

INSIDE! SMARTPHONES COME OF AGE: HOW THEY CAN BENEFIT SMALL BUSINESSES

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THE BUSINESS COMPUTER MAGAZINE

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Cover Story

SELLING ON C-SPAM:
THE NEW U.S. CAN-SPAM
ACT AND WHAT IT
MEANS TO YOU

8 2004 ushers onto our desktops a new federal law regulating email. Don't let your company's marketing efforts get caught in the crossfire; be clear on what e-mailers can and cannot do under the CAN-SPAM Act.

BY MELVIN SORIANO

18 OPENINSIGHT AS A GUI FRONT END TO U2
Graphical user interfaces have revolutionized how users interact with software, while green-screen applications are often perceived as being out-of-date and slow. OpenInsight proves to be a solution that avoids a steep learning curve for developers yet enables them to implement a GUI front-end without losing all the work done in the green-screen application. BY MIKE RUANE

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Here's a quick and concise introduction to SB+ and what it can do for serious programmers and non-programmers alike. BY DANNY PASSIG

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For those working with legacy MultiValue computing environments, a MultiValue computer consultant shares shortcuts that make it easier to work with UNIX commands. BY MARK JOHNSON

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10 PREVIEW — SPECTRUM 2004, LAS VEGAS
More than 20 years after the first Spectrum exhibition and conference convened in Lake Tahoe, Spectrum 2004 gears up to showcase an ever-advancing array of MultiValue databases and tools, and educational presentations that will provide you with the knowledge to stay competitive.

38 TEN STEPS TO REINVENTING THE IT PROFESSIONAL
In today's business climate, the rules have definitely changed for the IT professional. IT professionals need to recognize a new set of skills and motivations in order to be successful in a more conservative business environment.

22 HISTORY OF MULTIVALUE, CHAPTER 14: PICK DEALERS —
REVOLUTIONIZING THE WAY COMPUTER SYSTEMS WERE SOLD
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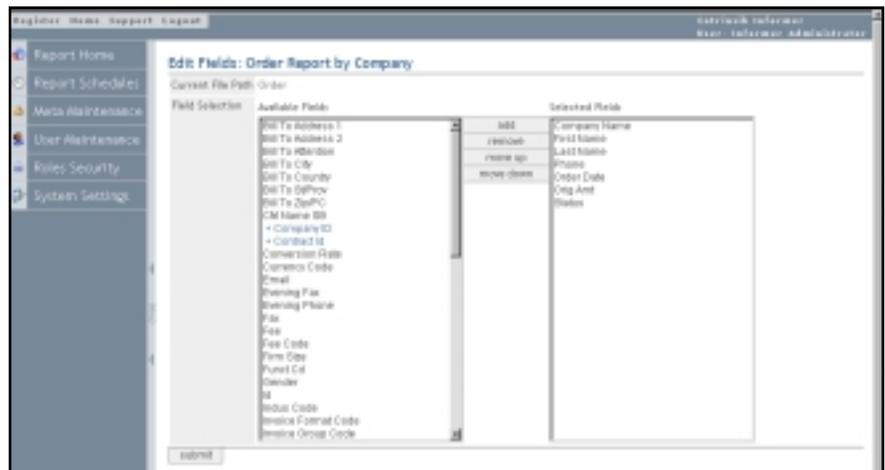
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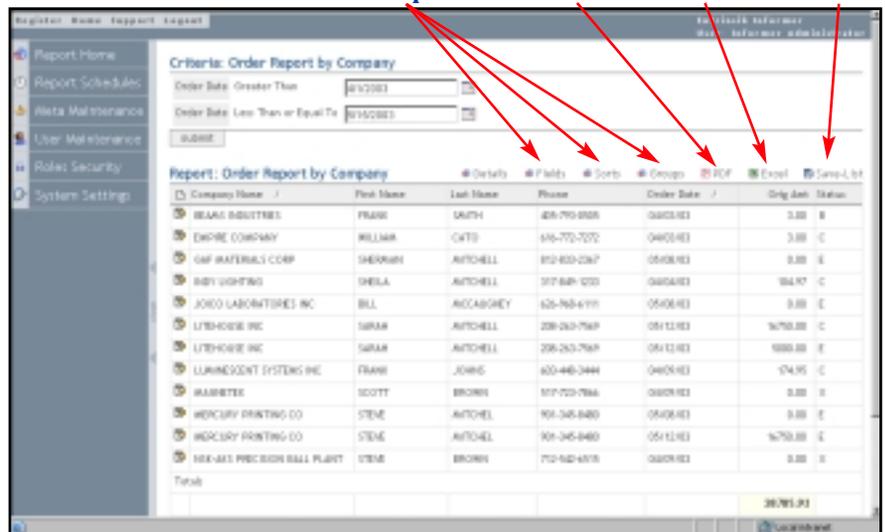
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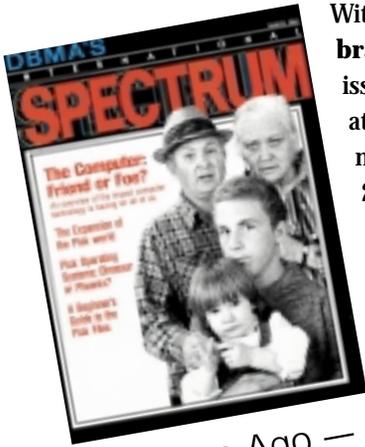


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[FROM THE INSIDE]

Spectrum Magazine Celebrates 20th Anniversary



20 Years Ago —
The cover of the March 1984 issue

With the next issue, *Spectrum* magazine will celebrate 20 years of continuous publication. The first issue was published in March of 1984 and debuted at the 1984 Spectrum Show in Reno, and amidst much fanfare, the **20th anniversary March/April 2004 issue** will be released at the annual Spectrum Show in March.

For this and many other reasons, I hope you'll decide to attend the annual Spectrum Show and join the celebration. This year the show returns to exciting Las Vegas at the Stardust Resort & Casino on **Monday through Thursday, March 15-18, 2004**. In celebration of *International Spectrum* magazine's 20th anniversary, we've even rolled back the conference price and set up a special discount for "early-bird" registrations.

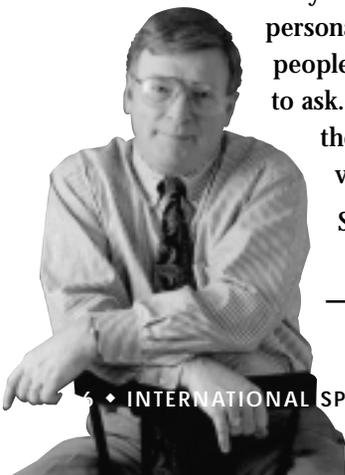
As your independent MultiValue resource, our mission at Spectrum is to bring you everything we can to keep you and your enterprise in front of the competition. And now that even the skeptics are predicting a rebounding economy in 2004, we've made a special effort this year to bring together the tools you need to make sure you are in position to ride the wave of the rebounding economy!

In addition to a full exhibition featuring every major vendor in the MultiValue market, we've got a great conference program in store for you. Whether you're an end-user, a vendor or an independent consultant, we promise you'll see a broad array of new software tools, major software releases, and technical presentations that will put you and your MultiValue enterprise in position to take advantage of the good times ahead. The conference also includes traditional corporate and technical updates and you'll hear lots about contemporary issues including dealing with spam, monitoring Web usage, MultiValue and .NET, MV Web application development tools, MV and Web Services, and MV and the open source movement.

So why not take a break and come to Las Vegas to update your personal knowledge base. It's a rare opportunity to meet the people you need to know and ask the questions you need to ask. To see the conference sessions, the show schedule, the list of exhibitors or to register to attend, visit www.intl-spectrum.com.

See you there!

— GUS GIOBBI, CHAIRMAN, IDBMA, INC. —
gus@intl-spectrum.com



INTERNATIONAL SPECTRUM

JANUARY/FEBRUARY 2004

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MISSION STATEMENT International Spectrum magazine's editorial mission is to be the premier independent source of useful information for users, developers, and resellers of MultiValue database management systems, open systems business database solutions, and related hardware, software, and peripherals. Published bimonthly, *International Spectrum* provides comprehensive coverage of the products, companies, and trends that shape the MultiValue marketplace as well as the computer industry at large — helping its readers get the most out of their business computer systems.



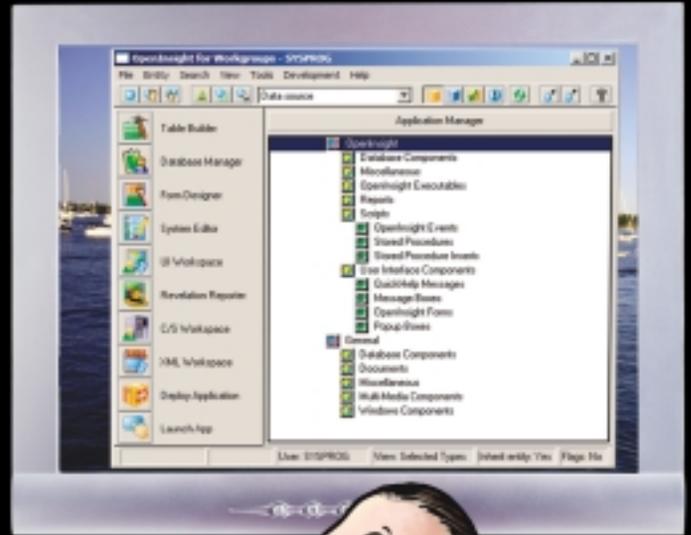
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NEWS RELEASES/UNSOLICITED ARTICLES
International Spectrum is eager to print your submissions of up-to-the-minute news and feature stories complementary to the MultiValue marketplace. Black and white or color photographs are welcome. Although there is no guarantee a submitted article will be published, every article will be considered. *International Spectrum* retains all reprint rights.

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While you were away, we also developed powerful XML, Palm and Wireless tools that get your MV data out to the world easily and quickly. We also developed JOI, our Java-based product for MV data. Did we mention that we support Unicode and that EFIGS (English, French, Italian, German, Spanish) versions of all core screens were in the latest version of OpenInsight (OI)? Did you know OI also provides native connections to U2 databases? You can have "Green Screens" going against the U2 database while using OI's GUI tool set to look at the same data at the same time!!

Our software runs on any PC out there that can run Windows – no special hardware required. And we still bundle the tools and database together.

For more information on Revelation's flagship product, OpenInsight, or to put a new face on your legacy multi-valued database, visit www.revelation.com/intl-spectrum/ishome.



Revelation Offices – Global

**Revelation Software, Inc.
Corporate Headquarters**
99 Kinderkamack Road, 1st Floor
Westwood, NJ 07675
Toll Free: (800) 262-4747
Phone: (201) 594-1422
Fax: (201) 722-9815
Email: info@revelation.com
Web: www.revelation.com

**Revelation Software Ltd.
Northumberland House**
11 The Pavement
Popes Lane, Ealing
London, W5 4NG, UK
Phone: +44(0)208 832 7380
Fax: +44(0)208 832 7381
Email: info@revsoft.co.uk
Web: www.revsoft.co.uk

Revelation Software Australia Pty Ltd.
Unit 2
21 Old Pittwater Rd.
Brookvale, NSW 2100
Australia
Phone: +61-2-9939-6399
Fax: +61-2-9939-6366
Email: info@revelationsoftware.com.au
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Selling on C-SPA

The New U.S. CAN-SPAM Act

Many of us email information to our prospective customers or business

contacts with scant attention to whether or not

we are filling up their email inboxes. After all,

the vast majority of us aren't offering to expand

physical proportions, raise nighttime performance

and endurance, or reduce debt and mortgages.

We're working for legitimate businesses.

You would be breaking the state law if you sent out one unsolicited email to a neighbor and asked for a bundt cake for the local block party. Fortunately, that one incident would have cost you only \$1,000, as a mass mailing would have set you back \$1,000 for each recipient. The ceiling would be a mere \$1 million. And you might not have to get a single complaint. It's obvious from the many lawsuits regarding bulk faxes that there are many lawyers willing to file class action lawsuits on behalf of the quiet victims.

The various state laws made it difficult for any business to comfortably send out email, as many laws applied not just to businesses located in the given state, but also to email

recipients who might reside or work in that state.

Thankfully, the federal government's new law overrides the different state laws. It might be stricter than some and easier than others, especially California, but at least those sending out emails can better understand what they can and cannot do. I might not be a mass marketer, but I certainly can appreciate that disparate communication laws are a lot more difficult for a business than a uniform statutory code.

The new law, called the CAN-SPAM Act of 2003, creates regulations on all commercial e-mail. The regulations apply to both requested and unsolicited emails. As of January 1, all commercial e-mailers must:

- ◆ Stop harvesting email addresses from Web sites
- ◆ State truthful email headers, including the "from" line

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and What It Means to You

But what may seem reasonable may in fact violate new email regulations, so let's look at what 2004 ushers onto our desktops.

About 37 U.S. states have laws or guidelines regarding inappropriate uses of bulk email, or as we usually call it, spam. The U.S. federal government has now stepped in and instituted a new law that may be more effective than the patchwork legal system now in place.

The inconsistent rules from state to state began to pose legal problems for many businesses that use email to communicate with the public. For example, California had just passed a new anti-spam law that was due to go into effect on January 1, 2004. That law was probably the most restrictive in the nation. It contained regulations that would

have made it difficult or at least inefficient for businesses to communicate with its legitimate sales leads or business partners.

Email that may seem reasonable may in fact violate new email regulations.

The biggest problem for any anti-spam law arises from the definition of spam itself. For you and for me, we know spam when we see it. But how do you define spam in a way that meets the needs of everyone? As the federal law was being crafted, the U.S. Senate version said that as few as 100 emails per day would be considered bulk email. I'd bet that many mom-and-pop shops might exceed that

number in just a few hours, much less a day, especially if they're sending out newsletters.

Well, the California law didn't have any lower limit described whatsoever.

The International Spectrum 2004 Conference

*Bringing You What
You Need to Know to
Catch the Wave of the*

Rising Economy!

Over 20 years ago, the first Spectrum exhibition convened in Lake Tahoe as a venue for the PICK industry to introduce new technologies and gain knowledge. No one could have foreseen or predicted even half of the many changes that have occurred over the years within the industry, now commonly identified as "MultiValue" to signal the unique underlying technology of an ever-advancing array of products.

It's been an amazing journey, and Spectrum 2004 is right around the corner, promising to deliver the latest information and spotlight the industry's best-of-breed products. Economic experts are predicting a rebounding economy in 2004, and Spectrum 2004 will be the one place where you can find the tools and presentations you need to make sure you and your MultiValue enterprise are in a position to capitalize on the rising economy.

THE CONFERENCE

Hot Topics You Need to Know About

The Spectrum 2004 Conference is the ticket to gaining the knowledge you need to stay informed and abreast of the most current technologies. Conference presentations will be held from March 15 through March 18. This year, conference sessions include corporate updates, in which key executives from IBM, jBASE International, Northgate Information Solutions, ONgroup, Raining Data, and Revelation Software will talk about the latest releases of their MultiValue databases. In addition, a wide-ranging conference schedule offers product overviews covering cutting-edge tools; tutorials on technologies such as .NET, XML and Java; and strategizing in the MultiValue segment of the IT industry.

Continues on page 12

Here's a
sampling of the
topics that will
be addressed:

- ✓ Spam control and Web monitoring
- ✓ Rapid Web application development products
- ✓ Web security and secure sites
- ✓ Seamlessly integrating MultiValue and Microsoft Office and .NET
- ✓ MultiValue and the open systems movement
- ✓ Tips and techniques for SB+, Java, object-oriented programming, PDA's and application programming optimization
- ✓ Migrating your application to GUI
- ✓ Dress up your print output and deliver it in new and exciting ways
- ✓ Business continuity and disaster recovery
- ✓ Implementing an effective Help Desk Strategy
- ✓ On-line Analytical Processing (OLAP) for MultiValue systems
- ✓ Java tools you can use with your MultiValue applications
- ✓ E-Commerce solutions
- ✓ Database interoperability
- ✓ System administration
- ✓ Building real-time Web and wireless PDA solutions for U2 applications
- ✓ Mirrored servers, mirrored hosting, and mirrored backup
- ✓ Business intelligence and data mining
- ✓ Reporting tools
- ✓ MultiValue to relational

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The 2004 Exhibitors

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The exhibition floor affords a rare opportunity to see and talk to the vendors of products that can give your company a competitive edge. The Spectrum exhibition will be open for two days: Tuesday, March 16 and Wednesday, March 17 from 12:30 p.m. to 5:00 p.m. A wide array of products and services will be on display, running the gamut from Web-enabling to imaging, to the latest releases of database management systems, to reporting tools, to eCommerce and GUIs. You'll be able to see demonstrations of the newest software utilities; discuss technologies with software inventors and technical experts; and ask questions of key executives.

This year's exhibiting companies include:

Image Software	Northgate Information Solutions
3D Tek	jBASE International
SJ+ Systems Associates	Key Ally, Inc.
AccuSoft Enterprises	Natec Systems
AdvancedWare	OHM Systems
Apron	ONgroup
Ashwood Computer Company	Raining Data
DesignBAIS	Rasmussen Software
DMcons	Revelation Software
Eagle Rock Information Systems	Sandri Technologies
EasyCO	SRP Computer Solutions
Entrinsik	Synergetic Data Systems
FusionWare	Total Computing Solutions
GA Services	U2 Logic
GP Solutions	VIA Systems
IBM Corp.	Zumasys



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INTERNATIONAL SPECTRUM CONFERENCE AND EXHIBITION AT-A-GLANCE

MONDAY

MARCH 15, 2004

Technical Sessions

9:00 a.m. - 5:00 p.m.

Exhibition Sneak Preview and Welcome Party

5:00 p.m. - 7:00 p.m.

TUESDAY

MARCH 16, 2004

Technical Sessions

9:30 a.m. - 12:30 p.m.

Exhibition Open

12:30 p.m. - 5:00 p.m.

Wine & Cheese Tasting

3:00 p.m. - 4:30 p.m.

WEDNESDAY

MARCH 17, 2004

Technical Sessions

9:30 a.m. - 12:30 p.m.

Exhibition Open

12:30 p.m. - 5:00 p.m.

THURSDAY

MARCH 18, 2004

Technical Sessions

9:30 a.m. - 12:00 p.m.

Call 1-619-515-9930 or Register On-line
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For the latest
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Spectrum 2004 Special Events — *Building Relationships*

The Spectrum special events calendar kicks off with an exhibition sneak preview and welcome party on March 15 from 5 p.m. to 7 p.m. On Tuesday, March 16, join everyone for wine and cheese tasting on the exhibition floor from 3 p.m. to 4:30 p.m. Monday through Wednesday, the conference starts off right with breakfast and a featured speaker. New this year is the **Spectrum Deli Café**, in the center of the exhibition floor, which features a garden café atmosphere. Attendees will be able to enjoy gourmet deli sandwiches and beverages and continue important business conversations at the same time.



International Spectrum's Annual
MultiValue Conference & Exhibition

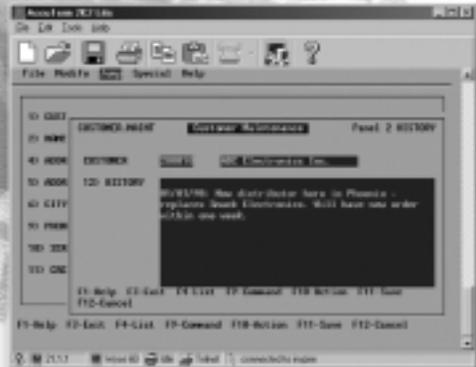
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new products

AccuSoft Announces Updated AccuTerm 2K2

AccuSoft Enterprises has announced an updated release of AccuTerm 2K2 (Standard, Lite and Internet Edition), the high-performance 32-bit communications software program for Windows XP, 2000, 95, ME and NT. AccuTerm 2K2 release 5.1c includes support for Secure Shell version 1 and 2 plus a new Macro Recorder for automating common tasks such as logging on (the macro recorder is not available in the Lite or Internet versions). Current AccuTerm 2K2 users can download a free upgrade from the Web site (www.asent.com). Users of older versions of AccuTerm are eligible to upgrade to AccuTerm 2K2 for a discounted price. A free 30-day demo is available for download on the Web site.

Via Systems Releases New Version of ViaDuct

Via Systems has released the latest version of ViaDuct, ViaDuct "fx." Designed to integrate seamlessly with modern enterprise systems, ViaDuct fx extends the functionality of the popular terminal emulation software. "Many of our customers want to take advantage of new security and network advances," states Robert Cata-

lano, president of Via Systems. "This release of ViaDuct gives them Secure Shell [both level 1 and level 2], Microsoft TAPI [Telephony API] support, and integration with U2 database enterprise licensing."

In addition, the installation process has been redesigned to accommodate Microsoft XP, allowing for both regular and "limited user" installations. "In corporate environments, especially, the ability to install and run as a limited user provides for a more manageable system," Catalano says.

Long-time users of the product will be relieved to know that the familiar user interface, and the plethora of Windows integration tools, remain part of the package. But now, multiple windows

to the same connection can be opened at any time, allowing users more flexibility when accessing their MultiValue database. And, with the new U2 enterprise licensing functionality, these multiple connections may only use a single database license!

According to Catalano, "The fx release gives our users and VARs more tools, more functionality, and more performance, for the best price in the industry. We invite both our existing ViaDuct users, and all terminal emulation users, to download and try the evaluation copy from our Web site, www.via.com."

For more information, including special upgrade and site-license pricing, call 1-800-TEAM-VIA.

WebWizard Available for jBASE

Via Systems Inc. (www.via.com) has announced the availability of its WebWizard Web development environment for jBASE. WebWizard is a MultiValue-centric tool for developing HTML, WML, or XML output — without requiring developers to learn these new technologies. Also included are several "Wizard" interfaces for generating output without any programming at all.

"We've had numerous requests from end users and VARs to provide this functionality with jBASE," said Robert Catalano, president of Via Systems. "We're quite pleased with the performance and flexibility of both WebWizard and jBASE, so putting them together made sense. We think this will make users of both products even more productive."

"We are always delighted when new products are released on jBASE," stated Dave Bryant, president and CEO of jBASE International Inc., "but even more so when the product has established such an excellent reputation. The combination of jBASE and WebWizard will benefit a great many of our customers and partners."

Sierra Bravo Corporation Announces Release of Web-Based Customer Service Suite for MultiValue Systems

Sierra Bravo Corporation, Web application solutions provider, has released its Web-based application solution developed for businesses using MultiValue systems as the first complete cross-platform and cross-application integrated Web-based solution for MultiValue users.

ABOUT SIERRA BRAVO CORPORATION

Sierra Bravo Corporation is a Web solution developer dedicated to serving businesses using MultiValue systems as well as developing stand-alone Web solutions using a variety of technologies and environments such as Oracle, SQL Server, PHP, Java and Perl.

The new application package is available for D3, UniVerse, UniData, mv.Base, mv.Enterprise and jBASE systems running any order processing application. "This product is a result of our commitment to producing low-cost Web-based solutions for the MultiValue marketplace," commented Luke Bucklin, president of Sierra Bravo Corporation.

The Customer Service Suite application encapsulates the primary functions that businesses need to present to their customers, including inventory information, order and invoice history as well as a complete online order entry solution. This product is a turnkey solution for businesses that need to provide a solution to their customers, allowing them to complete the most common business transactions over the Web.

"Our experience in developing these applications over and over again for our customers has led us to provide a polished and professional solution that can be plugged into virtually any application package. Our confidence in our abilities is what allows us to guarantee a successful integration," Bucklin said. "Until now, integrating this type of Web access solution has been difficult since design considerations and pulling all the right resources together have been placed on the shoulders of the business executives."

Continues on page 16

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Continued from page 15

ONgroup, an active member of Oracle Partner-Network, announced that ONware will support Oracle Application Server 10g, the next generation of Oracle's award-winning technology. Together, ONware and Oracle Application Server 10g will enable organizations running mission-critical applications on one of the common MultiValue platforms to take advantage of grid computing features to achieve high availability and high utilization.

According to Tim Spells, ONgroup president, "We are excited about the opportunity to support Oracle Application Server's grid computing functionalities for the MultiValue market, which will add significant value to MultiValue applications currently running on UniVerse, UniData or Pick-style databases. The \$3 billion MultiValue market will welcome the opportunity to run their mission-critical applications virtually unchanged with Oracle Application Server 10g. The conversion to Oracle Application

ONgroup Announces Support for Oracle Application Server 10g

ONgroup Provides the U2, MultiValue and PICK Community with ONware and the Highly Available, On-demand Infrastructure Provided by Oracle Application Server 10g

Server 10g is straightforward as BASIC programs, dictionaries, paragraphs, PROCS, sentences, editor, commands and other common MultiValue features are seamlessly integrated into the Oracle Application Server's 10g environment. The result being that these functional, but typically isolated MultiValue applications are now enabled with the latest main-stream tech-

nologies such as XML, J2EE, etc., on a single platform."

"Oracle Application Server 10g is the best platform for Web deployment of mission-critical MultiValue applications," said Thomas Kurian, senior vice president, Oracle Application Server Development at Oracle. "Together Oracle and ONgroup bring technology innovations such as grid computing and J2EE support for legacy applications."

Oracle solves the IT challenge of integrating fragmented middleware products to run an e-business by providing one product that can replace more than 12 separate point products from other vendors. Oracle Application Server 10g features full J2EE and XML support, built-in enterprise portal software, high speed caching, business intelligence, rapid application development, application and business integration, Web services and more, all in one package. With Oracle's lightweight J2EE engine and extended caching capabilities, companies can save on infrastructure costs by scaling with software instead of hardware.

Much like a utility company manages demands for energy on a power grid, grid computing unites pools of resources into one large resource, servicing spikes of demand by sharing the workload across multiple servers. Rather than allowing resources to sit idle, the power is harnessed and directed to demands in the system requiring the most processing power, such as the cyclical demand a financial application needs to process month-end closing.

[newsmakers]

Meier Business Systems Appointed Asia-Pacific Distributor of mvQuery

Meier Business Systems Pty. Ltd. (MBS), an independent supplier of MultiValue products within the Asia Pacific marketplace, has entered a distribution agreement with MMT MultiValue Solutions to resell mvQuery, a MultiValue reporting solution.

MBS offers outstanding skills in operating system, database, hardware, systems and infra-

structure support. These skills complement MBS's activities in the application software development arena. MBS also has a large and historical commitment to MasterPack and Warehouse Manager, and in March 2003, became the proud owner of these applications.

Recently demonstrated at the International Spectrum conference in Sydney, Australia, mvQuery is a complete reporting solution for MultiValue applications. MvQuery offers integrated reporting and query software that understands the MultiValue model and integrates with desktop and server-based applications. MvQuery is the

key to unlocking your data, the company said.

"We are thrilled to have formed this association with MMT and we are excited with the opportunities that are arising in such a short time. MvQuery is a good fit with our business model and it complements MBS's focus on U2 and MultiValue database products," said Martin Meier, managing director.

"MMT is extremely pleased to welcome such an experienced Strategic Partner as MBS to the mvQuery fold," said Andrew Muddiman, head of MMT MultiValue Solutions. "MBS's strength in depth and reach was a significant factor

for us to support the important Australian and Asia-Pacific markets. The addition of MBS shows the growing worldwide adoption of the mvQuery reporting solution."

About MMT MultiValue Solutions

MMT (info@mvquery.com or www.mvquery.com) has been a leading supplier of horizontal tools, utilities and services to the MultiValue marketplace since 1990. MvQuery was designed as a single reporting model for the MultiValue market, providing the single reporting investment to an organization.

Continues on page 41

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OpenInsight

as a

GUI

Front End

U **to** **2**

Green-screen applications are dead.

There are still many out there being used, and some even continue to be sold. But let's face it — if you go into a potential client and have a great green-screen application, and a competitor has a less competent but GUI application, chances are that the competitor will win the project.

Whether it's true or not, most users and decision-makers (read the guys with the purse strings) believe that green-screen applications are old fashioned, tougher to use, and slow.

BY MIKE RUANE, REVELATION SOFTWARE

Graphical user interfaces (GUIs) have revolutionized how users interact with software. Instead of memorizing commands and keystrokes, they can now simply point and click their way through their systems.

The result has made computing much easier for average users but created a steep learning curve for developers. It has also introduced a new set of problems for developers: Which GUI front end to use, how to migrate to that GUI front end without losing all the work done in the green-screen application, and how to do it in such a way that it can be done in baby steps rather than jumping off a cliff.

OpenInsight provides a solution to the above three questions for users of IBM's U2 databases. The following describes the setup and use of this powerful tool.



FIGURE 2: Choosing the U2 Connection Setup from the Database Manager

Theory of the U2 Connector: the U2 BFS

OpenInsight has its own MultiValue database. OpenInsight runs on both Windows and Linux and relies upon the operating systems to handle the physical reading from and writing to disk. OpenInsight's engine, OpenEngine, relies upon a Base Filing System (BFS) to interface between the physical storage of the data and the calling Basic+ (our version of the BASIC programming language) program.

A BFS turns the Basic+ file requests into the logic required to access the physical data. The BFS makes the Basic+ program independent of filing systems by providing this translation layer.

There are as many BFSs as there are ways to store data. Each BFS can use a vastly different means of physically storing the data, so long as it accepts from and provides to a Basic+ program a conventional record, namely, a dynamic array.

OpenInsight also has a Modifying Filing System (MFS) that is a Basic+ routine that fits between Basic+ programs and the BFS. An MFS allows a developer to decide which of the operations made against a file (Read, Write, Select, etc.) they wish to observe or modify in a Basic+ program.

OpenInsight's U2 Connector uses a BFS named U2.BFS. This BFS relies on IBM's UniObjects, an ActiveX interface to UniVerse and UniData. Figure 1 shows a generic flowchart of OpenInsight and its BFSs.

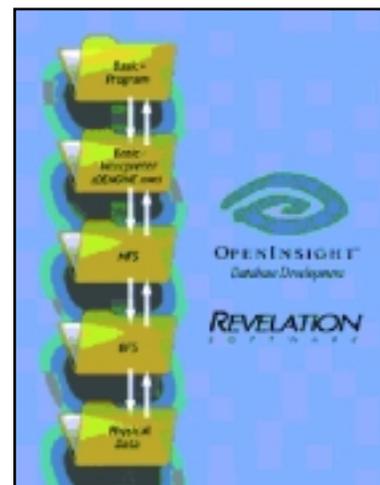


FIGURE 1: OpenInsight's Interface to Operating System Files

Connecting to the U2 Databases

The first step in using OpenInsight's U2 Connector is to establish a connection to the U2 data source. This can be found in OpenInsight by opening the Database Manager and choosing Utilities-Other MV Tables-U2 Connection Setup. (Figure 2)

This will call up the U2 Bond Volume Information Screen, as seen below.



FIGURE 3: The U2 Bond Volume Information Screen

Continues on page 20

OpenInsight as a GUI to U2 Front End

Continued from page 19

Once this screen has been filled out with the correct information for your copy of OpenInsight and your particular U2 information, you can click on the Test Connect button and see if the connection is configured correctly. If it is, the Connection Status, OI TimeDate and Server TimeDate fields will populate. Clicking on the Available Files button will populate the listbox with all the tables that are accessible by OpenInsight.

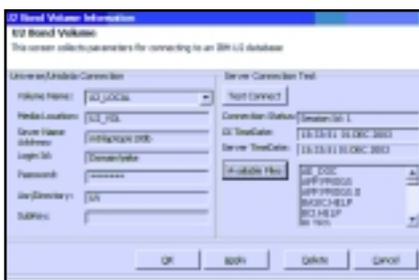


FIGURE 4: The U2 Bond Volume Information Screen Filled In and Tested

Clicking on the OK button will save the volume connection information.

After attaching (setting a logical pointer) to the U2 files, we can now use them using the various tools.

OpenInsight's Table builder will let you look at, modify, create or delete field definitions. By opening the MENU_FILE file that comes with the U2 PE available on IBM's Web site, we see the following:

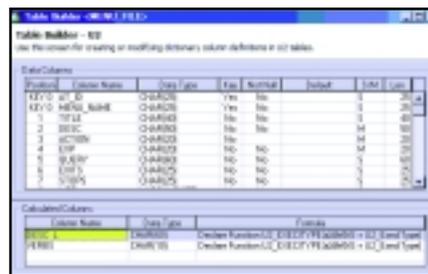


FIGURE 5: A U2 file in OpenInsight's Table Builder

In this view of the Table Builder we see both the fixed data columns, as well as the calculated columns. You may notice in the formula for the DESC_L field that we call a function called U2_ExecType. This is how OpenInsight is able to evaluate the original U2 I-Types.

Once we've seen that we can change the column definitions as necessary (or not at all), we can now use OpenInsight's GUI tools to make screens, pop-ups, reports, or whatever.

U2 Tables and OpenInsight's Form Designer

Creating data entry screens for the U2 tables is done easily enough using the Form Designer. After opening the Form Designer tool, choose File-New Form. When the dialog appears, choose OpenInsight Tables from the Data-source dropdown. Scroll down through the list of OpenInsight tables (noticing that as far as the Form Designer is concerned, the U2 files are native OpenInsight files), and double-click on the table for which you want to make a form. In our example, I clicked on the MENU_FILE, as seen below.

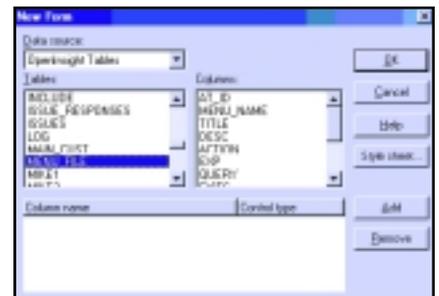


FIGURE 6: A new data entry form being built on a U2 file

Double-clicking the AT_ID, Title, and Description fields and clicking on the OK button creates the screen in figure 7. The Description field is a multivalued field, as seen in the Table Builder earlier in this article, and multivalued fields use an EditTable control, OpenInsight's multivalued control.

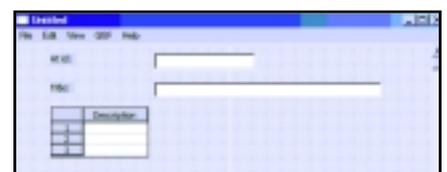


FIGURE 7: The form created against the U2 file

A little bit of resizing and adding some more controls gives us a more finished product that looks like this when the value MAKE.MENUS is entered into the At id field.



FIGURE 8: The cleaned up version of the same screen.

The functionality is duplicated with the rest of OpenInsight's tools. It is just as easy to create popups, reports, messages, and the like.

Working with U2 Files Programmatically

Working with U2 files from programs within OpenInsight is as easy as doing so from U2 itself. OpenInsight's version of BASIC, known as Basic+, supports nearly all the commands and functions that U2 developers already are familiar with, such as Open, Read, Write, Select, Unlock, etc. The following program is a good example of such code.



FIGURE 9: A Sample Basic+ Program working with U2 files

When records are locked in OpenInsight, U2 understands that the records are locked and reports back accordingly. As you can see in the following screen shot, a record in a U2 file was opened in OpenInsight and then the editor in U2; the following message was seen:

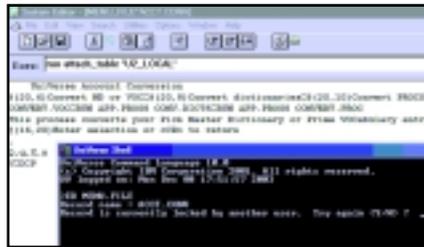


FIGURE 10: Lock coordination between OpenInsight and U2

The reverse is also true. In Figure 11 the record was opened in U2 first, and then attempted to be opened in OpenInsight.

As you can see from the status line in the OpenInsight editor, the record is already locked.



FIGURE 11: Another example of lock coordination between U2 and OpenInsight

Calling U2 Programs from Ol

The final bit of functionality covered in this article is the calling of U2 programs and procedures from OpenInsight. In OpenInsight there is a function called U2_ExecProc. It takes three parameters: the internal name of the U2 Volume ID as OpenInsight

knows it; the command to be run, and a buffer that holds the results.

The screen shot in Figure 12 shows a sample program that will call the LIST.INDEX command on the BP file.

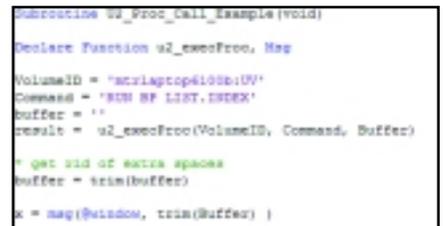


FIGURE 12: A sample program to run U2 programs from OpenInsight

The result of the program is displayed in a message box, seen below:



Conclusion

Is that it? No, of course not, but it does give the basic gist of the capabilities of OpenInsight when it acts as a front end to U2. Perhaps your green-screen application is not dead; perhaps your green-screen application is the server for an OpenInsight GUI client. Pair these two excellent products to maximize your existing investment in Multi-Value tools, maximize your Multi-Value knowledge, and maximize your sales and consulting time.

For more in-depth information and demonstrations, come to our presentation at the International Spectrum Show in Las Vegas, March 15-18, 2004. We'll be covering this very topic. We hope to see you there! is

CHAPTER 14 History of MultiValue

PICK DEALERS — Revolutionizing the Way Computer Systems Were Sold

BY GUS GIOBBI

The PICK distribution network was ahead of its time in the late 1970s, and the employment of the computer “dealer” versus a direct sales approach was one of the main structural differences between PICK and nearly all other computing environments of the time. When PICK was first introduced in the early 1970s by Microdata, it was the first instance of the dealer network philosophy in the computer market — prior to this was the traditional usage of the loyal, controllable, internal sales force. The novel concept of the dealer network was designed by John Keogh who moved to Microdata from Basic Four, and was later a co-founder of The Ultimate Corp.

The move into dealership sales was a natural direction for the PICK industry to inaugurate. PICK was new in the 1970s, and was found to be ideally suited for the commercial business industry. Most commercial entities in those times were only beginning to afford automation and were not at all well-versed in any aspect of computers. Unlike today, part of the “support” job often involved convincing reluctant employees of the benefit of using computers versus “the way things were always done before.” Most people in the workforce had never even used a keyboard, and stories abounded of key employees who “fought the computer” all the way to unemployment. Being able to install PICK software into these businesses meant being able to service them 100 percent. The dealer network was a natural outcome for Microdata at the time — these new computer users needed a lot of handholding — the dealers were right there for them in their own backyard.

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Sample PICK dealer ad from the 1980s

Eighty-eight percent of PICK dealers sold more than one PICK vendor's hardware. The average dealer lasted about five years, employed 10 or fewer people, and had annual revenues of less than \$2 million. Because of the high turnover rate of PICK dealers, the growth of the dealer marketplace is nearly impossible to chart. The average PICK dealer has an installed base ranging from 100 to 200 systems. Target customers of PICK VARs ranged in annual revenues from \$1 million to \$5 million and targeted divisions of Fortune 500 companies that needed the PICK vertical market solutions developed by the dealers.

Customers most often selected a dealer based upon these vertical market application software solutions. In a 1989 survey performed by *International Spectrum* magazine, users rated the top 10 qualities which portrayed competence in a PICK dealer. They were:

1. Financial stability
2. Longevity of business
3. Knowledge of the PICK environment
4. Happy customer references
5. Availability and support to end user
6. Geographic proximity to the end user
7. Flexibility of software
8. A strong and varied product line

9. Personnel with background in the verticals they support
10. A "warm and fuzzy" feeling

While most dealers failed to make it big in the long run, getting a PICK dealership in the right geographic location with the right vertical market software could indeed lead to market dominance and great financial reward. The founders of about 100 of the original PICK dealerships are retired and known to live in the lap of luxury today. Behind all of these success stories lies a strong vertical market solution, a good location, and the most important missing ingredient in failed dealerships: leadership with solid business acumen. is

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UniData & the Unix Spooler

BY MARK JOHNSON

Legacy Corner is aimed at users and programmers of legacy MultiValue computer systems.

My primary role is a database application programmer for MV systems. When my clients' systems reside on Unix platforms, I'm forced to learn a few Unix commands when necessary to manage both sides of the fence.

I spend 99 percent of my time on the database side and as little time on the host as possible. I didn't install the database or its applications, I simply enhance my client's existing systems. Most of my clients have a current support relation with their MV vendor or an IS department to install new printers, users or other OS level resources. Thus, I have never had the opportunity (or desire) to learn too many Unix commands. Recently I just learned three more Unix commands, tripling my personal vocabulary to a total of nine commands.

I do learn them as needed and while it's an acquired taste to remember or work with Unix commands, they are often necessary when you can't get at the problem on the database side.

Whenever I find that I am using the same Unix command more than a couple of times, I will create an MD entry on the database side that basically shells down to the Unix side, performs the desired task and returns me back to TCL.

Two popular commands that I've created MD items for are LPSTAT and CANCEL. These replace the traditional MV commands of LISTPEQS or SP-JOBS and SP-KILL. It appears that the entire collection of SP- printer commands got lost in the translation. Their functions didn't disappear, just the SP-command verbs.

The two programs in this article do the obvious: show the contents of the "spooler" and stop or prevent the printing of

queued print jobs. Basically they do the same function without having to remember the oft-unused Unix syntax or mixed case typing. Plus, it allows you to develop the utility on the MV side and shell out the resulting Unix command as needed.

So you can type LPSTAT FINANCE or LPSTAT ACCOUNTING and see their print jobs without dropping to Unix, watching your casing and quitting back. LPSTAT alone will list everything.

Continues on page 26

* LPSTAT VERB
* MARK JOHNSON

```
X=@COMMAND
CONVERT " " TO CHAR(254) IN X
CMD="! Lpstat -t"
IF X<2> # " " THEN CMD=CMD:" | grep ":X<2>
EXECUTE TCL
END
```

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The CANCEL program allows you to cancel a single job by number or complete print-file name. It has the format CANCEL 12345 or CANCEL STANDARD-12345.

This program builds a list called OUT to EXECUTE the "cancel" command

against. That list either contains the complete print-file name or builds a list of all possible filenames using a known list of printers. You could have added additional programming to derive the list of printers using "lpstat" but printers aren't added that often to justify the extra code.

It will EXECUTE some unnecessary "cancel" commands until it finds one that works. Hopefully, Unix doesn't assign the same number to multiple printers. Also, you could have written this using "lpstat -t" like in LPSTAT and then look for print file names containing your number (grep?). You would still have to EXECUTE a "cancel" anyway.

```

***
* CANCEL VERB
* MARK JOHNSON
***

X=@COMMAND
CONVERT " " TO CHAR(254) IN X
NN=X<2>
OUT=" " ;* PRINTERS TO TEST
IF NOT(NUM(NN)) THEN OUT=NN ELSE
    LPTRS=" SALES.STANDARD.LASERJET.ACCOUNTING..."
    C=DCOUNT(LPTRS, ".")
    FOR I=1 TO C
        OUT<-1>=FIELD(LPTRS, ".", I) "-" :NN
    NEXT I
END
C=DCOUNT(OUT, CHAR(254))
FOR I=1 TO C
    EXECUTE "! cancel " :OUT<I> CAPTURING REC
    IF INDEX(OCONV(REC, "MCU"), "CANCELLED", 1) #0 THEN
        PRINT " OUT<I>:" CANCELLED"
        STOP
    END
NEXT I
PRINT " PRINT JOB " :NN:" NOT FOUND"
END

```

UniData and UniVerse both use the command SETPTR for the majority of printer commands. In a multi-printer environment, you can create a MD command that represents each printer's name and underneath, execute the appropriate SETPTR command. Don't forget to include FORCE or STON the 'Y' to remove this annoyance from the users.

I've enjoyed replacing the many occurrences of the SETPTR statement throughout my client's application with the actual printer's names as verbs. Thus, if something does happen to the FINANCE printer, I don't have to chase all of the literal commands, just change the single MD entry called "FINANCE."

One of my UniData clients has so many printers that I've written a maintenance program to maintain their fields with the primary key being the printer's name. Then the single verb, say SP-ASSIGN, can be converted (or interpreted) to find the printer implied and fabricate the SETPTR statement using this printer's

file. Plus this program can validate some of the physical dimensions, say portrait/landscape, margins, etc., instead of having error-prone SETPTR commands being executed.

If you wish, you can store all the fielded SETPTR information as a single line in a similar file and simply EXECUTE that same line for the printer desired.

You may also create a simple utility that will display in sorted order the printers in this file and allow them to choose which one to assign.

Some Unix systems send non-printed jobs to a local file called HOLD or some variation thereof. While nice to be able to edit a hold entry directly, it's not easily printable from the HOLD

file. You would have to send it to the printer with the COPY command or regenerate the report without assigning it as a hold entry.

Typing LIST HOLD may not be the equivalent to LPSTAT or LISTPEQS.

Sometimes print jobs remain in the HOLD file that have long since printed or were not intended to be "held," thus the image in the HOLD file may be the only remnant of a print job. is

M A R K J O H N S O N is a 23+ year veteran of the MV database and has worked on a variety of implementations. He specializes in maintaining and enhancing legacy systems and is available for contract, short and long-term programming projects in the New Jersey, New York and Eastern Pennsylvania areas. He can be reached at majprogramming@comcast.net.

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SmartPhones *and the* Small Business

B Y N A T H A N R E C T O R

This past year, the PDA/cell phone combinations, dubbed SmartPhones, have started to come of age. The cell phone manufacturers have finally started creating SmartPhones that look and work like a phone, but have the view ability of a PDA.

I've always had a major complaint when it came to the SmartPhones of last year. They always looked and felt like a PDA. Most of these devices were just Ipaq or Palm VI frames crammed with a cellular radio and PDA hardware. They weighed about the same as regular PDAs, they looked like regular PDAs, and they felt like PDAs and not a cell phone. Many of them required a headset to really make voice calls adequately.

In the last few months, the cell phone manufacturers have finally come out with some really good SmartPhones, and I think it's time for businesses to take a serious look at them.

WHAT CAN SMARTPHONES DO?

There are two general types of SmartPhones: cell phone/PDA and PDA/cell phone. What's the difference you ask? The main difference is the primary functions of the device.



The older generation of SmartPhones is the PDA/cell phone variety. This is a device that looks and acts like a PDA, but has a cellular modem built into it. The Handspring Treos are good examples of these types of devices.



The newer generation of SmartPhones are more of the cell phone/PDA variety. They look and function more like a cell phone, but have PDA abilities. The Sony Ericsson P800 is a good example.

WHAT MAKES A SMARTPHONE, A SMARTPHONE?

The main thing that makes a SmartPhone different from a regular PDA is that SmartPhones are designed to connect to the cellular networks. A SmartPhone can send and receive both data and voice calls, and can be customized by the user.

I don't mean customized like Polyphonic ring tones, and cute screen displays like your kids have. Customized phones are phones that can have custom made software and applications running on them, and can share information easily with a Desktop.

Another key feature of a SmartPhone is a seamless connection to the cellular network for data transmission. Most SmartPhones will automatically connect you to the data network when

Continues on page 30

Rethink the way you extend your U2 business applications to the web.

In this new era of competition in an on demand world, it is more important than ever to have your U2 applications seamlessly integrate in a web-enhanced environment.

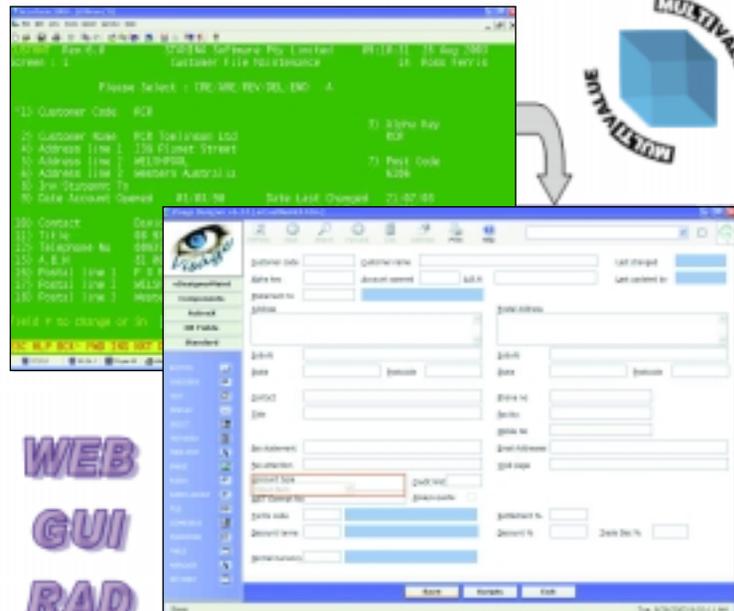
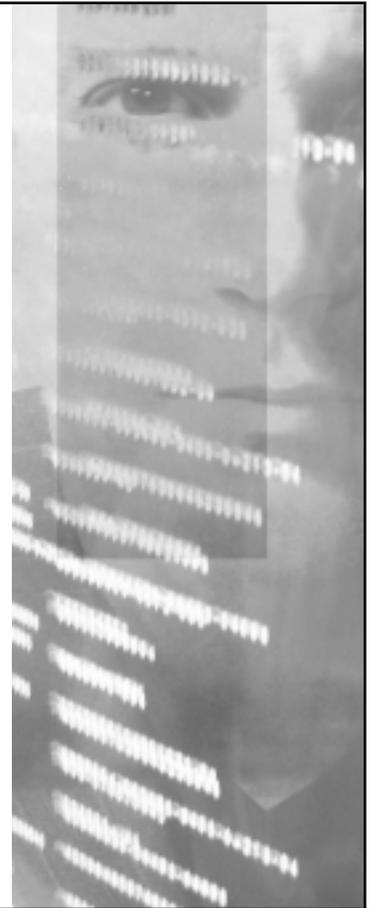
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SmartPhones and the Small Business *Continued from page 29*

you start an application. This differs from a PDA with a cellular modem attached. These devices require you to make a connection to the network first, and then you can use your data application. It's still the "dial up to the network" approach.

There are other features to SmartPhones that I won't go into here which are basically window dressing, and not really important for business.

EXISTING SMARTPHONES ON THE MARKET



Handspring Treo - The Handspring Treos have been on the market for the longest of the SmartPhones. They run the Palm OS, and weigh about 5.4 ounces. The Treos will work on both the PCS network and GSM/GPRS networks.



Kyocera 7135 - The Kyocera is a cell phone/PDA unlike the Treo that is a PDA/cell phone. It looks and acts just like a normal flip phone, except it's slightly larger.

When you flip open the screen, you have your normal keypad, but you also have a Palm graffiti area as well. As you probably guessed, the Kyocera is a Palm OS device. The only drawback is that it only works on the CMDA network, which is Sprint and Verizon only.



Samsung SPH-i500 - This device is similar to the Kyocera, except it's a little smaller.

Kyocera weighs 6.6 ounces and measures 3.0 x 2.4 x 1.1-inches, while

the Samsung measures 3.4 x 2.1 x .85-inches and weighs only 4.5 ounces.



Tungsten W - The Tungsten W is the Palm's latest device. It's not much different in functionality from the Treos in my viewpoint, but it uses the latest and greatest Palm OS 5 with all its advanced features. The major drawback is that it only works on the GSM/GPRS networks: AT&T, T-Mobile, and Cingular. If you want to use it on a Sprint or Verizon network, you are out of luck.



Sony Ericsson P800 - The P800 is my favorite SmartPhone out of all I've seen. I do like the Samsung and the Kyocera for their compact size and design, but the P800 seems to be the best combination of a cell phone and a PDA.

Not only does the device look and feel like a cell phone, you can easily flip the keypad open and it now looks and feels like a PDA. It has a full color screen and weighs about 5.6 ounces. The only drawback is that it is a GSM/GPRS phone. Which, of course, means that it will only work on AT&T, T-Mobile, and Cingular networks.

You've likely noticed that I haven't mentioned any of the SmartPhones that are powered by Microsoft. I didn't do that on purpose. The main reason is that you don't have much to choose from.

Microsoft has tried about three times to come up with a good SmartPhone, and hasn't really been able to. For the most part, they are still PDAs with cellular modems attached. If you remember from earlier, a SmartPhone has a seamless connection to the network. The PocketPC phones require you to set up dialing strings and make a network connection just like you would

on a PC. Because of this, I don't really call them a SmartPhone except for the fact you can make voice calls on them.



Toshiba 2032SP - The Toshiba is a PocketPC phone that works on the PCS and CDMA networks.



T-Mobile Pocket PC Phone - This device looks and feels more like an Ipaq than a phone, and as you can imagine from the name, it will only work on the T-Mobile network.

WHY SHOULD WE CARE?

A question some of you are probably wondering is: Why do we care? All these phones look cool, but why would I need something like this?

Well, some of you will and some of you won't. The main thing to look at is: Do your employees currently carry cell phones? Do they carry PDAs? If so, then it seems logical to combine them, but that's not the only reason.

More and more companies are looking at the cellular networks and seeing the ability to keep in communication with their service staff a lot easier.

How would you like to send service cards to your techs, or be able to have your service staff or drivers fill out their information and get signatures from your customers in electronic form instead of paper?

How about getting credit card authorization while the service tech is out on the job site?

Tired of your employees not filling out paperwork at the job site, or needing to send updates to their work schedule in the middle of the day?

These are just a few ideas. Each person I talk to has a different need and the possibilities become that much greater.

SmartPhones aren't just for kids anymore. It's time for businesses to take a closer look at using them within their enterprise. is

NATHAN RECTOR, a regular contributor to Spectrum, is owner of Natec Systems, a consulting firm specializing in D3, AP and R83 environments and custom programming. He can be reached at nrector@natecsystems.com or <http://www.natecsystems.com>.

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jRCS is a true client-server connectivity library which leverages the power of jBASE.

JBASE

Adds to Toolset with jRCS — jBASE Remote Connectivity Services

The newest product in jBASE's application development toolset is jBASE Remote Connectivity Services, jRCS, which is a robust interface product allowing access to jBASE, currently from ActiveX environments.

Because of its highly portable design, interfaces with a variety of different development environments are being developed to

suit all requirements. jRCS is a true client-server connectivity library which leverages the power of jBASE.

jRCS consists of a jBASE remote connectivity server, and a multi-layered client library, accessible from various languages and a variety of platforms. The design is built around a concurrent server, backed by jBASE 3.4/4.1 services. The server listens on a known network port and spawns jBASE proxy processes (one process per port) in response to every client connection.

Consisting of a low-level communication library, coupled with a string/dynamic array processing library, and an ActiveX portability layer, the jRCS client allows several client types to remotely connect to jBASE. Based on this architecture, the client library performance should be excellent.

The proposed architecture has a set of advantages, namely the portability of the server and low-level client libraries across platforms (i.e., Windows, UNIX, etc.), and native support for the ActiveX interface. The architecture therefore enables several client types to remotely connect to jBASE. These include C++ programs (low-level library) as well as the ActiveX containers (ActiveX portability layer).

The communications protocol is built on top of TCP/IP and XML standards for low-level communications, thus enabling multiplatform portability of the communication layer itself. XML is an emerging technology enabling interoperability between multiple platforms and languages.



https://usernet.bais.com.au/bazone/webMain.asp - Microsoft Internet Explorer

Address https://usernet.bais.com.au/bazone/webMain.asp

Executive Progression of Interest Minutes since Client Maintenance

Top Menu **DesignBais** **Logo Support**

System Parameters Client Details

Style Defaults Client Code: [RCRP] **Buttons** [Search]

Style Group Name: [Pete Nangan Pty Ltd]

File Properties Street Address: [4 Garla Street]

Field Properties Town/Suburb: [Nambabah]

Menu Definitions State/Province: [NSW] Zip/Postcode: [2997]

User Group Country: [Austria]

Users Phone: [02 3399 4100] **Multi-value grids**

Selection Process Fax: [02 3399 4114]

Form Designer Website: [www.petenangan.com.au]

Report Designer Account Manager: [XML Alice Ven Dar Shop] **Check Boxes** []

Glossary Definition Edit Stop

Migration Tools

Contact	Contact Phone	Contact Fax	Contact Email
[] [] Charles Woodard	[02 3399 4100]	[02 3399 4114]	[charles@nucoson.com.au]

Side Menu



DesignBais

revolution

multi-value programmers are **now** web developers

System Parameters

Style Defaults

Style Group

File Properties

Field Properties

Menu Definitions

User Group

Users

Selection Process

Form Designer

Report Designer

Glossary Definition

Migration Tools

Submit Clear Delete

Sales Summary (1)

Month to Date Sales	Year to Date Sales	Last Year to Date Sales
1,526.25	27,472.50	25,750.00

Output only fields

On Form Reporting

Scroll Bar Support
Vertical and Horizontal scroll-bars provide for unlimited form area as demonstrated in this example.

Sales Transactions (Current Year)

Sale Date	Product	Quantity	Unit Price	Extended Price	Tax	Total (Inc. Tax)
01/10/2000	Widgets (Blue)	5	305.25	1,526.25	152.63	1,678.88
26/09/2000	Widgets (Red)	10	305.25	3,052.50	305.25	3,415.01
13/09/2000	Widgets (Green)	5	305.25	1,526.25	152.63	1,678.88
24/08/2000	Widgets (Black)	10	305.25	3,052.50	305.25	3,415.01
15/06/2000	Widgets (Blue)	5	305.25	1,526.25	152.63	1,678.88
26/05/2000	Widgets (Red)	10	305.25	3,052.50	305.25	3,415.01
26/04/2000	Widgets (Green)	5	305.25	1,526.25	152.63	1,678.88
26/03/2000	Widgets (Black)	5	305.25	1,526.25	152.63	1,678.88
25/02/2000	Widgets (Red)	10	305.25	3,052.50	305.25	3,415.01
26/01/2000	Widgets (Green)	5	305.25	1,526.25	152.63	1,678.88

example form created by a multi-value programmer with zero web programming expertise

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DesignBais Pty. Ltd. 317 Pacific Highway North Sydney, NSW Australia 2060. 612 99341818
For more information Email: designbais@bais.com.au

XLR8

Offers Enhanced Features and Extensions to System Builder

For the First Time, SB Users Have an Easy and Affordable Path to Web Client Functionality.

XLR8 is a Web-forms development tool for UniData and UniVerse databases which offers affordable, easy-to-use utilities and tools for Web-forms

U2logic, an IBM Business Partner and a leader in Web-enabling technology for the U2-powered business, has introduced XLR8 version 4.0 with enhanced features and extensions to System Builder. XLR8 is a Web-forms development tool for UniData and UniVerse databases which offers affordable, easy-to-use utilities and tools for Web-forms: architecture, performance, management, administration and replication.

XLR8 helps you evolve your U2 applications and meet the challenges of the e-business on-demand marketplace. XLR8 is a powerful, Web-based forms architecture tool, which delivers a higher level of infrastructure and efficiency. With XLR8 there is no additional investment in human resources and no client-side software is required.

XLR8 allows you to create consistent Web page forms for data collection in a fraction of the time it takes with conventional methodology. As Web-based forms continue to evolve, changes are

instantly administered with greater productivity and efficiency, automatically generating the appropriate HTML, Java Script, ASP and ASP.NET code. XLR8's features enable your applications with dynamic Web-based forms and information collection structures while increasing U2 database capabilities with Web-client functionality.

System Builder extensions and performance enhancements are at the top of the list of recent improvements. For the first time, asynchronous communications instantly update and validate fields with no loss of performance. Additionally, XLR8 now offers a simplified external tab interface, multi-lingual language support and customizable style sheets. Also, focus before and after reads are now user programmable. This new version includes XML support, and now report forms can be quickly and easily created as well. A revamped interface enhances this version, making it easier to use than ever before, featuring simplified one-button HTML deletions.

To learn more about how to Web-enable your U2-driven applications, call U2logic toll free at 1-866-xlr8me2 (866-957-8632). Or visit the Web site at www.U2logic.com.

Continues to page 42

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What Is SB+

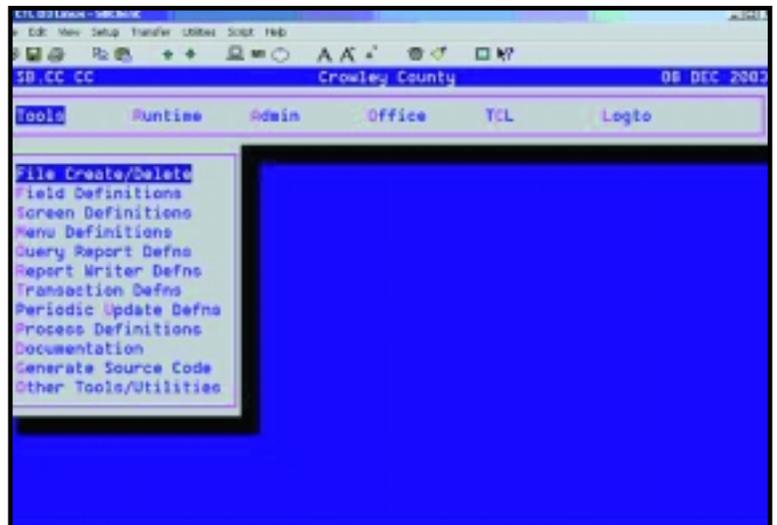
BY DANNY PASSIG

System Builder uses the latest techniques of pull-down and pop-up menus, windows, function keys, action bars and a PC-like interface which users are accustomed to in the PC world.

Here's a quick and concise introduction to SB+ and what it can do for serious programmers and non-programmers alike.

System Builder (SB+) is a comprehensive applications system development environment and, in my experience, the most flexible development tool available for MultiValue computer systems. SB+ contains a comprehensive suite of tools and an easy-to-use interface for rapid applications development. It's an ideal environment for users who do not understand computer programming as well as serious programmers.

SB+ is not to be confused with SB. SB is the original version of System Builder, whereas SB+ is the latest version of System Builder. System Builder is now a product of IBM as they purchased the U2 products of Informix—UniData, UniVerse and System Builder—in 2001.



SB+ has a complete runtime environment in which your applications run, containing complete security, office automation, and all necessary administrative functions. System Builder uses the latest techniques of pull-down and pop-up menus, windows, function keys, action bars and a PC-like interface which users are accustomed to in the PC world.

The system may be navigated by the use of arrow keys, function keys or highlighted menu option letters. Functions may also be invoked from any input prompt.

You are shielded from the operating system, which eliminates the need to understand it. You may access the

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operating system, subject to security level, if you need to for any purpose.

There is multi-level, context-sensitive help available as well as powerful intuitive help, which assists you in building required inputs.

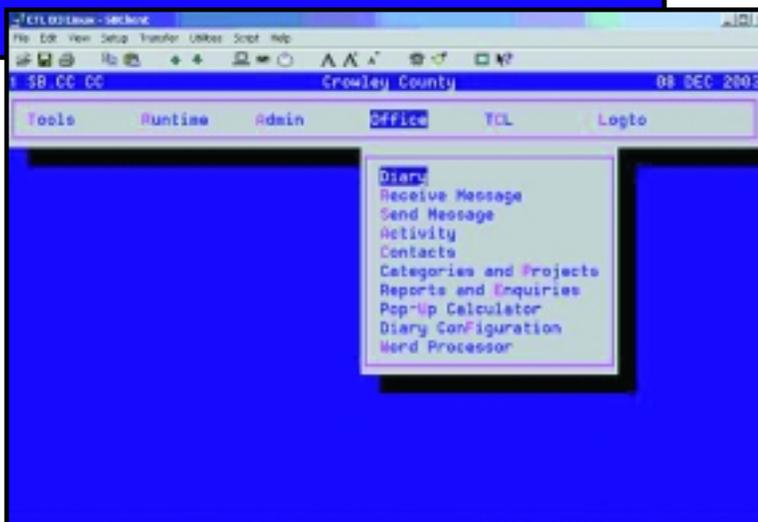
SB+ works interpretively, which allows you to immediately run definitions to test them. When you make a change to the application, that change will be immediately reflected when you run the application again. You may generate and compile source code to increase performance, but with current processor speeds this is not usually necessary.

There are powerful and useful facilities that you may incorporate in the application to make it simple to use.

One of the underlying strengths of SB+ are its processes, which contribute to its vast functionality and power. Processes may be called from anywhere in the system, dependent on your security level, and data may be transferred to and from these processes easily.

System Builder has comprehensive self-documentation facilities that may be used to produce user, operator and technical manuals.

The job scheduler tool is available to define a job or series of jobs to be run at a future time. The job scheduler allows for deferred processing, batch processing, off-line processing and/or job control.



Continues on page 43

Ten Steps *to Reinventing the* IT Professi



(ARA) - For years, information technology professionals enjoyed the Midas touch: Everything they touched turned to gold. Business leaders needed their knowledge, expertise and skills and were willing to pay just about any price to get them.

onal

Times have changed. The business conditions that initiated the information technology spike — the Y2K nonevent and the bursting of the dot-com bubble — were deemed unable to sustain the flood of IT prospectors seeking fame and fortune.

“In the past several years, we have witnessed the transformation of the IT profession,” says Andrew Trestrail, vice president of Kelly IT Resources, a business unit of staffing company Kelly Services. “But the profession should emerge from this experience with a stronger sense of purpose and mission. The experience has rewritten the rules for what it takes to succeed.”

These rules include a new set of skills and motivations that IT professionals need to recognize in order to succeed and prosper in today’s more conservative operating environment, Trestrail says:

1. Business Insight — IT professionals need to free themselves from the functional myopia and try to understand the business and cross-functional responsibilities of other departments. Technology solutions

must be analytically, creatively and strategically developed and deployed. Businesses can no longer afford the luxury of investing in technology for the sake of technology.

2. Financial Discipline — Those who succeed in today’s corporate world demonstrate consistently that they can manage the corporate resources. They have been entrusted to improve the business. And through the shrewd practice of financial analysis, they must prove an adequate return.

3. Innovation — IT professionals traditionally have shined when it comes to unleashing their talent for creative and innovative solutions. These skills have not diminished. In fact, applying technical knowledge to a broader set of abstract business challenges still holds the prospect for creating sustainable leverage in the marketplace.

Continues on page 40



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SIGNATURE _____ DATE _____

(All questions must be answered. Incomplete forms will not be processed. Complimentary subscriptions are limited to U.S. addresses.)

1. What is your job function/title?

- | | |
|---|---|
| <input type="checkbox"/> Principal/Owner | <input type="checkbox"/> Sales/Marketing |
| <input type="checkbox"/> President/GM/CEO | <input type="checkbox"/> Programmer/Analyst |
| <input type="checkbox"/> MIS/DP Manager | <input type="checkbox"/> Purchasing |
| <input type="checkbox"/> Controller/Financial | <input type="checkbox"/> Consultant |
| <input type="checkbox"/> VP/Department Head | <input type="checkbox"/> Other _____ |

2. Is your company a (check one):

- | | | |
|---|---|---|
| <input type="checkbox"/> Computer System Supplier | <input type="checkbox"/> Dealer/OEM/VAR | <input type="checkbox"/> Software House |
| <input type="checkbox"/> Consultant | <input type="checkbox"/> End User | <input type="checkbox"/> Other _____ |

3. What MultiValue Databases does your company use? (check all that apply)

- | | | | |
|--------------------------------|--|-----------------------------------|--------------------------------------|
| <input type="checkbox"/> D3 | <input type="checkbox"/> Native MultiValue | <input type="checkbox"/> Reality | <input type="checkbox"/> Other _____ |
| <input type="checkbox"/> jBASE | <input type="checkbox"/> uniData | <input type="checkbox"/> UniVerse | <input type="checkbox"/> uniVision |

5. What major business/industry most clearly describes your company?

- | | | | |
|--|------------------------------------|---|---------------------------------|
| <input type="checkbox"/> Accounting | <input type="checkbox"/> Medical | <input type="checkbox"/> Direct Marketing | <input type="checkbox"/> Legal |
| <input type="checkbox"/> Banking/Finance | <input type="checkbox"/> Dental | <input type="checkbox"/> Construction | <input type="checkbox"/> Retail |
| <input type="checkbox"/> Education | <input type="checkbox"/> Insurance | <input type="checkbox"/> Other _____ | |

6. What are your firm's approximate gross annual sales?

- | | |
|---|--|
| <input type="checkbox"/> Under \$500,000 | <input type="checkbox"/> \$500,000 - \$1 million |
| <input type="checkbox"/> Over \$1 million - \$5 million | <input type="checkbox"/> Over \$5 million - \$10 million |
| <input type="checkbox"/> Over \$10 million - \$25 million | <input type="checkbox"/> Over \$25 million - \$100 million |
| <input type="checkbox"/> Over \$100 million - \$500 million | <input type="checkbox"/> Over \$500 million |

Ten Steps to Reinventing the IT Professional

Continued from page 39

4. Systems Integration — Businesses can no longer afford a patchwork of IT systems that optimize individual components of the business. Instead, solutions must bridge technologies and systems.

5. Teamwork — IT professionals must view themselves as a consultant to the business. "Companies who call on Kelly IT Resources want people who can deploy a broad range of cross-functional skills, analyzing business conditions, recommending, implementing and managing technology solutions, and cooperating with all segments of the business," Trestrail says.

6. Versatility — In today's environment, technical aptitude alone will no longer suffice. The successful IT professional will have to demonstrate a broad portfolio of cross-functional skills, aptitude, insight, context and experiences that can be combined in various ways to create business value.

7. Management Aptitude — IT workers are no longer just highly sought after programmers. Very few organizations are hiring entry-level people anymore. Everyone is hiring at a higher level — they want experience. IT professionals need to understand project and contract management.

8. Customer Orientation — Once armed with a solid awareness of organizational culture, goals and objectives, the IT professional must demonstrate keen problem-solving skills. This involves the blending of technology in a way that improves business processes to improve efficiency and effectiveness.

Continues on page 43

RAINING DATA ANNOUNCES SUPPORT FOR MICROSOFT VISUAL STUDIO 'WHIDBEY'

Pick Data Provider for the Microsoft .NET Framework to Utilize Latest Productivity Enhancements in Visual Studio "Whidbey"

Raining Data Corporation, a long-time provider of scalable, flexible and reliable data management software, announced future plans for Pick Data Provider for the Microsoft .NET Framework ("PickDP.NET") to support Microsoft Visual Studio "Whidbey." Raining Data's Pick Data Provider for the Microsoft .NET Framework is seamlessly integrated with Visual Studio .NET 2003. The productivity enhancements for the developer community, specifically in code reduction, offered by Visual Studio "Whidbey," will have broader appeal with ISV and corporate developers for whom timely delivery of client/server, Web or Web services solutions is critical.

"We welcome any efforts that deliver higher productivity tools and measured ROI for application development," said Ron McPherson, founder/president of New England Computer Solutions in Peabody, Mass. "The combination of Pick Data Provider for the Microsoft .NET Framework and Visual Studio .NET 2003 has enormous potential for legacy application integration of IBM UniVerse database

applications with modern technology. We have already seen a 60 to 70 percent code reduction in the re-development of our UniVerse-based manufacturing job control application to the Microsoft .NET Framework. Visual Studio 'Whidbey' can only accelerate these efforts."

"Enhancements in application development tools need to focus on providing increased developer productivity, Visual Studio 'Whidbey' delivers on that need," said Mario Barrenechea, SVP of Worldwide Sales & Marketing at Raining Data Corporation. "In the IBM UniVerse, IBM UniData and our Pick D3 markets, there are hundreds of 'black-box' applications that have limited access to new technologies. End users are demanding better tools that will extend their existing applications. By building non-intrusive Web and Web Services applications based on PickDP.NET and Visual Studio .NET 2003, developers can tap into existing application resources and data natively, without compromising the integrity of their legacy applications."

"Raining Data offers a powerful solution to extend legacy Pick and Pick-based applications to the .NET Framework." said David Lazar, director in the Developer Platform and Evangelism Division at Microsoft Corp. "We are excited that Raining Data is assisting well-established organizations using Pick databases to extend their applications to take advantage of Visual Studio 'Whidbey.'"

About Pick Data Provider for .NET

The Pick Data Provider component for Visual Studio .NET 2003 is tightly integrated with the .NET Framework. It allows software developers to build client/server applications, Web applications or Web Services using any of the programming languages supported by the .NET Framework. These languages include, but are not limited to: Microsoft ASP.NET, Microsoft Visual Basic .NET, Microsoft Visual C# .NET, Microsoft Visual C++ .NET and Microsoft J# .NET.

Features of the Pick Data Provider:

- ◆ Application-to-application bridge between the .NET Framework and server-based business rules
- ◆ Smart binding and caching between visual objects and data fields and queries
- ◆ Optimistic and pessimistic locking handler
- ◆ Extensions to the event handler to allow pre- and post-processing of server data files
- ◆ Method extensions for file I/O and updates
- ◆ Multiple connections handling to different databases and systems
- ◆ Data management administration tool for accounts, tables, records and server-based code

WinLink32: A Tool to Integrate Legacy Applications into Windows and the Web

WinLink32, from Via Systems, is middleware with (Open Database Connectivity) capabilities that provides end users and developers with the tools to integrate their legacy applications into Windows and the Web. End users have point-and-click access between Windows applications and the database thanks to WinLink32's support of Microsoft's ODBC standard. Developers can incorporate the Windows interface into legacy applications using GUI development tools such as Visual Basic.

Included in the WinLink32 family are:

ViaODBC32 - Access host data from ODBC-compliant Windows applications with the click of a button. Users can easily access, sort, retrieve, update (with security), and merge data between Windows SQL-based databases and host databases.

Virtually all industry-standard desktop productivity suites, reporting software and GUI development environments use SQL and ODBC as part of their capabilities. ODBC remains a popular and easy method of linking users to databases. ViaODBC-32 supports many MultiValue platforms including some for which no other ODBC alternative exists.

ViaAPI for Visual Basic - ViaAPI for Visual Basic allows programmers to use standard Data/BASIC programming syntax within the Visual Basic environment. File I/O, record locking, dynamic array manipulation, conversion processing, and subroutine calls are all coded in VB in a manner nearly identical to the MultiValue host's native programming language. This allows developers to use their existing MultiValue programming skills with best-of-breed Windows development software.

ViaObjects - The ViaObjects component allows corporate developers to manipulate a MultiValue database within Object-based development environments — such as Visual Basic, Visual FoxPro, Delphi, and PowerBuilder — to develop applications using Objects. ViaObjects encapsulates the capabilities of ViaAPI for Visual Basic functions into an ActiveX framework, providing developers with the ultimate method of linking MultiValue DBMSs with the Windows 95/98/2000 and NT environments.

mvControls - For those who want to minimize the amount of GUI programming they have to do, mvControls allows you to literally 'paint' a form to access your host system, hiding many of the programming details.

Continues on page 44

Ten Steps to Reinventing the IT Professional

Continued from page 40

9. Communication — For many years, IT professionals worked in their own functional silos, often speaking their own language that few in the organization could recognize. This won't wash in today's business climate. They must be effective communicators, able to translate the technical aspects of their job easily with others.

10. Interpersonal Skills — In addition, successful IT professionals understand that they no longer will be measured solely on their competence, but also in accessibility, accountability, affordability, flexibility and reliability.

"As IT professionals have witnessed the severe peaks and valleys of demand for their services, they have had to reinvent themselves to be more marketable to prospective employers," Trestrail notes. "Those that understand how the job is changing — both in terms of demands and expectations — will be better prepared to attract attention."

For their part, as businesses demand more versatility from their IT workforce, they must commit to identifying, hiring and advancing people with both the requisite IT skills and an improved understanding of general business dynamics. is

For more information about Kelly Information Technology Resources, visit www.kellyIT.com.

Courtesy of ARA Content

SB+ 101

Continued from page 36

Revision control allows programmers to keep track of modifications to existing applications and will allow you to update remote sites with application modifications.

The translation tool translates SB+ prompts, error messages, screens, etc., into another language.

End-user tutorials for applications can be produced in an intuitive and friendly fashion. These on-line, context-sensitive tutorials are easy to build and provide tutorials which reduce the learning curve for a new application.

If you use SBClient as your terminal emulator, you will multiply the effectiveness of your SB+ application as well as gain many other facilities for use in your application. is

Reference: Version 2 SB+ Reference Manual

DANNY PASSIG is a senior software engineer at Natec Systems. He has 33 years experience in the IT field. He has done customer software development and system installations for various businesses. He has worked for IBM as a support engineer for System Builder. Danny holds a Bachelor's Degree in Business Administration/Accounting and a MSCIT from Regis University.



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PRC

Manages the Whole Software Development Life-Cycle

PRC, from SJ+ Systems Associates, is a software tool that provides a reliable way to log, manage and deliver changes to software. It integrates all of the elements of software configuration management: problem reporting, change control, project management, time reporting, test management and version/release control.

If the tracking and control difficulties inherent in distributed development and component-oriented software are bogging you down and costing you money, PRC can help, according to SJ+ Systems Associates. Software development becomes more productive; programmers are freed from the time that used to be spent keeping track of what's changed, trying to stay out of each other's way, and damage control.

PRC provides clear structure and visible procedures, allowing you to control what, where and when software changes. PRC enables flexible, hierarchical management of projects. Multiple developers can work in the same account, and be alerted to any conflicts. Priority and individual clearance levels designate whether a change may be made and whether it may be made on the original or an automatically managed temporary copy.

Some of PRC's other features include:

Parallel Development - As part of the rollout, a "conflict scan" can be run against the source and the destination environment.

Customizations - PRC makes management of customized software simpler for the vendor and the end-user company. Changes may be tracked against projects type-coded as custom, and/or PRC can move custom changes.

Programmer Tools - A single-screen presentation of all software on a project; pre- and on-the-fly check-out; search and merge utilities; backup management with

revert capability; and history tracing of any component are just some of the tools at the developer's fingertips.

Test Management/Testing Tools - Test plans can be built, within or outside of PRC, then managed against the software and against projects.

Problem Tracking - You can log calls from customers and search existing resolved and unresolved requests. If a resolved request exists, the corresponding project and deliverable file are displayed.

Reporting - A wide variety of ready-made reports are provided, such as open/closed problem reports by customer, project movement and status, time tracking, billing, resource loading and backlog, productivity reports and more.

PRC can also be configured to read and write from a desktop project management tool, Internet email, outside Help Desk or time & billing systems as well as Requirements Management, Test Management and Automated Testing Tools.

PRC is also international, allowing software development for multiple countries, in multiple languages, to be managed with no additional strain. PRC will re-translate during the rollout and alert developers of any new phrases or components that require translation. is

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SELLING ON C-SPAM

Continued from page 9

- ◆ Place a physical postal address in all emails
- ◆ Show accurate subject headers
- ◆ Identify the email as an ad
- ◆ Honor requests to opt-out within 10 business days of receipt
- ◆ Offer a mechanism to decline future emails. The mechanism must be either through a real email address or through an Internet-based form. These mechanisms must be functional for at least 30 days after the mailing.
- ◆ For emails that have already received opt-in consent, display warning labels on commercial email with sexual material
- ◆ Be held responsible for all practices by third party companies that send out the email on the original company's behalf.

For anti-spam activists, these federal regulations were a major disappointment, if not a disaster. To many, the biggest weakness is considered to be that the law doesn't ban unsolicited email outright. There is no default "opt-out" status for people. Instead we still start out any commercial relationship in an "opt-in" email mode, willing to receive at least the initial email.

On top of that, it does not allow individuals to sue; only public agencies and Internet Service Providers (ISPs) may file a lawsuit. Since the CAN SPAM Act doesn't ban spam per se, many anti-spammers and lawyers have labeled it the "Yes, You CAN SPAM" Act.

Nevertheless, many of the activities that most spam recipients detest are now restricted. Let's look at some of the requirements for an unsolicited email to be permissible. First, it is now

illegal for example, to programmatically search through the wide open Internet for all Web pages (known as "spidering") to find and save email addresses. This should limit the damage done by putting any email address on a company's Web pages.

The email header may no longer be tampered. If you've paid attention to some of the nastiest spam emails, the "from" line was forged. The email address is often invalid, with a

non-existent recipient or even domain name, or with a server that does not actually run an email service. This obvious chicanery is now banned.

Interestingly, a physical address is also now required.

This is more restrictive than just having a normal business address; you may not merely give a P.O. Box in the email. Small businesses that run from homes must now identify a location, even if that location is their home. In some ways, this is analogous to the requirement for a physical address when registering a new business entity, such as a corporation.

In addition to having valid "from" lines and an actual physical location, the subject line must now be self-identifying and truthful. The subject line cannot say "Re: Your account balance," as it implies that the email was a reply to a previous email request.

Moreover, advertisements must be clearly indicated from the subject line. You may have already seen this when you've received email that begins with the subject line "ADV:". This prefix can be used, or the subject line must otherwise be explicit in its promotional nature.

One highly attractive requirement for all commercial emails relates to sexual content. The subject line must be clear that the email content is sexual in nature so

that the recipient can ignore the email without opening it up. This is required even after a user has opted-in and willingly accepts the commercial email.

Now, as I've noted, unsolicited emails are still permitted with the new law. However, companies must now allow recipients of commercial email to "opt-out" within 10 business days of the original emailing. The contact information (phone, address, email, webform) for opting out must be valid. Mail and webforms must be offered, as there is an assumption that people should not have to pay for a phone call to opt-out. The opt-out options must be functional for at least 30 days after the initial mailing.

Lastly, if another business will be handling your bulk email for you, you will be held responsible for that company's practices. You will need to confirm that the third party company that you outsource your bulk email to does not violate federal regulations. If your marketing company does the emailing for you, or you are a company that emails on behalf of another, be prepared to see that all new rules are considered and adjust the relationship accordingly.

So the new law seems to balance the desires of both marketers and email recipients. It remains to be seen how enforceable the various requirements are or how earnest the ISPs and public agencies will be in hunting down egregious spammers. But, for now, it seems like the excesses of bulk email may now be legally restricted, as long as your company's marketing efforts don't get caught in the crossfire. is

MELVIN M. SORIANO works at Eagle Rock Information Systems (ERIS), an Internet Application Service Provider and WebWizard/MultiValue Developer. ERIS has deployed enterprise-wide solutions on most MultiValue platforms and operating systems. HTM-Mel can be contacted at mel@eriscorp.com and visited at <http://www.eriscorp.com>. You can always call him directly at ERIS's Pasadena offices: (626) 535-9658.

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THE GRIFFIN CONSULTING GROUP INC.

Subject: Open Letter to the PICK/MultiValue/D2 Community

From: Rick Sigler – President, The Griffin Consulting Group, Inc.

Date: January 2004

The Griffin Consulting Group (and myself), have a PICK heritage dating back to 1983! We are one of the nations oldest, largest, and most successful MultiValue based companies. You probably have never heard of us, because we have remained exclusively within the healthcare industry throughout our history.

I have always been a big supporter of the MultiValue community and it's unique cost effective database and solutions technology. We still believe very strongly that a well-designed legacy MultiValue transaction system delivers untouchable performance, uptime, and transaction integrity.

Since 1983 we have been preaching (and delivering) on our philosophy that your legacy MultiValue based transaction system should remain in place, and whatever modernization techniques are available should be used to keep it vibrant, relevant, and current. We also have been the biggest proponents of protecting this MultiValue heritage by installing and maintaining a separate reporting system/data warehouse environment, using modern database offerings from Microsoft, Oracle, IBM (and any others). We believe that by deploying a report only data environment separate from your transaction system, you can remove all of the political peer pressure to "get rid of that MultiValue system".

Our customers represent some of the single largest MultiValue installations in the world (both in terms of on-line users and data). They are also happily sorting, drilling, massaging, and reporting on their corporate data in an environment that is completely separate from their MultiValue system. This approach makes **both** areas of the organization more efficient, and protects their investment in their MultiValue systems, applications, and **people!**

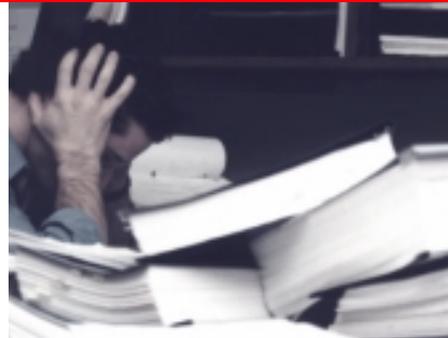
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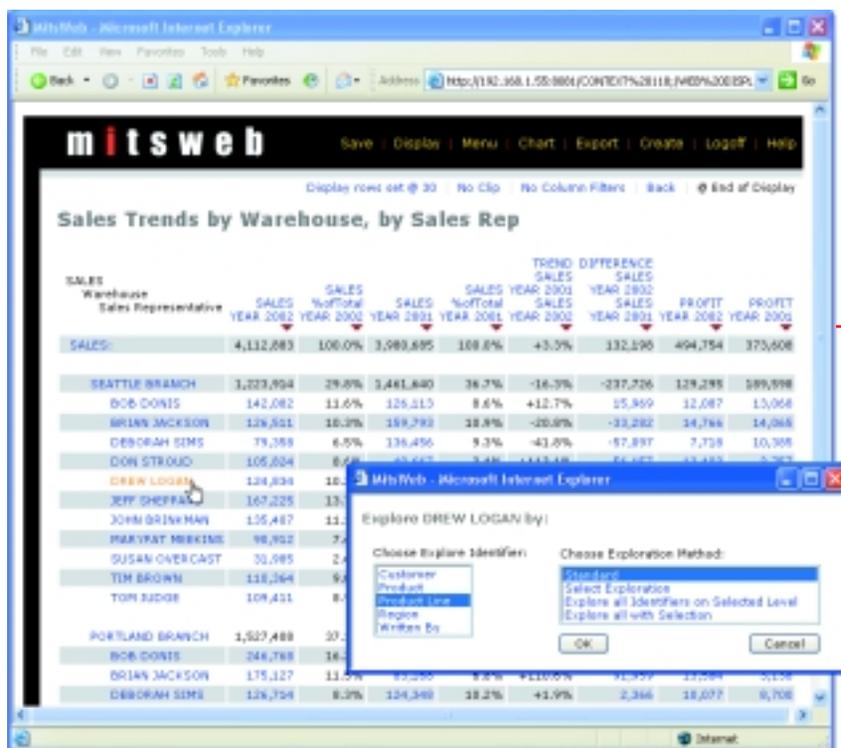
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