **that they will reach a million dollars in online sales by the end of the year. But, IT Manager, Ben Dinger, says that's wrong. (He thinks it's going to be double that.)**

The Challenge

In the mid-nineties, Midland Medical had jumped way ahead of most of their competition with a sleek, easy to navigate Web site, promoting their company.

But, over time, as more and more businesses moved to the Web, Midland Medical's site remained static. And, as more of their competitors caught up to them, Midland knew it needed to reexamine its Web solution, business needs, and start to set new goals for growth.

"The first problem was no one knew exactly what they wanted. Even though we had this great site, what they were asking us to do was basically re-invent the wheel, and we weren't going to be able to do that within a year, especially with the amount of non-Web work we had on our plates," said Ben, "But our competitors were doing it, so we also didn't have a choice."

The Dingers weren't sure what platform to use, but knew that whatever decision they made, they wanted to make sure that it would be flexible to future technology changes. "We had a new iSeries 820, and I totally had no idea how to use it," laughed Ben, "I came from a UNIX world and thought, 'what am I doing here?' One option, as I saw it, was to give \$50,000 to IBM to do it. The problem was, when it was done we'd be basically in the same situation but further dependent on IBM, which didn't sit well with us."

"Staying with one platform can also get really expensive in and of itself, and for the purposes of both redundancy and future expansion, we wanted to keep it open," he explained.

Then Dennis found the mrc-Productivity Series, "With the mrc-Productivity Series, we could not only access our live iSeries data, but also create Java servlets, which could run anywhere."

"Dennis runs all of the operations, receiving and purchasing, and I'm in charge of day-to-day networking and support. I knew HTML, but nothing about the iSeries or RPG at all. Dennis knew the iSeries, but nothing about Linux, or the Web. But, **even though I'd never worked with**

Java or the iSeries, with a little direction from mrc I was able to get it working immediately. Anyone with a moderate amount of knowledge and the ability to log onto the iSeries and know where something is, can do this," said Ben.

"Dennis and I both agree that **using mrc has taught us Java**, at least to some extent. It's not like buying a pre-built solution. With mrc we both have full access to the code it generates, and are encouraged to modify it. Most vendors to this day don't work that way. Either you get a closed source solution, or you get a solution with code that is so proprietary or jumbled that it would take weeks to make any sense of it. By using the mrc-Productivity Series you get an education."

The Solution

As far as their current platform of choice, Midland didn't have to go much further than their supply closet. **"We are currently using a Pentium III PC as our server, and running our applications on SUSE/Linux while getting all of our data live from the iSeries database.** We kind of stumbled onto it because we had an extra PC, and a brand new motherboard laying around, so I purchased a bunch of memory, a new case, a couple of hard drives and decided to try serving our system from there. It started out as an experiment. **In fact, the entire set-up cost us, at best guess, between \$500-\$1000.** But, now that it's been such a success, we're looking at getting new Intel-based servers, for maybe \$2-3,000, which is still nothing, and that will give us a little more CPU power, a little more memory, and still leave us free to move wherever we need in the future. Nothing is tied to a vendor."

"In fact, to illustrate that point, I've even been toying around with the idea of switching platforms to Mac OS X Server running on one of the new PowerMac G5's. All of our mrc Web applications are Java servlets, which are completely portable; we can run them on anything. It's just a matter of choice, now everything is up to us—not dictated to us by a vendor.



When a vendor starts dictating to me what I have to do, I stop listening. With mrc it was never like that. In fact, we were encouraged to run our Web applications on Linux."

"We have even begun to move desktops here in the office to Linux. Mine was the first; in fact I've always run Linux or OpenBSD on my desktop - leaving my work laptop to run Windows XP. However, thanks to some of the apps we have ported to mrc, and IBM's new iSeries Access for Linux we have been able to move user workstations to Linux. In fact, our entire warehouse is now running SuSE Linux. That's our shipping and receiving departments, and the warehouse manager's workstation."

The solution has more than exceeded their expectations.

"Before I came here, I worked for an ISP, **and I've seen Web site traffic grow, and grow quite rapidly, but never before have I seen it explode the way this site has.** We are just beginning, at the most basic level, to work on this site. The fact that we are more than doubling in sales each month is unbelievable. And, you also have to keep in mind that initially, we only rolled it out to a handful of current customers."

One reason for this amazing spike is the general lack of ordering options for small-to-medium size clients. "This industry is weird. As a customer, you either have EDI, or you hope someone has a Web site, or you have to sit there and phone in your orders. Small hospitals and clinics don't have the money for EDI. They can't afford a \$30,000 solution...it's more like they have 2 PCs hooked up to the Internet on a

single dial up account. These customers, and there are a lot of them out there, are forced to either fax orders or call them in. **And now that these customers are ordering online, they are ordering even more than before because they are so happy with the solution. And we are happy.** The fact that we can help out our customers, many of whom we know by name, well that's a great feeling."

"We also need to be able to compete with the big guys, and some of them are monsters. To give you some perspective, one of our national competitors didn't build a Web site...instead they actually bought a Web design company, and then that company built their site. At the same time, a lot of companies like ours still aren't doing it. We're pretty much pioneering this."

But no matter the size every company with a Web solution needs to be concerned with security as well as redundancy. Midland Medical Supply is no exception.

Ben was especially concerned with using servlets remotely, running them on Linux and tying them back to the iSeries, but he says in the end it wasn't a problem. The security is all tied through to the servlet. "We offer a regular sign in or an SSL secure sign in. Sometimes if you have an old browser, or a tough firewall, users can run into difficulties with the SSL version, so we give them the option. Basically a user will log into the Linux Web Server, enter their password, and then the password is transferred to the iSeries where mrc ties it through the servlet where there is a file that dynamically pulls their customer name. It's like magic. It works great."

Redundancy is something else he considered. In the event of a failure, he has one PC that runs static, and the main one that's running Java. Ben wrote a little PERL script that has the machines ping each other. If one goes down, the other one kicks in immediately.

The Value

Ben's favorite part of the whole solution? "I love the flexibility," says Ben, "and the ease with which mrc adapts. We switched from Red Hat Linux to SUSE/Linux...and when we switched over, transferring mrc didn't involve any work at all. No re-doing



Midland Medical Supply Company
Serving the Health Care Industry

Shipped Orders for MIDLAND MEDICAL SUPPLY

Invoice Date: _____ Customer P.O. #: _____ Search Contains

Customer P.O. #	Invoice Number	Invoice Date	Shipped By	Ship Date	UPS Tracking Number	Invoice Amount	Ordered By	Taken By	Invoice Detail Link
8087	701375	04/06/2004	UPS	04/07/2004	126332120344565280	10.64	JUDY	RAVS	Invoice Detail
8074	700447	04/06/2004	UPS	04/07/2004	126332120344593041	195.55	JUDY	WARDW	Invoice Detail
8074	700999	04/06/2004	UPS	04/05/2004	126332120344216346	30.10	JUDY	WARDW	Invoice Detail
8087	709924	04/06/2004	UPS	04/05/2004	126332120343145279	789.80	JUDY	RAVS	Invoice Detail
8064	690676	03/29/2004	MMS	03/29/2004	.	87.83	JUDY	NBOKH	Invoice Detail
8068	698839	03/29/2004	UPS	03/24/2004	126332120348765837	11.40	JUDY	DAVEH	Invoice Detail
8006	698119	03/24/2004	UPS	03/19/2004	126332120347120578	17.78	JUDY	DAVEH	Invoice Detail
8074	697799	03/18/2004	UPS	03/18/2004	126332120346262366	434.65	JUDY	WARDW	Invoice Detail
8048	696807	03/16/2004	UPS	03/12/2004	126332120346891409	27.52	JUDY	WARDW	Invoice Detail
8068	696342	03/16/2004	UPS	03/10/2004	126332120346891409	21.73	JUDY	DAVEH	Invoice Detail

the configuration or anything. I literally just copied it over. I threw SUSE/Linux on my laptop, and tried it, and it just worked."

"It also gives us the flexibility to better accommodate our customers. For example, recently our largest customer came to us because their EDI software license was running out, and in a few weeks they can't use it anymore. They went into a panic because they won't have software able to replace it. But, it's actually not going to be a problem for them because with our new online order screen, they don't need software. They just check off what they want, and how many they want. They were really worried about this because a year ago, this would have been a major setback. It would have either meant a lost customer, or everyone paper and penning it. But, with this solution, we didn't even have to think about it."

"Dennis and I both think that mrc's support is top notch. As Dennis said to me, 'Where else can you call up and get service like that?' My first response was IBM, but then again (like any iSeries customer) we also send them nice big fat support contract checks to be cheery.

"We have found mrc's support to quite literally rival that of IBM. If there is a problem, mrc's people don't hesitate to go the extra mile - and more -

for the customer. That's really one of the major benefits of mrc, in our opinion. I know that even today, most ISP's and vendors have a "no Linux support" policy.

mrc doesn't. In fact, our product specialist encouraged us to use it and helped me directly with some issues."

"And, what's also great about it

(the mrc-Productivity Series) is that you can create all sorts of different applications as you need them. For example, I built this great asset management application on a whim. At the end of the year each year, our accountants hand us a list of computer equipment, assets like printers, monitors, etc, and I would have to find each piece and check it off, or account for it with no way of tracking it."

"But, with the mrc-Productivity Series, I created an entire tracking system, placing barcodes on each machine, and with that barcode I can pull up all of the information they need. It's even streamlined with a depreciation schedule, original cost, and service history...and it took me less than two hours to create it. I then spent 3-4 hours organizing the fields, but **start to finish, I did it in less than a day.**"

We're using it for everything now. For example, when we get invoices in, from a new monitor or machine, our accounts payable person can go into the system and look it up instead of asking me to remember what I bought a month ago. Additionally, salespeople have laptops that are all tagged. If they are sent in for service, we can track to see if IBM has it, and get the service code. Or, if Windows XP is being upgraded, we can do a search to see which machines are running Windows XP. We also keep track of IP addresses this way."

"The best part about it came when a good friend of mine in IT saw it. His company had just paid \$500,000 for something just like this. What's so great about this tool is it's really flexible. You can use it for anything."

"Another application, **the first application that mrc built, actually...I call "the jaw dropper."** We wanted to build an order tracking system that's tied to our iSeries for billing, and tied to UPS shipping. But, we have all sorts of internal RPG logic. For instance, pricing is different for each customer on each item...and we **have 30,000 items, so re-writing that RPG logic wasn't an option.** But, mrc incorporates that logic. So, when we have something going out now, and they scan it in to verify it, this application immediately logs the UPS tracking numbers, and allows users to track their packages the minute they are shipped."

The Future

"This solution has been ungodly successful. It's now April, and we have only been up and running since the last part of January, and that was just a beta test...but, since then, every month, sales have been doubling."

"I felt like I went out on a limb a few weeks ago, when we rolled it out to our sales force, and I said I thought we'd pull in \$100,000 by the end of April, but I majorly understated it. Instead we hit \$100,000 in the month of April alone, shattering my goal by \$60,000! Dennis and I were expecting a million dollars by the end of the year, and I was projecting two...but at this rate, it's hard to say how high it will go. I guess we'll just have to wait and see."

mrc

michaels, ross & cole

555 Waters Edge, Ste 120

Lombard, IL 60148|

630.916.0662

mrc@mrc-productivity.com

www.mrc-productivity.com