



# The Omni User

2021 Midwest Road Suite 200  
Oak Brook IL 60523  
630.953.6312  
<http://omniuser.org/>

## Welcome to 2007!

While it's a little bit of a sad time for me personally, I'm still looking forward to the new year with lots of excitement. We've got some great things planned for 2007, starting out with no less than the leading luminary of the RPG world, Mr. Bob Cozzi himself. Come see Bob at [this month's dinner meeting](#) and be regaled with tales of the new features of RPG!

Please remember, too, that the January dinner meeting is where we select the board members for the coming year. If you're interested in serving on the board, or you just want to heckle, then please come on down.

And then, of course, we have the 19th Annual Omni User Technical Conference. I always have trouble getting the title right, but regardless of the name, the idea is still the same: more great speakers than you can shake a stick at, all for the best price in the industry. Look no further than our technical conference for your education needs! And not only will we be holding the main conference itself on February 27th, this year we'll have special afternoon intensive jump-start labs on the 26th! We'll be sending out some more information on this conference in the very near future.

And if by chance you can't make it, or you just can't get enough technical information, then by all means check out the upcoming [WMCPA Spring Technical Conference](#) scheduled for the following week (March 7-8). As always, great speakers and sessions at the lovely Grand Geneva Resort in Lake Geneva!

**And as always... your help is always greatly appreciated! If you want to lend a hand at this year's events, especially the Tech Conference, just let us know!**

## Table of Contents

Welcome to 2007!	<a href="#">1</a>
President's Letter	<a href="#">2</a>
19th Annual Omni User Technical Conference	<a href="#">3</a>
WMCPA Spring Conference	<a href="#">4</a>
RJS Software <a href="http://www.rjssoftware.com/">http://www.rjssoftware.com/</a>	<a href="#">4</a>
January Meeting Information	<a href="#">5</a>
RCM Data <a href="http://www.rcmdata.com/">http://www.rcmdata.com/</a>	<a href="#">6</a>
December Meeting Information	<a href="#">7</a>
January LUG of the Month	<a href="#">7</a>
Day with Joe Pluta Recap	<a href="#">8</a>
T.L. Ashford <a href="http://www.tlashford.com/">http://www.tlashford.com/</a>	<a href="#">9</a>
OMNI Midrange Event List	<a href="#">10</a>
The OMNI Board of Directors	<a href="#">10</a>
IBM Redbooks and Redpapers	<a href="#">11</a>
IBM Drafts—Special WebSphere 6.1 Edition	<a href="#">12</a>
COMMON Corner:	
Innovations in Integration, Leadership	<a href="#">13</a>

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

# **President's Letter**

- *Mike Pavlak, OMNI Board President*

## **Winds of Change: The 2006 Omni Year in Review**

By the time you read this note 2007 will be well rung in. But I am safely tucked away in 2006, rediscovering a year that saw incredible changes. We saw a new version of the operating system and a new name in i5/OS. Many new features and software components that have grown up like WebSphere and Tape Images. Even the birth of a new programming language on System i called PHP! We saw some good friends move on to greener pastures, and still more new friends join the ranks. Some companies grew, while others were assimilated. Yes, 2006 was quite a year.

2006 started off with a bang as we put together our first full conference in almost two years. Everyone who attended saw great new features of the new operating system and hardware as we returned to the original home of the Omni Conference, the Drury Lane Oakbrook. The attendees, speakers and volunteers all had a great time learning, meeting and networking in an environment that was exclusively System i! After the Board members caught their breath, Bill Parks and Cathy Kramer hosted our spectacular golf outing at the beautiful Tamarack Golf Club, and more golfers and System i folks were on hand than ever before. Then the Fall Day of Education where we saw RPG, Java and WebSphere presentations that prepared us for what lies ahead. Last, but by no means least, Omni's own Joe Pluta held our first day long educational event to rave reviews and nearly a sell out crowd! Don't forget our monthly dinner meeting speakers that really pushed us up over the top with educational topics like XML, WDSC and iSeries Access for Web.

More than anything else, Omni tries to deliver value to our members. This value is provided in the form of education and networking opportunities that simply do not exist outside of our System i community. 2006 saw a lot of great value. And 2007 will see even more. Our annual conference, scheduled for February 27 is expanding the number of sessions and the number of days! So now, more than ever, Omni needs you to come out to the meetings, sign up to help for the conference, or maybe even take a board position. Stay tuned for more details.

It has been a genuine privilege writing these letters over the last year, and having been associated with an awesome team in the 2006 Omni Board of Directors. At the OMNI meeting in January, we will be hosting one of the most knowledgeable RPG speakers in the community, Bob Cozzi. At that meeting, we will be electing a new Board of Directors. Soon after, they will elect a new president who will be greeting you with passages that will entice and endear you to the Omni user group. I beg that you watch this space and give the new president and new Board of Directors your attention. It won't be misplaced. I would like to take this time to thank the 2006 Omni Board of Directors for their unfailing generosity in time and effort that made this year one of the most memorable for me and exciting for Omni. Just as we saw great things from IBM and the System i, we will see even greater things from the new Omni Board. I have a feeling that 2007 will be absolutely spectacular.

Regards,

Mike



# 19th Annual Omni User Technical Conference

**What can i do?**

**February 26-27, 2007**

Last year's conference was wildly successful. Not willing to rest on our laurels, Omni brings you even more educational tracks and, new this year, **hands-on labs** covering today's hottest System i topics. And also this year, Omni is proud to bring you for the first time **immersive jumpstart training** on two of the most powerful technologies in the System i community.

***Luncheon with Keynote Address from Randall Munson!  
Cocktail Reception with Keynote Address from Bob Cozzi!***

**Experts from IBM and throughout the System i community.**

Randall Munson, George Farr, Carol Miner, Susan Gantner, Bob Cozzi, Jon Paris, Shantan Kethireddy, Richard Schoen, Marcy Brandt, John Earl, Leonardo Llamas, David Money, Sue Grabinski, Larry Bolhuis, David Andruchuk, Joe Pluta, Mike Pavlak, Jerome Hughes

***Monday, February 26 - 2 Intensive Jumpstart Labs!**  
(Joe Pluta on WDSC & RSE, Richard Schoen on .net for System i)*

***Tuesday, February 27th - 35 Fantastic Education Sessions  
and 5 Hands-On Labs!**  
(WDSC, Stored Procedures, System i Access for Web, XML, PHP)*

*Session topics you need and can use at work the very next day!*

RPG IV, WebSphere, WDSC, System i Access for Web, DB2, RSE, SQL, Query Optimization, Stored Procedures, IFS, PHP, .net, Prototypes, /free RPG, System i Navigator, Security, SOA, APIs, Web Services, Portal, WAS, JSP Model II, Java, Servlets, CL, XML, Work Management

**Discover the Magic of System i!**

**Drury Lane Conference Center  
Oakbrook, IL**

<http://www.drurylaneoakbrook.com>

**22<sup>nd</sup> Annual**

# WMCPA Spring Technical Conference

at

## Grand Geneva Resort

Presented by

Wisconsin Midrange Computer Professional Association

**March 7 & 8, 2007**

Grand Geneva Resort  
Lake Geneva, Wisconsin

**Keynote Session - Thursday Dr. Frank Soltis**

Conference speakers include:

Alison Butterill, George Farr, Susan Gantner, Scott Klement, Carole Miner,  
Jon Paris, Joe Pluta, Debbie Saugen, Bruce Vining, George Weaver,  
Claus Weiss, Blair Wyman  
*and our own Tom Davidson*

*Visit [www.wmcpa.org](http://www.wmcpa.org) for more information.*

## Connecting data so it works for you.

Data Integration Made Easy



### **RPG2SQL Integrator**

Break down the walls between your System i and PC by sharing, transferring and converting data across platforms. RPG2SQL allows you to read, write and update records in SQL Server and other PC databases using RPG and COBOL.

### **iSeries Office Integrator**

Spend less time jumping between platforms and more time getting things done. Create Microsoft Word letters and mail merges from spool files, print PDFs and control PC programs from your System i, and even launch web browsers from green screens.

### **iSeries Data Access Provider**

Quickly build desktop and web programs that can directly access System i data using record level access, SQL, or remote program calls and commands. Accessing System i data from PC and Web applications has never been easier.



1-888-RJS-SOFT  
[rjsoftware.com](http://rjsoftware.com)

<http://www.rjsoftware.com>

## January Dinner Meeting

Tuesday, January 16th, 2007

**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

### **RPG IV: What's New in V5R1 to V5R4**

This session illustrates the evolution of the modern RPG IV language.

New and lesser known features introduced in each release are highlighted along with examples of how they are used. For example, did you know that in V5R4 you can use the new EVAL-CORR (evaluate corresponding) operation to copy the subfields of one data structure to another based on subfield names? Did you also know that in V5R2 IBM introduced the concept of Nested Data Structures? A subfield within a data structure can be a nested data structure. These important features along with dozens of other enhancements will be presented.

### **Bob Cozzi**

Bob needs no introduction, but just in case you've been living on Mars for the last couple of decades: An RPG programmer since 1978, Bob Cozzi is the author of several books on the AS/400, including *The Modern RPG Language with Structured Programming*--the most widely-used RPG book in the world and his soon to be released "RPG TNT: 101 Dynamite Tips 'n Techniques for RPG IV" which is due in March 2007. Today Bob runs "Cozzi Productions, Inc." which produces the popular RPG World Conferences, and [iSeriesTV.com](http://iSeriesTV.com), a resource for iSeries industry podcasts.



## Dinner Menu Options

<b>Dinner (choice):</b>	<b>Starter:</b>
Lemon Herb	Caesar Salad
Chicken	<b>Dessert:</b>
Fish of the Day	2-Layer Chocolate
Steamed Vegetable	Cake
Plate	

## January Dinner Meeting Registration

Please make your reservations by Thursday, January 11<sup>th</sup>, 2007 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 January 12th, 2007. After 9:00 am Friday, 01/12/2007, 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.

# Trade In

your old printer\* for a new Printronix, and you can take hundred of dollars off. Call RCM Data in Burr Ridge -- your local Printronix dealer -- for trade-in details, and for total sales, service and supplies.



Line Matrix

Printronix is **phasing out** certain models: P300, P600, P6000, P3040, and MVP. Trade in yours now, because RCM Data will **install a new** Printronix that saves you money each year. Call us today.



Call RCM Data first for Printronix supplies.

RCM Data is your local source for everything with printers -- service, sales and supplies. Call us for a **free quote**.

**Serving Chicagoland for over 25 years.**

\* Contact RCM Data for printer eligibility.



**PRINTRONIX**  
GLOBAL PRINTING...ENABLED.

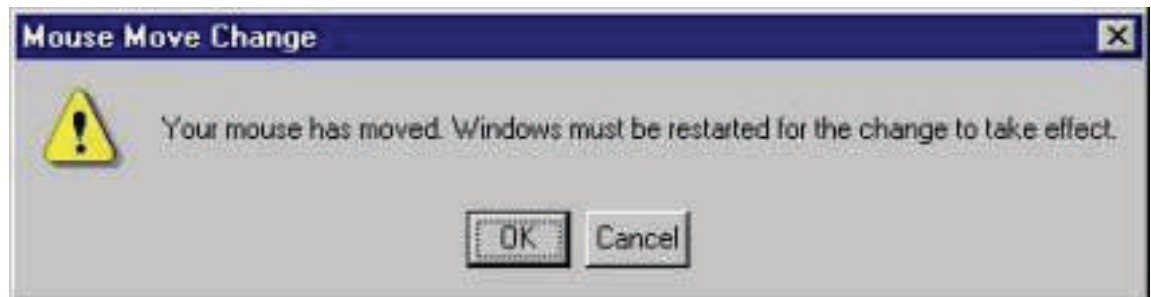
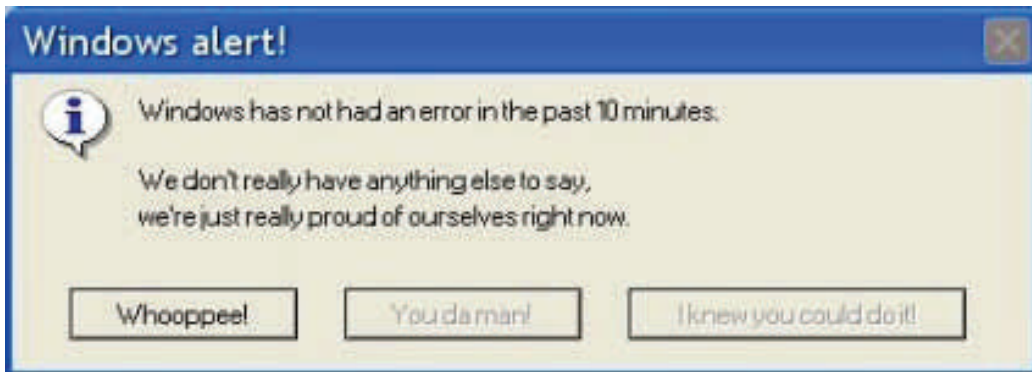
**800-332-2242**  
**www.rcmdata.com**

## February Meeting

**NOTE: The January meeting also includes the 2007 Board elections!**

We don't really have a topic lined up yet for February. If you have a burning desire, please drop us a line. You can contact me at [omni-comm@plutabrothers.com](mailto:omni-comm@plutabrothers.com), or any of the other board members.

And remember, if you don't come up with a topic, then we will! Don't say we didn't warn you!



## January LUG of the Month

Welcome to 2007. I thought I'd ring in the year with one of our Northern neighbors, the QUSER group that meets in lovely Bloomington, Minnesota. They just had Dr. Frank speak, and this month they'll be presenting BRMS.



<http://www.quser.org>

# The Day with Joe Pluta was Another Smashing Success!

And boy am I tired...

Seriously, we had a great time. The day-long seminar on WDSC (entitled Migrating from PDM and SEU to WDSC... and Beyond!) kept people in their seats and riveted for the whole day (okay, there were a couple of folks sleeping, but we won't mention Dave Shaw by name).

The audience participation was spectacular, as we had people from all ends of the iSeries spectrum in the house, asking questions and trying to fit WDSC into their daily work lives. And there were no holds barred; we had people ranging from obvious converts to folks who really weren't happy with the tool, but by the end of the day, I think we all had a much better appreciation for WDSC and its place in the modern work environment. I have to admit, I learned a lot about what makes people happy and **not** so happy with the tool! IBM ought to have these sorts of sessions, just to get feedback!

At least partly due to the success of this session and your input, we're definitely going to have labs at the Omni Technical Conference; you'll be hearing a lot more about that in the coming weeks. In fact, not only are we having labs, but we're even having a jumpstart day before the labs so that you can get immersed in new technologies. I hope you get a chance to attend, and to give us ideas on more topics that we can bring to you!

Look around your business today and let us know if there are any hot topics that you would like to see. As we continue to work with new ways of bringing you information, we can now consider bringing you a dinner meeting, an all-day seminar, or even hands-on training, depending on your interest level. And of course we're always looking for new ideas for the technical conference. And it's not because there's a lack of new tools and technologies, as I'm sure you know. Instead, we hesitate a little bit because we don't know what it is that **you** want — after all, we're spending your money, so we ought to be bringing you what you need!

So, do you want us to focus just on RPG? Do you want more Java coverage? Maybe some serious SQL coverage? Do you want newer languages like PHP and Ruby? Is XML in your future? How about all of the great IBM tools like iSeries Navigator and iSeries Web Access? Are you interested in any of the Lotus offerings?

And that doesn't even begin to get into things like new hardware, licensing options, or operating system enhancements like LPARs and virtual tape.

There is so much out there, and we need you to tell us what you want to hear about!



# The RFID Labeling Solution



EMSA



## Barcode 400+ RFID

### RFID Application Examples

- EPC carton labels
- EPC pallet labels
- Asset tracking
- Medical labels
- Pharmaceutical dosage labels
- Supply chain management
- Logistics

### RFID Printers Supported

- Most popular RFID printers are supported. Visit [www.tlashford.com](http://www.tlashford.com) for an up to date list.

### Supported RFID Tags

- Class 1 tags
- Class 0 tags
- Class 1 Gen 2

IBM Server *Proven*

## Labeling Software

Now you can easily comply with the new "Smart Label" requirements using **Barcode400+RFID**. Label design is a snap using the compliance templates made available by T.L. Ashford. Print and encode "Smart Labels" with data directly from your iSeries system. Barcode400 was developed specifically for the System i5, iSeries and the AS400.

T.L. Ashford has a proven track record of meeting the ever changing standards for the System i5 environment.

Barcode400 is supported by a technical support team committed to customer satisfaction.



T.L. ASHFORD

Since 1983

800.541.4893

[www.tlashford.com](http://www.tlashford.com)

©2006 T.L. Ashford. All trademarks reserved to their respective companies.

## Upcoming Midrange Events

January 16 5:00 pm	OMNI January Dinner Meeting RPGIV: What's New in V5.1 to V5.4 Bob Cozzi <a href="#">Details/Registration here</a>	Embassy Suites Hotel 707 E. Butterfield Rd Lombard, IL
February 26-27 8:00 am	OMNI 19th Annual OMNI User Technical Conference Technical Hands on Labs Industry leading experts Vendor presentations <a href="#">Details/Registration soon</a>	The Drury Lane Oakbrook 100 Drury Lane Oakbrook Terrace, IL
March 7-8 8:00 am	WMPCA 22nd Annual Spring Technical Conference Great Speakers Great Topics Great Value <a href="#">Details/Registration here</a>	Grand Geneva Resort Lake Geneva, WI

## OMNI 2006 Board

President	Mike Pavlak	<a href="mailto:mike@pavlak.com">mike@pavlak.com</a>
Vice President	Paul Nelson	<a href="mailto:pnelson@arbsol.com">pnelson@arbsol.com</a>
Secretary	Jim Miller	<a href="mailto:jmill0307@sbcglobal.net">jmill0307@sbcglobal.net</a>
Treasurer	Bill Parks	<a href="mailto:wparks@worldnet.att.net">wparks@worldnet.att.net</a>
Seminar Vice-President	Jerome Hughes	<a href="mailto:jromeh@comcast.net">jromeh@comcast.net</a>
Membership & DB Director	Sal Stangarone	<a href="mailto:sals@mrc-productivity.com">sals@mrc-productivity.com</a>
Communications Director	Joe Pluta	<a href="mailto:joepluta@plutabrothers.com">joepluta@plutabrothers.com</a>
Advertising Director	Matt Gross	<a href="mailto:prgg1@sbcglobal.net">prgg1@sbcglobal.net</a>
Conference Director	Jim Vance	<a href="mailto:JVance@Hendrickson-intl.com">JVance@Hendrickson-intl.com</a>
Webmaster	Dave Andruchuk	<a href="mailto:dandruchuk@sungardfutures.com">dandruchuk@sungardfutures.com</a>
Past President	Dale O'Leary	<a href="mailto:doleary@zysolutions.com">doleary@zysolutions.com</a>
IBM Liaison	Joe Thompson	<a href="mailto:jwthomp@us.ibm.com">jwthomp@us.ibm.com</a>



Thanks again to all who served on the board in 2006, and anybody who is looking to help the community and get involved, please attend our January meeting and let us know!

# IBM Redbooks/Redpapers

A monthly compendium of recent IBM Redbooks and Redpapers of interest to [System i](#) developers.

Because this January edition covers two months, we've got two pages of links for you, reaching back a little way for some oldies but goodies.

## **Deploying Workplace Services Express on i5/OS**

Revised: January, 2, 2007

<http://www.redbooks.ibm.com/redpieces/abstracts/sg246664.html>

## **Developing SIP and IP Multimedia Subsystem (IMS) Applications**

Revised: December, 29, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247255.html>

## **IBM Technology for Java VM in i5/OS**

Revised: December, 26, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247353.html>

## **IBM System i5 V5R4 Technical Overview Redbook**

Revised: December, 22, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247271.html>

## **Getting Started with WebSphere Service Registry and Repository**

Published: December, 22, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247386.html>

## **Implementing Domino 7 for i5/OS**

Revised: December, 18, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247311.html>

## **A Simple Example: Using the Flat File Connector**

Revised: December, 17, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/redp4235.html>

## **Linux on IBM System i: Implementation Guide**

Revised: December, 12, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg246388.html>

## **Linux Integration with IBM i5/OS**

Published: December 1, 2006 ISBN: 0738496677 178 pages

<http://www.redbooks.ibm.com/abstracts/sg246551.html>

## **High Available Architectures and Capacity Planning with WebSphere Remote Server V6**

Published: November, 29, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247184.html>

## **Journal Standby Mode on IBM i5/OS: When It Makes Sense to Use**

Published: November, 29, 2006

<http://www.redbooks.ibm.com/abstracts/tips0628.html>

## **Journaling at object creation on DB2 for iSeries**

Revised: November, 28, 2006

<http://www.redbooks.ibm.com/abstracts/tips0604.html>

## **Hardware Management Console (HMC) Case Configuration Study for LPAR Management**

Revised: November, 21, 2006

<http://www.redbooks.ibm.com/redpapers/abstracts/redp3999.html>

## **WebSphere MQ V6, WebSphere Message Broker V6, and SSL**

Published: November, 21, 2006

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4140.html>

## **A Systems Management Guide to Performance Management for i5 and p5 systems**

Revised: November, 17, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247122.html>

## **WebSphere MQ Version 6 and Web Services**

Revised: November 6, 2006 ISBN: 0738495786 470 pages

<http://www.redbooks.ibm.com/abstracts/sg247115.html>

## **Implementing Integrated Windows Server through iSCSI to System i5**

Published: October 31, 2006 ISBN: 0738494941 474 pages

<http://www.redbooks.ibm.com/abstracts/sg247230.html>

## **Stored Procedures, Triggers, and User-Defined Functions on DB2 Universal Database for iSeries**

Published: October 24, 2006 ISBN: 0738496561 588 pages

<http://www.redbooks.ibm.com/abstracts/sg246503.html>

## **The Ins and Outs of XML and DB2 for i5/OS**

Published: October 24, 2006 ISBN: 0738496901 228 pages

<http://www.redbooks.ibm.com/abstracts/sg247258.html>

## **WebSphere Application Server V6 Migration Guide**

Published: August 17, 2006 ISBN: 0738495956 376 pages

<http://www.redbooks.ibm.com/redpieces/abstracts/sg246369.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

## **IBM WebSphere Application Server V6.1 Security Handbook**

Published: December 28, 2006 ISBN: 0738496707 574 pages

<http://www.redbooks.ibm.com/abstracts/sg246316.html>

## **WebSphere Application Server V6.1: System Management and Configuration**

Published: November 2, 2006 ISBN: 0738496529 984 pages

<http://www.redbooks.ibm.com/abstracts/sg247304.html>

## **Experience J2EE! Using WebSphere Application Server V6.1**

Revised: October, 27, 2006

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247297.html>

## **WebSphere Application Server V6.1: Planning and Design**

Published: October 24, 2006 ISBN: 073849450X 324 pages

<http://www.redbooks.ibm.com/redpieces/abstracts/sg247305.html>

## **WebSphere Application Server V6.1: Technical Overview**

Published: October 9, 2006

<http://www.redbooks.ibm.com/redpapers/abstracts/redp4191.html>

## **Web Services Handbook for WebSphere Application Server 6.1**

Published: October 2, 2006 ISBN: 0738494909 810 pages

<http://www.redbooks.ibm.com/abstracts/sg247257.html>

# Common Corner

Reprinted from the December 2006 issue of COMMON.CONNECT

## FrankenSeries Lives!

### The Amazing History of Frankie I, II and III

- By Larry Bolhuis

Frankie started life as a mere mortal model 170 with 210 CPW, 512MB of memory, and four 8G drives that weren't even RAID-protected. He had no sidecar. Life for Frankie began at V5R1.

Soon after his arrival in what would become the FrankenLab, we realized that he had nowhere near the capacity needed to do all the things we wanted him for. This started with a V5R2 upgrade, which just added to the urgent need for disk and memory. So the tools came out and the parts went on.

We had no money for anything, so we begged and borrowed and got enough memory to fill Frankie to the IBM-prescribed 1MB limit. We still had no sidecar, and thus no room for additional drives. What we did have were drive cages (cans) from an old 620 lying around. It was a simple matter to determine the power pin-outs for those, so we hooked up a PC power supply to one of them and, sure enough, it powered up. We ran a cable into Frankie (who at that time still didn't have a name), then realized we had no place to connect it. The base DASD card handled only four drives and was also the reason for no RAID. So we dug up a FC #2741 RAID card and stuck it into the DASD slot. This was the first of many unsupported modifications, because only the FC #2740 RAID card was supported at that time.

We now had not one but *two* extra DASD ports to play with. Life was good! The cage was connected and filled with 4GB drives we had lying around. At IPL time, they not only spun up—they were recognized! We created a RAID set and away we went.

Soon, however, we realized that the drives in those cans were going to need more than the desk fan I had pointed at them to keep them cool. Some fans from the 620 were zip-tied to the front of the cages (there were now two) and connected to the PC power supply as well. We had 14 drives and had exceeded the IBM maximum by four. We were off to the races!

## The Christening

Having created this thing, Jim Oberholtzer, Kevin Mort, and I decided that he needed a name. It didn't take long for us to decide he looked like a Frankenstein monster, so he got the name Frankie. As the machines rolling off the line in Rochester at the time carried the name iSeries, we immediately came up with FrankenSeries and registered the domain frankenseries.com. Also, in deference to the father of the AS/400, the name Frankie just seemed like fun. As lead creator, I became known as Dr. Franken.



## **Frankie Takes a Road Trip**

COMMON was about to visit Indianapolis, so a plan was hatched to pack the newly named Frankie and his loose bits and pieces into the Big Red Dodge and take him to the conference.

Frankie stayed in our hotel room that first night and moved to the IBM Certification Lab for most of the conference. When we cranked him up there, we discovered that Gary Moehnke of certification lore was none too pleased with the turbine-like roar of the fans strapped to the front of those 620 disk cans. Jim and I re-wired them to 12V from the 24V speed, which calmed them down dramatically.

At one point during the conference, Jim and I presented an iASP session. We rolled Frankie into the room, IPLed him and actually created an iASP live. While it was building, Jim covered a couple more slides and then said, "That iASP should be done soon." And at that very instant, the "Task Complete" window popped up on the screen. He couldn't have done that with a stopwatch! At another point during the conference, word got to IBM's Malcolm Haines and Dr. Frank Soltis that this creation existed, and they stopped in the Certification Lab to meet him. Dr Frank was heard saying, "You guys are dangerous!"

## **Memory Booster**

Upon his return to the lab, we decided that more just had to be better. If we could blow past the drive limit, how about memory? Frankie's processor provided many DIMM slots, so we started fillin' 'em up. Soon 2GB of RAM were in there and he was still happy. Sort of. Turns out that in this case the machine couldn't (or wouldn't) support all that memory at full processor speed, so it drops the CPU to half speed.

The extra memory was nice and we used it that way for quite some time, but the speed penalty was obvious and the A900 1730 code on the front panel along with the amber light bugged us enough so that eventually we took the memory back to the 1GB limit to get the processor speed back.

## **Meet the Munsters**

While Frankie resided in the lab in Michigan, his cousin arrived in Wisconsin and began his life there. It didn't take long to decide that he would carry the name Herman, from TV's *The Munsters*. All of the remaining machines currently in the FrankenLab bear the names of Munster family members: Lily, Grandpa, Count, Wolfie, Eddie, and others.

The next enhancement for all FrankenSeries was to improve the fan attachment. Directly connecting them to the can meant no maintenance and poor airflow to the drives in slots one and five. I attached the fans to the front cage doors with 3" lengths of 1" PVC pipe and some more zip ties. I then fabricated "fan shrouds" from manila folders and attached them to the fans and the cage doors. They worked marvelously, and some serve even today on Lily, Frankie's adopted mom.

While the memory was hanging in the 2GB range, we also obtained an official sidecar that provided us another six drive slots. More importantly, it also provided us highly coveted card slots! The book says 10 drives on one two-port RAID card. However, it also speaks of other high-speed slots on the expansion side, so we played around trying to get more RAID cards in there. Countless IPLs and dozens of blown-up IOPs later, we determined that we could get a total of three RAID cards in there. No combination allowed more than that, and even then we had no high-speed tape! However, this meant we could support a total of nine drive cages, including the two inside the cabinet.

### **Back in the FrankenLab...**

We needed a cabinet to mount all those drives in, and it needed power and air movement as well. So a donor 620 was gutted and cut in half vertically. The front half of the left side was grafted onto the rear of the right side. Some metal pieces were trimmed, which allowed five cans to be mounted up front and two more in the back. A second big fan was mounted inside for more airflow and all the cables were routed to connectors at the back of the cabinet. The dual power supplies in the bottom needed some minor tweaking, but in the end it was discovered that temporarily applying five volts to one of the signal pins lit the units up. The five volts are supplied by three AA batteries and a pushbutton switch.

The front and top covers came from a model 600 and fit perfectly. Only the lower front cover could not be located, as we couldn't find a skinny S10. So the original lower front cover from the 620 was cut in half, welded together and repainted. The FrankenTower was ready!

Attached to Frankie, we now had 45 8GB drives spinning and we added another 8MM tape drive on top of the FrankenTower. Whenever we enter DST or SST on Frankie, we get the message "There are resources with unresolved locations. Press F13 to see list." Yeah, no kidding!

### **Frankie II Is Born**

Some months later, a customer wanted to sell their old 170. Given that it had more than double the processor of Frankie, as well as support for lots more RAM *and* a coveted 30GB QIC tape drive, we wanted it! A deal was struck, and Frankie became Frankie II. Now, legally sporting 3GB of memory and lots more CPW we had reached the pinnacle of the 170 world. To this day though, Frankie runs happily, supporting the FrankenSeries.com Web site, lots of testing, and home to enough PTF CD images to choke a lesser computer.

### **Anatomy of Frankie**

In case you're wondering, here are all the mods we did to get Frankie where he is.

Filled as many high-speed slots as possible with RAID cards, all three port-capable so that we could get to nine cans and 45 drives.

Added additional internal tape drives and CD drives off of each RAID card. This gave us various support for QIC, 8MM, and multiple CD drives.  
Crammed 2GB of memory in there and paid the CPW price for it!  
Swapped out the Twinax console for operations console. This gives us the ability to take the console from far, far away via terminal services.  
Installed an IXS, or it's an INS, well, not really... it's actually an Integrated PC Server card. It doesn't do any production stuff, but it happily lets us play with most IXS support stuff.  
Built the FrankenTower from an old 620 using 99 44/100ths original IBM components, though not as the engineers intended.

We have also constructed:

FrankenTower Mini, which has only two drive cages, dual fans, and a power supply. This is used for testing stuff and has been around for a couple years. It's only about half IBM parts, so we don't show it off much.  
FrankenTower II which has room for 17 drive cans. This thing is dual stacked 720s (without the casters of course). We're guessing it weighs close to a ton, fully loaded. When we decided that we had no way to drive 17 cages worth of drives, we turned it into a storage tower. Very effective! It lives in the FrankenLab.

### **The Next Project**

Our next project, Frankie III, has made great strides and has been (mostly) operational since just before the Fall 2006 COMMON Conference. Since all FrankenSeries to date are model 170s, they've reached a point where they must be left behind. They can't do LPAR or V5R4 or lots of other things. On our limited budget, however, while we'd love to stoke up a 520 with lots of stuff, that's not an option. So we have obtained a used 270, a 5075, and 7004 expansion units for both the 270 and to 5075. What's that you say? The 5075 doesn't support a 7104 expansion?

Frankie III has three i5/OS partitions (V5R4, V5R3 and V5R2) as well as a Linux partition with another to be added soon. He is spinning 46 drives already, starting life already beyond the maximum that the original Frankie sports. While I haven't counted recently, I'm pretty certain we have more cards in slots they aren't supposed to be in than we have where they are supposed to be! We also have the internal tape and DVD drives set up as switchable, which helps us a lot with the partitioning. We also have triple stacked tape drives, which seem OK with being hooked up that way.

For all of you enjoying these FrankenTales, remember that these machines are experiments, not production machines. IBMers we speak to about these machines have a sense of humor about helping us with problems. However, if there is any question at all that our 'unique' configurations are at fault, we're on our own. That would be a bad place to be when your payroll is at stake.

Photos of the Frankies are available in Frankie's gallery at [www.frankenseries.com](http://www.frankenseries.com)