The Omni User

Education in Earnest

We are going to be simply inundating you with the very best of education over the coming months. Last month was just a tickle: you got three excellent speakers on three really current topics… and all for the price of one! And this month it just keeps getting better! Not only is Omni's very own president, Mike Pavlak, going to present the ultra-hot topic of PHP on the System i, but we're also bringing you our 5th Day of Education, with just a SKABILLION (technical term) great topics from great speakers. Please use the link to go straight to the web page and see all that's available in detail (and don't worry, I'll babble a little bit about it inside as well).

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

Also, stay tuned to this newsletter as we start to coordinate with the other LUGs in the area to bring you even more of the very best educational opportunities. We're going to invite their members to come here, and they're inviting you to visit them. And in many cases, it's really not that far out of your way. For example, for the North Suburban folks the WMCPA events are just an hour away (or less, depending on how you drive). And if you're out east, Fort Wayne is certainly within driving distance and even Detroit isn't that much farther (certainly within range for an all-day event). I hope that this cooperation between LUGs will make for an even better educational experience for not only Omni members, but all LUG members.

What else is going on? Well, to be honest I'm pretty wrapped up in all the events that are coming up, from dinner meetings to the Day of Education to iSeries DevCon. Next I do an all-day seminar on WDSC for RPG Programmers in December, and then the Technical Conference is in February!

And then of course the Bears are 4-0 and the Cubbies have a new president *and* a new manager. All of this almost makes up for what a really rotten summer it was for the vegetable garden...

President's Letter

- Mike Pavlak, OMNI Board President

Partnership!

Fall is in full swing! Early reports indicate the hurricane season will not be as bad as last year, the price of oil is dropping, and the System i has not changed its name. Three very good things. Having now spent a majority of my business life supporting System i and its various incarnations I must say it has been quite a ride. From the good old days of a single system data center to the complex computer room of today we are seeing the System i continue to be the most resilient platform in the shop. But what about the applications? Where is the steak to go with the System i sizzle? This month's speaker should shed some light on how IBM is using partnerships to drive application development and new solutions forward.

Partners like Zend, 3Com and more are bringing solutions to the System i that few have ever seen. To think that we could run our phone switch right on the most reliable piece of hardware in the shop! Oh, and for you disbelievers out there, you can still get a dial tone while performing an IPL! Partners continue to be the life blood of the System i ecosystem. More and more are delivering new applications and solutions every month. Much the same as Omni is partnering with IBM and many speakers to deliver more and more educational opportunities every month.

Omni will be returning to the IBM offices in Oakbrook for our annual Day of Education this month. Some really great speakers from IBM Rochester, Toronto and the greater System i area will be on hand to provide the latest insights into what is making the System i tick. Next month's dinner meeting will be presented by David Andruchuk; he will be talking about XML and System i. As a part of his recent ITSO partnership, Dave had the opportunity to participate in the development of the new Redbook: XML and the System i. In early December Omni is excited about Joe Pluta and his day long presentation of how to move from PDM to WDSC. There will be no dinner meeting in December so we can all enjoy the Holidays! And don't forget our annual conference returning to the Drury Lane Oakbrook in late February! Please stay tuned for details on what our conference chair has cooking up for this event. I hear it will be quite special.

All of these offerings would not be possible without partnerships. Omni's partnership with IBM, the Omni Board members' partnership with each other and our partnership with you, the members of one of the biggest and best IBM midrange user groups in the world! We have come a long way together, and there is still a way to go. Have you ever thought about partnering up with the Omni board? Got a few minutes each month to give a hand and make the best user group even better? Stop by a board member at one of the next events and see how a little time can go a long way to helping keep Omni as strong as it can be! We will be holding our annual election of the Omni Board at a very special dinner meeting in January. The topic and speaker are so hot, I just can't talk about it yet! But, I assure you, you won't want to miss it...

Fall Day of Education

THIS IS IT!

Your last chance to sign up for Omni's Fifth Day of Education on October 10th! If you don't go to this conference, you'll be kicking yourself for the rest of the year.

This will be a special session. Not only are good friends like George Farr and your own newsletter publisher (that's me, Joe Pluta) going to show up, but we've got a ton of other expert speakers from IBM.

Get here early to make sure you get a seat on the hot, hot topic of virtual tape from Will Witten, along with some great information on disk; internal, external, RAID, mirroring, you name it. Guy Vig will be providing the details on one of the biggest set of CL enhancements since the language was created.

Then there's Marcy Brandt showing you iSeries Navigator and all the things you can do with the often underutilized GUI for i5/OS.   Not to mention Mark Andersen's information on the latest and greatest information about DB2.

And of course you can't forget David Money, who will be presenting a wealth of information on accessing the System i from Java, especially for portals and servlets.

The Day of Education is inexpensive, which makes it the perfect option for an end of year education opportunity. Registration is available on the Omni website. If you're reading someone else's copy of this, please visit the OMNI site at http://www.omniuser.org, subscribe to the OMNI mailing list, check out the Day of Education details and register to join us at IBM on Tuesday 10/10!

And remember, joining Omni for this event entitles you to not only the rest of this year, but also all of next year as well! So if you're not a member and you're seeing this newsletter, now is a great time to join!

November Meeting

November will feature one of those people who truly "wrote the book on the subject." David Andruchuk recently returned from a residency with IBM during which he co-authored the recent IBM Redbook "The Ins and Outs of XML and DB/2 for i5/OS." So you get to hear the topic from one of the experts in the field. Learn about the interoperability of SQL, XML, RPG and Java that is available especially with the latest release of the operating system, as well as the non-programmatic methods available via the DB/2 extender.

We keep bringing you the good stuff!

October LUG of the Month

Once a month I'll try to find a place to stick a plug for one of the other local user groups, just so you get some idea of the diversity of our community. I'll stick with the regional LUGs, but who knows, every once in a while I may pop one in from someplace exotic.

STATUS

An IBM Midrange User Group

A Special September Splash

The September meeting was more unusual than most, not counting the fact that we finally moved away from cheesecake for desert. Three OMNI members took center stage – one at a time to describe tools used in their IT environments. This was billed as a non-sales pitch type presentation night and if filled the bill as there were no company representatives from any of the vendors for the products, and our members were free to tell all – good and bad about the products. Of course all of the presentations concentrated heavily on the good side and little on the not-so-good.

Bill Parks was first up discussing a journaling tool used to discover who and when records are changed in a file. Bill's firm, Hadady Corporation, is an engineering and metal fabrication shop. As such the computer data on Bills of Materials, Routings, and Item Master data is a major asset for the company. Bill demonstrated how Stitch-in-Time allowed them to track changes in critical data in these files and has helped construct safeguards around the ability to change the data. The tool, "Stitch" he calls it is a product requiring 15 minutes worth of setup, and another 5 minutes to set up a file for observation. The reporting facility was clean and easy to use. The product is free to try, and you may be able to get an "OMNI" discount when purchasing the product.

Jim Vance demonstrated a tool called Idokorro Mobile SSH, which is a telnet product which can reside on different types of mobile phone units. Jim demonstrated how the product works on his own Blackberry unit. He says he has been able to clear service problems using the communications provided to get to their System I and he has done this while driving (is that really recommended) and while sleeping with one eye open.

Jerome Hughes was the last speaker demonstrating "Ruby on Rails". This is an open source product which provides a facility for creating bare bones data driven web pages with minimal effort. The product provides many intuitive functions within the programming language so that all you have to provide is the basics and the product creates the page structure. The Ruby part is the "shortcut" language part and the "Rails" is really a framework environment in which this system operates. Jerome completed his presentation by creating a web page while he only provided 3 lines of information to the system.

The audience remained interested in all three presentations, took part by providing questions to the speakers and seemed to take away lots of information from the presentations. I believe the variety of products demonstrated by our speakers as well as the range of the items presented provided an interesting evening for all attendees.

October Dinner Meeting
Tuesday, October 17th, 2006

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

PHP on the System i

This PHP is a web scripting language that is ideal for getting data to the web with minimal training and expertise. It combines some of the best aspects of Perl and Java to give the programmer a unique experience in using open source tools for database and web application development. PHP is now available and supported on System i! This is a result of a strategic partnership between IBM and Zend, the creators of PHP.

This session will discuss how to get started with PHP, the PHP System i toolkit, example PHP scripts and why PHP is a major force that should be examined by any IT professional. We will also explore what Zend is doing for the language and the PHP community.

Mike Pavlak

Mike Pavlak is the IT Director for Trippe Manufacturing Company located in Chicago, Illinois. After spending several years supporting mainframe computers, Mike moved to the AS/400 as a result of the training he received at Moraine Valley Community College. Mike leads The Omni User group in Chicago and serves on several councils within COMMON. His evangelism helped convince IBM to enable PHP support on System i!

Dinner Menu Options

Dinner (choice):
Meatloaf w/Gravy
Fish of the Day
Pasta Primavera

Starter:
Soup du jour

Dessert:
Apple Pie

October Dinner Meeting Registration

Please make your reservations by Thursday, October 12th, 2006 at Noon. Call (630) 953-6312, and leave your company name, names of those attending, and the type of meal desired (meat, fish or vegetarian.)

Cancellation Policy

Full refund will be issued for cancellations made before 9:00 am October 13th. After 9:00 am Friday, 10/13/2006, 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.

http://www.rjssoftware.com

Upcoming Midrange Events

October 10	OMNI Day of Education 2006 George Farr, Marcy Brandt, Guy Vig, David Money, Joe Pluta, Sue Baker, Mark Anderson Details/Registration here	IBM 2 Lincoln Center Oakbrook Terrace, IL
October 13	WMCPA System i Fall Coonference Susan Gantner, Jon Paris, Linda Cole, Claus Weiss Details/Registration here	Gateway Technical College 3520 30th Avenue Kenosha, WI
October 17 10:00 am	How to Create a More Productive WDSC Environment Don Yantzi, George Voutsinas, David Muir, Steve Gapp Details/Registration here!	IBM Innovation Center Chicago, IL
October 17 5:00 pm	OMNI October Dinner Meeting PHP on System i Mike Pavlak Details/Registration here!	Embassy Suites Hotel 707 E. Butterfield Rd Lombard, IL
October 24 6:00 pm	OMNI Monthly Board Meeting Board Members only	IBM 2 Lincoln Center Oakbrook Terrace, IL
October 30 - November 3	IBM System i Fall Technical conference Details/Registration Here!	Rio Hotel & Casino Las Vegas, NV
November 6 - 8	iSeries DevCon 2006 Conference Details/Registration Here!	Rio Hotel & Casino Las Vegas, NV
November 21 5:00 pm	OMNI November Dinner Meeting XML on System i David Andruchuk Details/Registration soon!	Embassy Suites Hotel 707 E. Butterfield Rd Lombard, IL
December 5	A Day with Joe Pluta Migrating from SEU/PDM to WDSC and beyond Details/Registration soon!	IBM 2 Lincoln Center Oakbrook Terrace, IL

OMNI 2006 Board

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IBM Liaison	Joe Thompson	jwthomp@us.ibm.com

http://www.tlashford.com/

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IBM Redbooks/Redpapers

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

Journaling: How to View and More Easily Audit Minimized Journal Entries on the IBM System i Platform
Revised: September, 27, 2006
http://www.redbooks.ibm.com/abstracts/tips0626.html

Journal Caching: Understanding the Risk of Data Loss
September, 27, 2006
http://www.redbooks.ibm.com/abstracts/tips0627.html

Index Advisor Surfaces Maintained Temporary Indexes Activity on DB2 for i5/OS
Revised: September, 26, 2006
http://www.redbooks.ibm.com/abstracts/tips0624.html

IBM System i5, eServer i5, and iSeries Systems Builder IBM i5/OS Version 5 Release 4—January 2006
Published: September 22, 2006   ISBN: 073849576X   462 pages
http://www.redbooks.ibm.com/abstracts/sg242155.html

Preparing for and Tuning the SQL Query Engine on DB2 for i5/OS
Published: September 27, 2006   ISBN: 0738494992   206 pages
http://www.redbooks.ibm.com/abstracts/sg246598.html

IBM System i Application Modernization: Building a New Interface to Legacy Applications
September 22, 2006   ISBN: 0738494844   308 pages
http://www.redbooks.ibm.com/abstracts/sg246671.html

The Ins and Outs of XML and DB2 for i5/OS
Revised: September, 10, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247258.html

HMC High Availability for i5 and p5 Servers
Published: August, 31, 2006
http://www.redbooks.ibm.com/redpapers/abstracts/redp4075.html

IBM System i Security Guide for IBM i5/OS Version 5 Release 4
August, 31, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg246668.html

LPAR Simplification Tools Handbook
Published: August 24, 2006   ISBN: 0738494763
http://www.redbooks.ibm.com/abstracts/sg247231.html

WebSphere Application Server V6 Migration Guide
Published: August 17, 2006   ISBN: 0738495956   376 pages
http://www.redbooks.ibm.com/redpieces/abstracts/sg246369.html

Implementing Integrated Windows Server through iSCSI to i5 Servers
Published: August, 16, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247230.html

Preparing for and Tuning the SQL Query Engine on DB2 for i5/OS
Revised: August, 10, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg246598.html

i5/OS V5R4 Virtual Tape: A Guide to Planning and Implementation
Published: August 4, 2006   ISBN: 0738497207   498 pages
http://www.redbooks.ibm.com/abstracts/sg247164.html

Special Edition: WebSphere 6.1 Drafts

This page is devoted to WebSphere 6.1 documentation.

WebSphere Application Server V6.1: Planning and Design
Revised: August, 30, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247305.html

WebSphere Application Server V6.1 Security Handbook
Revised: September, 24, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg246316.html

WebSphere Application Server V6.1: Technical Overview
Revised: September, 18, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/redp4191.html

WebSphere Application Server V6.1: System Management and Configuration
Revised: September, 18, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247304.html

WebSphere Application Server V6.1: Planning and Design
Revised: September, 18, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247305.html

Experience J2EE! Using WebSphere Application Server V6.1
Published: September, 14, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247297.html

WebSphere Application Server V6.1: System Management and Configuration
September, 14, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247304.html

Web Services Handbook for WebSphere Application Server 6.1
Revised: August, 11, 2006
http://www.redbooks.ibm.com/redpieces/abstracts/sg247257.html

Common Corner

Reprinted from the August 2006 issue of COMMON.CONNECT

A longer version of this article was originally published as the cover story in the April 2006 issue of IBM Systems Magazine, i5 Business Systems edition.

The System i Resilient Future
By Steve Finnes and Mike Snyder

The demand for a complete, easy-to-use business resiliency solution that can provide 24/7 application availability is steadily increasing. IBM's customers have spoken and the System i development team has been "heads down" creating the resiliency technologies that can truly make a difference. The objective is clear; we need a simple and effective means to provide a highly available application environment where switching between systems in a cluster, on demand, is a fundamental operational tenet.

Several essential elements must exist as part of a complete and modern high-availability (HA) solution deployment: data resilience, application resilience, operational resilience and a single point of total solution management. The IBM* Redpaper "i5/OS* High Availability Clusters: Data Resilience Solutions" outlines four types of multisystem data resiliency in support of an HA solution.

It's important to remember that a solution package integrates all of the aforementioned elements into one solution. A technology base is a building block, but a single technology by itself rarely constitutes a complete solution. This is one reason to consider working with an HA ISV when deploying a solution for your business requirements.

Shifting Focus
The gradual shift from the emphasis on data recoverability to continuous application availability is natural. The traditional approach for deploying HA has been to replicate data from one system to another with the primary objective being the data's recoverability. This approach had limited focus on the recoverability of application end users. It was a given that the recovery process could be difficult and the recovery-time objectives could take several hours to perhaps days. Often, the second system was located off-site, with the client performing a switch to the backup system only to test the validity of documented processes.

Over time, this traditional solution evolved toward the goal of eliminating or minimizing planned outage events that require the production environment to be offline. In these operational paradigms, the client switches end users to a backup server after carefully quiescing the primary system. After ensuring that the data on the primary and backup servers is identical, production applications are started on the second server.

Many of IBM's more sophisticated customers have been performing these types of operations successfully for years. In fact, the best practice for managing a highly available solution environment today is one in which the IT organization regularly switches work between systems for sustained time periods. This means that periodically the primary server becomes the backup server, and the configuration remains as such until the next scheduled switchover operation. Customers who have implemented this process of regular and sustained role swapping not only benefit by nearly eliminating planned downtime, but are also able to recover relatively quickly from an unplanned outage.

Today, several of IBM's customers across various industries are looking for solution capabilities that go beyond typical HA practices. They need recovery-time capabilities of minutes not hours, and a recovery point of exactly where the application ended processing. They want coverage for planned and unplanned outages with minimal disruption to the application end users. They want an HA solution that doesn't require extensive specialized care, specialized staffing, or complex procedures. They ultimately want continuously available applications.

The Move Is on

To begin the journey toward seamless resiliency, clustering and switchable resources were introduced into i5/OS starting with V4R4. Since that release, more technology has been added to i5/OS to further the goal.

IBM has taken additional incremental yet significant steps with V5R4. For example, the system administrative domain enables you to keep the operational environment in sync across the servers hosting your highly available application. The operational environment includes objects and system parameter values that can't be stored in a switchable iASP. In order to switch, the cluster's receiving node must be identical to the sending node. Prior to V5R4, this wasn't the case and customers needed a method to update the operational environment on each node to help ensure switching capability. This could be partially accomplished by different methods including logical replication.

In V5R4, IBM focused on some of the more popular objects that can't be stored in an iASP – user profiles, system values, job descriptions, class, independent disk pools device description, network attributes, system environment variables, and TCP/IP attributes. These objects are now made resilient across the nodes of the cluster via i5/OS methods.

The system administrative domain is built upon another new V5R4 cluster technology known as peer cluster resource groups (CRGs). The peer CRG assumes that all recovery domain nodes can concurrently act as a primary point of access for the resource. Therefore, they share equally in a recovery action. In this configuration, there's no notion of a single primary node. This allows a change to a supported resource (e.g., a system value) on any of the nodes in the administrative domain to be synchronized across all of the other nodes.

V5R4 also addresses another i5/OS resiliency limitation - cross-site mirroring (XSM), which is a form of replication that the operating system conducts. Data that's paged to the iASP is synchronously replicated to a mirrored iASP on another system. Those systems might be in the same datacenter or off-site, depending on performance requirements.

Prior to V5R4, any loss of connection between the primary and backup systems necessitated a resynchronization of all of the data in the iASP. This process could take many hours. The fact is, during the loss of the communication link, only a fraction of the data in the iASP changes; only the changed data must be resynchronized. V5R4 introduces source-side tracking, which means only the changed data on the source system must be replicated in the event of the loss of communication links or the outage of the target side that doesn't involve data changes. Ultimately, the plan is to enable the solution to provide resynchronization of the changed objects on the source and target iASP copies.
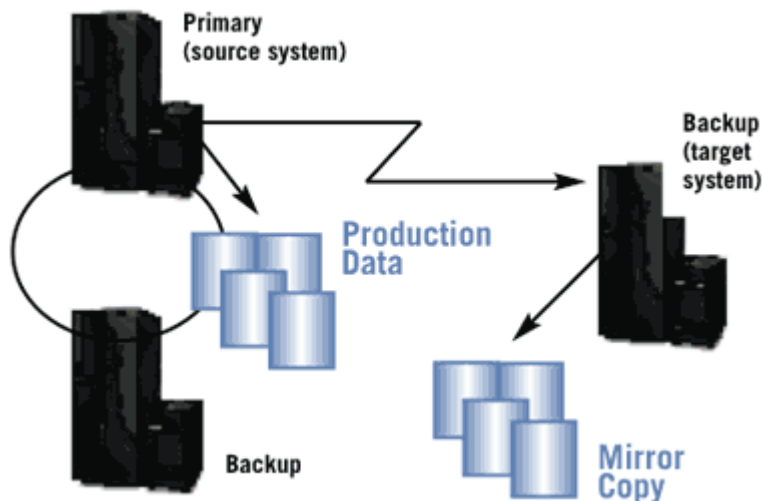
Which Is the Best Way?

Your own requirements dictate which data-resiliency approach you should deploy. IBM invested in switchable iASPs because of their simplicity. Once data and applications are contained within a switchable iASP, the movement of these resources from one system to another is relatively straightforward. It's not as flexible as the logical-replication approach, but it's simpler. Logical replication is based on journaling; however, only four object types are journaled by the System i platform - database, IFS, data areas, and data queues. All other objects must be handled individually and asynchronously in relation to the application and data changes. This means that only journaled objects have the possibility of being replicated in real-time to the secondary resource within the cluster.

An interesting solution that some of IBM's more advanced System i customers are implementing combines logical replication and switchable iASPs into one topology. They're deploying a switchable iASP solution for the datacenter and logical replication of the iASP data for the remote location. An IBM HA ISV provides the cluster-management software and services to tie it all together. We've seen some impressive results – conducting a planned switchover operation with several terabytes of data in several minutes.

Architecting a Resilient Future

Whichever data-resiliency approach you choose, consider working with an HA ISV who can offer a complete solution for deploying and managing your HA environment. The System i5 HA portfolio contains several options, which means care must be used when developing requirements. Traditional logical replication based on solutions offered by the HA ISVs are the most widely deployed topologies. Basic switched disk (switchable iASPs), switched disk with logical replication, XSM and iASPs incorporated into an IBM System Storage* DS8000 copy services environment are gradually gaining wider acceptance. However, these solutions should be considered suitable only for early adopters at this point. The Redpaper "i5/OS High Availability Clusters: Data Resilience Solutions," contains more information on positioning these data-resiliency approaches.

Figure 1

Essential Elements

The figure describes the essential elements for a high-availability (HA) solution. They include:

User interface - A complete, robust, scalable user interface for the HA solution. This includes the tools for a single point of control for configuration and management of the HA environment.

Application resilience - Capabilities to enable transparent relocation of critical business applications. This category includes facilities for application state management, defining associations between all application elements and mechanisms for deploying an application in an HA environment.

Data resilience - Capabilities to enable the transparent relocation of data associated with the critical businesses applications. Includes support for robust, scalable data replication; including support for multiple data copies, geographic dispersion and save window reduction.

Environment resilience - Capabilities to ensure that the application hosting and execution environment is identical between the primary application server and all backups. This can also be used to administer multiple systems with similar application environments.

Automation and customization policies - Capabilities to enable complete HA automation. This includes management of failover/switchover based on end-user designated conditions and relationships.

Documentation and education - Comprehensive and intuitive documentation about the HA solution. This category also includes related tools (e.g., planning tools), and education and services related to all aspects of the HA solution.

Steve Finnes has spent several years in IBM. He's been involved in the System i HA core leadership team for 10 years and is currently the System i Business Continuity product manager. Steve can be reached at finnes@us.ibm.com.

Mike Snyder is a Distinguished Engineer in the System i development at IBM in Rochester, Minn. He's responsible for the architecture and design of System i clustering and continuous availability technologies. Mike can be reached at msnyd@us.ibm.com