



THE OMNI USER

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Oh BOY Do We Have NEWS!

One again, the newsletter is late, and as usual it's my fault. However, I have a pretty good excuse and some really great news to share with you.

We've been punting around the concept of a small day of education in the late fall and then a bigger conference in January, and the more we looked at it, the more it looked like a pretty good idea. And then we got some interesting news and all of a sudden our plans are changing. Instead of a couple of small conferences, we're going to do a real wing-ding of a get-together in February, with the focus on V5R4. Yes, you heard right; we will be the first conference devoted to the changes in store for iSeries customers with V5R4. Not COMMON, not iSeries DevCon, not even the IBM Technical Conferences. No, gentle reader, instead *you* will be privy to the very first V5R4 conference in February of 2006.

Important speakers both from IBM and the community at large, insightful tracks, and a great expo. Stay tuned for more information!

But before we get there, we still have a bunch of things to cover in 2005. We're back to regular monthly meetings (although you're getting the information for September a little late, unfortunately). We're welcoming a new sponsor, Cosyn Software, and there are a some great IBM Redbooks and Redpapers available, including an entire suite on WebSphere Application Server problem determination. So welcome to the newsletter, and on we go!

Table of Contents

Hear Ye! Hear Ye!	1
IBM's Technology Access Program	2
Cosyn Software http://www.cosynsoftware.com/	2
V5R4 is Coming!	2
RJS Software http://www.rjssoftware.com/	3
August Meeting Recap	3
September Meeting Information	4
Competitive Support Options http://www.csoinc.com/	5
October Meeting Information	6
OMNI Midrange Event List	6
T.L. Ashford http://www.tlashford.com/	7
IBM Redbooks/Redpapers	8
Ask the Audience	9
Arbor Solutions http://www.arbsol.com/	9
COMMON Corner:	
Intro to iSeries High Availability	10
OMNI Board	13
Notes from the Field	14

Edited by Joe Pluta - omni-comm@plutabrothers.com

The Technology Access Program

Here's a little-known program for IBM business partners! The technology access program (TAP) allows BPs to get their hands on xSeries boxes for a really great price.

Currently, I'm pricing the following box:

- Dual-3.2GHz Xeons (2MB of L2 cache)
- 2GB RAM
- 146GB 15000RPM disk (RAID-5)
- 1GB Ethernet
- 48X CD-ROM
- Floppy (really!)
- No OS, no monitor

With the TAP discount, this box is roughly \$3100. The closest I could get in the Dell line was a \$4400 server (SC1420) and that only had 10K drives, as opposed to the 15K drives in the xSeries box. IBM is truly making it attractive to get into the business of developing software for IBM boxes. (Note: even without the discount, the xSeries is only \$5000, which is actually quite competitive considering the 15K drives).

V5R4 IS COMING! V5R4 IS COMING! AND WE HAVE THE SCOOP!

Conference Update!

By Mike Pavlak

The annual Omni User Conference is back! We have selected the Drury Lane Oak Brook as the venue for our exciting educational event on February 7, 2006. We have some excellent speakers lined up and should have something formal to announce quite soon. Please check the website as updates may be frequent. So please stay tuned.

Our theme is V5R4 (one possibility: i5/OS -- It's In There!), and we're going to have all the information you could ever expect to cram into a one day event.

Anyone interested in helping out with the conference either in planning, or the day of the event, please contact me at mpavlak@tripplite.com for more details. The entire conference board is excited to be bringing back such an exceptional event. As I compose this message from the show floor at COMMON, I will say that there are several vendors also planning on coming in February as well.

Hope to see you there!

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August Meeting Recap

Dan Kimmel did his usual outstanding job at the August meeting. From the rapt attention in the audience, it was obvious that his discussion of Web Services was quite enlightening.

Web Services will become more and more a part of our iSeries development and I'm glad that we were able to get Dan to come out and give us some perspective on this technology, little known as it may be to many of us.

So thanks again to Dan for taking the time to come out, and we hope to have him back really soon!



<http://www.rjssoftware.com/>

September Dinner Meeting

Tuesday, September 20th, 2005

**Embassy Suites Hotel
707 E. Butterfield Rd
Lombard, IL**

5:00 Registration and User Discussions

6:00 Dinner and Break

6:45 Business Meeting & Presentation

Web Enablement Using HATS

Tameem Moshin (IBM Technical Sales Specialist) and Doug Piner (HATS Consultant) will discuss the business challenge they solved for a JD Edwards and iSeries customer using IBM Software. Tameem Moshin and Doug Piner presented, demonstrated, and created a technical solution using HATS to web enable an existing iSeries order configuration application. They will discuss the process of creating the order configuration web application and the business value delivered by the end solution.

Tameem Moshin

Tameem has been working as a WebSphere Technical Sales Specialist for IBM in parts of the last 5 years. An accomplished subject matter expert, Tameem has delivered technical pre-sales, design, deployment, and implementation expertise at numerous companies in Chicago and across the Midwest. Tameem's hobbies include running, volunteering, and skiing.

Doug Piner

Doug was a developer at IBM for 10 years until he started his own company, Beaver Creek, in 2000. He started web enabling 5250 and 3270 applications in 1998 and currently has over 100 customers.

Dinner Menu Options

Starter: Mixed green salad with Ranch and Caesar dressings.

Meat: Chicken Provencal with garlic mashed potatoes and mixed vegetables

Veggie: Pasta Primavera and garlic bread

Dessert: Key Lime pie

August Dinner Meeting Registration

Please make your reservations by Thursday, September 15th, 2005 at Noon. Call (630) 953-6312, and leave your company name, names of those attending, and the type of meal desired (meat or vegetarian.)

Cancellation Policy

Full refund will be issued for cancellations made before 9:00 am September 16th.

After 9:00 am Friday, 09/16/2005, cancellation refund depends on meeting attendance. All cancellations must be made as described below.

Dinner Meeting Cancellation

It is VERY important to cancel your reservation(s) if you cannot attend, by calling (630) 953-6312 and leaving the name(s) of those unable to attend, or by using the web cancellation feature.



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October Dinner Meeting Tuesday, October 18, 2005

I'll take the opportunity again this month to ask you, dear reader, to tell me what you would like to hear about.

How about something on RPG and Java? Or maybe you'd like to know how to write a simple JavaServer Page? Are you interested in PHP on the iSeries? Or maybe you just want someone to tell you what the heck this WDSC thing is supposed to do?

If you have an idea for a speaker topic, please feel free to drop me an email and let me know. You know where I am: omni-comm@plutabrothers.com.

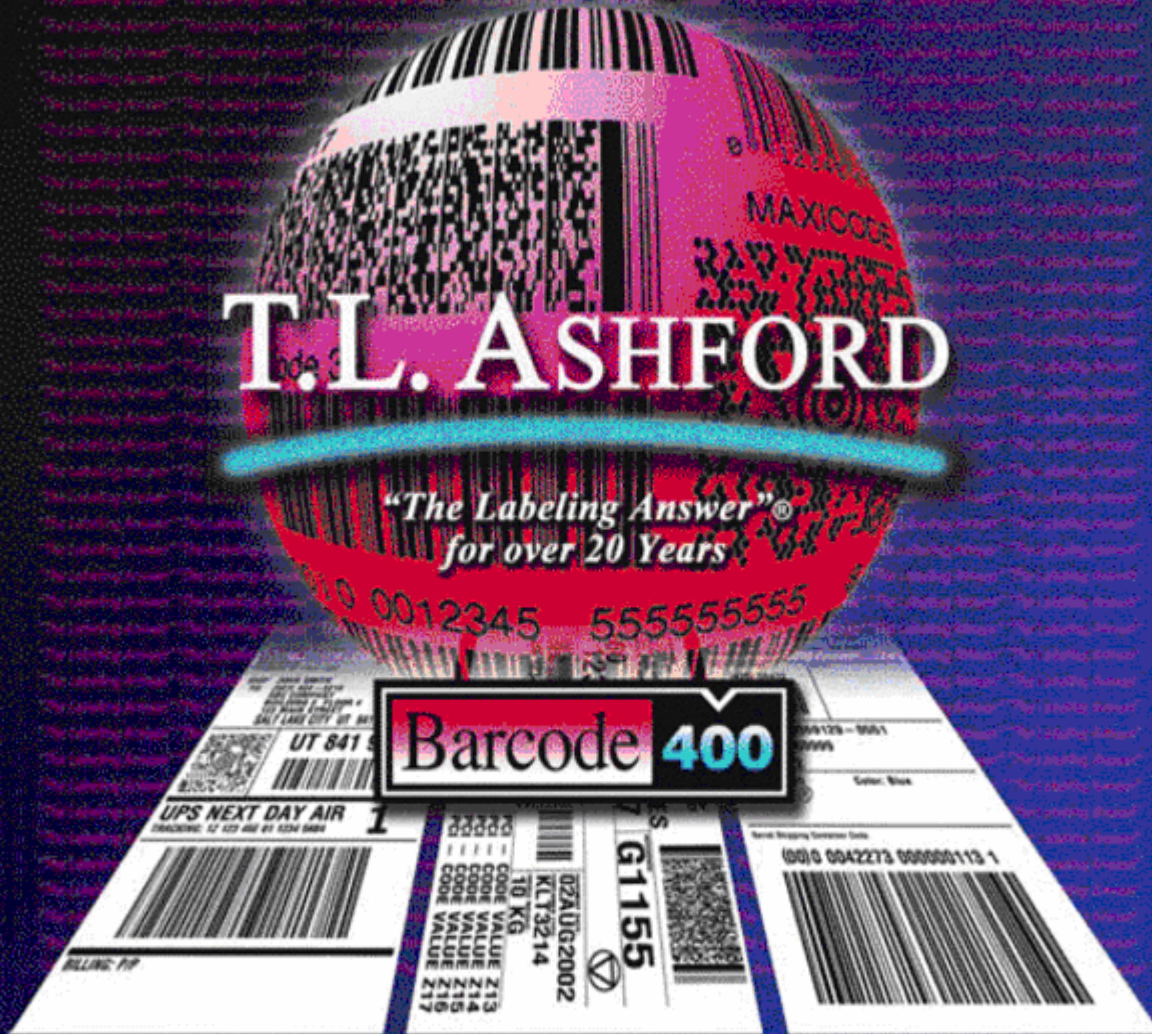
Coming Midrange Events

September 18 - 22	COMMON Fall Conference 2005 Online registration available here!	Orlando, FL
September 20	OMNI Dinner Meeting Online registration available here!	Embassy Suites Hotel 707 E. Butterfield Rd Lombard, IL
September 27	OMNI Board Meeting All are welcome!	IBM 2 Lincoln Center Oakbrook Terrace, IL
October 17 - 21	IBM i5/iSeries Technical Conference Online registration available here!	Miami Beach, FL
October 18	OMNI Dinner Meeting TBA	Embassy Suites Hotel 707 E. Butterfield Rd Lombard, IL
October 25	OMNI Board Meeting All are welcome!	IBM 2 Lincoln Center Oakbrook Terrace, IL
November 7 - 9	iSeries DevCon Online registration available here!	Rio Hotel and Casino Las Vegas, NV
February 7	OMNI User Conference Focus on V5R4	Drury Lane Oak Brook, IL

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IBM Redbooks/Redpapers

A monthly compendium of recent IBM Redbooks and Redpapers of interest to iSeries developers.

Redbooks

Approach to Problem Determination in WebSphere Application Server V6

Revised: September, 15, 2005

<http://www.redbooks.ibm.com/redpieces/abstracts/redp4073.html>

IBM eServer iSeries Security Guide IBM i5/OS Version 5 Release 3

Revised: September, 13, 2005

<http://www.redbooks.ibm.com/redpieces/abstracts/sg246668.html>

Migrating Applications from WebLogic, JBoss and Tomcat to WebSphere V6

Published: August 25, 2005 ISBN: 0738493821 448 pages

<http://www.redbooks.ibm.com/abstracts/sg246690.html>

Redpapers

IBM eServer iSeries Editions Buying and Selling Guide

Published: September, 14, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp3916.html>

WebSphere Application Server V6: Web Server Plug-in Problem Determination

Published: September, 15, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4045.html>

WebSphere Application Server V6: Web Container Problem Determination

Published: September, 14, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4058.html>

WebSphere Application Server V6: Application Server Crash Problem Determination

Published: September, 14, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4059.html>

WebSphere Application Server V6: System Management Problem Determination

Published: September, 9, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4067.html>

WebSphere Application Server V6: Installation Problem Determination

Published: September, 14, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4068.html>

WebSphere Application Server V6: Default Messaging Provider Problem Determination

Published: September, 9, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4076.html>

WebSphere Application Server V6: JCA Connection Problem Determination

Published: September, 15, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4080.html>

WebSphere Application Server V6: Diagnostic Data

Published: September, 15, 2005

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4085.html>

Ask the Audience

Boy did you all get lucky. Because of the immense amount of time and resources that we're devoting to the upcoming User Conference (and yes, it's going to be quite the info-palooza), I wasn't able to create any really nasty prose to try and get you motivated. The best I can do is this:

HEY!!! WAKE UP!!

I got exactly zero answers to last month's poll, so I'll try it again. Next month if the participation is this weak, I'll be required to do something a little drastic on the front page. But here's the first quiz reprised:

Arbor Solutions

- iSeries Hardware
- Application Development
- RPG Programming
- e-Business Solutions
- Security Analysis
- Lotus Domino/Notes

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OMNI AUDIENCE QUIZ NUMBER ONE

How many iSeries and/or AS/400 boxes in your shop?

What version(s) of OS/400 do you use?

What iSeries (AS/400) languages do you use?

What dialect of RPG do you use *most* in your shop (II, III, IV, free)?

Do you develop browser applications?

If so, what architecture do you use (CGIDEV2, JSP/Servlet)?

Do you use WDSC? If so, for what (RPG/COBOL, Java, JSP)?

Send your answers to me: omni-comm@plutabrothers.com.

September 2005 COMMON Corner

Reprinted from the September 2005 issue of COMMON.CONNECT

An Introduction to iSeries High Availability

By Bill Rice

All companies face critical periods of unwelcome system downtime. With businesses' ever-increasing reliance on computers, system failures or site disasters create an enormous disruption and expense. In fact, exposure to unplanned downtime is becoming unacceptable for a growing number of IT shops. Those thinking they aren't candidates for a high availability (HA) solution are now re-evaluating their operations.

Before discussing the details of iSeries HA, it is helpful to understand the impact of downtime as well as the spectrum of typical disaster recovery strategies.

Unplanned vs. Planned Downtime

Without question, the IBM iSeries is the most reliable business system in the industry; studies put its reliability at 99.95 percent. However, according to one IBM study, the iSeries server averages 61 months between hardware failures. Stated another way, 67 percent of all iSeries servers can expect hardware-related downtime in the first five years. And according to Gartner, 93 percent of all companies that experience significant data loss are out of business within five years.

Despite the potential consequences of unplanned downtime, still less than 10 percent is attributed to unplanned events, and only a fraction of that is due to a site disaster. The remaining 90+ percent involves routine maintenance such as data backups (nightly, weekly, and monthly saves), vendor software upgrades and data conversions, IBM OS software release upgrades & PTFs, hardware upgrades, etc.

Regardless of the cause, reducing or eliminating downtime during critical hours is becoming increasingly important for even small companies.

Disaster Recovery Strategies

For a large percentage of companies, the disaster recovery strategy consists entirely of performing regular saves to tape and keeping the tapes offsite. Because of the legendary reliability of the iSeries, this is often thought to be sufficient. However, if a failure occurs that requires reloading entire applications from tape, data recovery can take many hours or even days.

As companies become more aware of the costs of downtime to their business and the vulnerability of relying only on tape backups, they are requiring additional means of reducing recovery time and data loss. Some of these methods include:

- *Journaling* – An OS/400 process that efficiently monitors any change made to data and objects. In the event of a system failure, it is possible to use journals to recreate data without manually re-keying information.
- *Disk Protection* – Installing disk drives (DASD) that perform parity protection or disk mirroring to lower the risk of data loss due to a disk drive failure.
- *Recovery Services* – Protected third-party recovery sites, available on a subscription basis, where data changes made between tape saves are transmitted (data vaulting), and/or backup tapes are restored on a comparably configured system

- *Data Replication* – Using third-party software to maintain synchronized copies of objects on a second iSeries, and in the event of the loss of data (or an entire system), retrieving the objects
- *High Availability* – Data replication plus the ability to have users automatically switched to the second, synchronized iSeries without loss of data and little downtime

The Components of High Availability Software

High availability solutions have four key components: system-to-system communications, data replication processes, system monitoring functions, and role swapping capabilities.

System-to-System Communications:

The first step is establishing communications between your production and back-up machines. Typically, TCP/IP is best for communication between two iSeries machines, especially when moving large amounts of data.

When deciding how much bandwidth is needed, you need to consider the number and size of transactions and the distance between the two machines.

When buying a second machine for HA, locating it in another building is advantageous (whether across town or across the country) for disaster recovery purposes.

Data Replication Engines and Journaling:

Once communication between systems is set, the next step is establishing an engine to replicate or mirror transactions between the systems in as close to real time as possible.

All iSeries HA solutions use the journaling function of OS/400 to monitor for data changes. Journaling is essentially a process that "watches" designated objects. When changes occur to the objects, journaling records detailed information about changes (journal entries), in a very efficient way, in terms of processor and disk space.

HA software extracts the data changes from these journal entries and "applies" these in real time to duplicate copies of the objects on the backup system (target) to keep the objects synchronized with the production system (source).

This extraction process is sometimes referred to as harvesting. HA solutions either harvest data from journals on the source or the target system. HA solutions that harvest from the source system do so with a proprietary process, while HA solutions that harvest from the target system use a process within the OS/400 operating system called remote journaling. With remote journaling, the OS/400 operating system transmits and writes—at very high speeds—an identical copy of each generated journal entry to a target system. Because this process is part of the operating system, and since most processing occurs on the target machine instead of the source, it is an extremely efficient process.

For detailed information regarding the benefits of remote journaling in high availability solutions, see Chapter 6 of the IBM Redbook: [Striving for Optimal Journal Performance on DB2 Universal Database for iSeries](http://www.ibm.com/redbooks) (www.ibm.com/redbooks).

System Monitor:

Once data replication processes are in place, it is critical to continuously monitor these processes. Because of the number of transactions that are replicated each day, any glitch in the system-to-system communications, the journaling components, or the journal entry apply-processes can mean jeopardizing the data integrity on the backup system.

An efficient monitoring process continuously shows the status of critical components in an easy-to-understand format. Any problems should be easily identified, and ideally, automatically corrected.

The computer buzzword “autonomic” means, among other things, the ability of a system to self-monitor or self-heal. In an HA solution, autonomic capabilities are crucial to reliability and ease of use. The HA monitor should automatically determine if an object on the target system is out of synchronization with the same object on the source system, then initiate re-synchronization of the object without halting or slowing the ongoing replication of other objects.

Role Swap:

There is value in replicating business-critical data to a second iSeries (i.e. disaster recovery), but a significant added value is realized when a fully synchronized, fully functional backup system can be quickly accessed by users during extended periods of downtime.

The process of moving users and processes to the synchronized target system is called a role-swap because the target essentially takes on the role of the source system during the time the source is being maintained or repaired. When a role swap occurs as the result of a system failure, it is called a “failover.”

It is vital to regularly test the role-swap process to verify the integrity of data on the target system and to become familiar with the process. The role swap process generally includes the following tasks:

- Verifying that all objects are currently synchronized between the two systems
- Ending all user and application jobs on the source system
- Ending the replication and monitoring jobs on the source system
- Designating the target environment as the source environment
- Starting the replication and monitoring jobs on the target
- Starting user and application jobs on the target

If everything is working properly and the role-swap process is well tuned, users shouldn't have to wait long before they see a new sign-in screen once the process is executed.

After executing a role-swap, reversing the process returns control to the source system. This reversing process is often referred to as a roll-back.

Evaluating iSeries High Availability Solution Vendors

iSeries IT shops can create their own HA solution by integrating technology within the OS/400 operating system with custom programs—but not without an enormous amount of work, testing, and troubleshooting. The benefit of using a HA solution from a third-party vendor is that it is their sole job to create, test and perfect the programs and interfaces needed to ensure a smooth, consistent, reliable operation.

When you talk to vendors of HA solutions, they should be able to provide you with names of customers that can confidently attest to having the following experience with their HA solution:

- Minimal latency (few instances of object changes waiting on source system to be transmitted to the target)
- Few instances of unresolved out of sync conditions (HA should automatically discover and resolve these)
- Regular, successful role-swap tests—performed, at minimum, on a quarterly basis
- Having their HA solution successfully failover to the backup system
- Consistently experiencing a high level of support from their HA vendor

In today's world of ever-expanding business hours and increasing reliance on data availability, justifying the cost of a high availability solution is becoming easier.

When evaluating HA, it's important to understand its critical components, understand how it would fit into your environment, the degree of expertise is needed by your IS staff to manage the solution, and the total cost—both hard and soft costs.

One parting caveat: Depending on the size and complexity of your information systems, there are many other factors to consider besides the installation of a high availability solution to reduce downtime vulnerability. High availability clearly is a significant component in an overall data recovery/system availability strategy, but it often takes a variety of software and even hardware components to provide complete protection against all exposures to downtime.

About the Author

Bill Rice is director of marketing at iTera, Inc. (www.iterainc.com), a leading developer of continuous availability solutions for IBM iSeries. Bill can be reached at bill.rice@iterainc.com.

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Notes from the Field

- Who Wants to Be an iSeries ISV? (by Joe Pluta)

It's been said for some time now that the iSeries is an orphaned machine. The more jaded insist that this is because the box doesn't fit into the IBM philosophy. They say that IBM wants to sell services, and that the iSeries simply doesn't generate any service revenue. They'd rather sell a few xSeries or pSeries boxes at a quarter of the margin and then stick in a half-dozen consultants for a year.

Although I've never gotten an IBM employee to outright admit this to be the case, I guess I can understand the numbers. But here's the rub: EVERY vendor can play that game. Microsoft can do it, Sun can do it, even the Linux resellers can do it. It's not too hard to develop a product that requires a lot of support. Then it simply comes down to sales, and not the nice kind of sales, either. No, when you are selling "services" you by definition are trying to get someone to pay for something twice, which means you either misled them at the beginning, you're misleading them now, or both. So you no longer sell the strengths of your systems; now you need the snake-oil salesmen, and everybody is diminished.

That's sort of what Microsoft has done to the industry as a whole, followed by the outsourcing movement. The quality of software has diminished. If I tried to sell stuff as poorly written as the Microsoft code back at SSA, I'd have been fired. And we were writing PC-based client/server stuff, too. But we didn't allow memory leaks, much less buffer overrun exploits. But I digress.

The point is that by pushing the commodity hardware with expensive support model, IBM has entered into competition with everyone else on the planet. Whereas, had they pushed the integrity, reliability and quality model of the iSeries, they'd have a captive market. Everybody would be playing catchup to i5/OS, and that's a lot of catching up.

The really sad thing is that suddenly IBM hardware is in everyone's reach. You can lease a fully loaded development iSeries for a couple of hundred bucks a month. Not chicken feed, but it shouldn't be a showstopper for someone who is serious about their future. For your serving needs you can buy a screaming dual-processor xSeries with 15000RPM disks for less than the price of a comparable Dell machine (with slower disks).

And that iSeries gets you WDSC, which in turn gets you most of the development tools you need to build really great software. The only thing missing is your desktop integration, which will probably be either Lotus or Microsoft, either one of which will run like lightning on that xSeries.

Get the IBM Software Access for \$795 a year, and the Microsoft ISV package for \$350 a year and you have all the desktop development software you could possibly want. Combine this with the one-time cost of about \$3000 (the xSeries) and the \$200/month for the iSeries, and for an ongoing cost of \$3500 a year, you now have all the hardware and tools you need to develop the next generation of iSeries-based software.

Really, come on in. The water's fine.

-- Joe