

INSIDE! THINGS TO KNOW ABOUT WEB SERVICES AND .NET THAT WILL SAVE YOU TIME & MONEY

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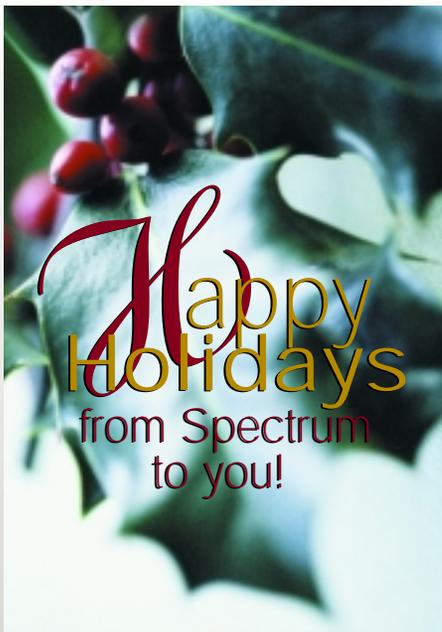


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[FROM THE **INSIDE**]

MultiValue

Thriving in the U.K. and Australia

SOME OF YOU MAY REMEMBER that International Spectrum used to produce annual Spectrum events in the U.K., France and Australia, but we had to discontinue them after the mini-computer crash that began in the late 1980s.

Back then, when the price of a computer was in the six-digit range and the margins were 50 percent or better, money used to fall out of the sky, and the future of the international MultiValue market looked limitless. Certain leaders in our market (who shall go nameless) predicted then that the PC would never be able to do any useful work. One of them went so far as to announce to the press that "some day, there will be a car in every driveway and a PC in every closet." Visionaries like this continued to build expensive computers the size of refrigerators and the rest, as they say, is history.

As a result, the last Spectrum show of that era outside the USA was held in 1988. We turned out the lights and came home.

And so it was with some reservation that a year ago we began discussing a possible return to London and Sydney. Virtually none of the exhibitors we knew back then were still in existence. Since we no longer knew where the bodies were, would the people there help us find the users? Was there even a MultiValue market to return to? Should we use the word MultiValue? Most important, would the vendors there even want us to come back?

We asked, and in the words of Montgomery Gentry, the answer was a resounding "Hell yeah!"

And so, since last we talked, I had the great pleasure of returning to London and Sydney for the first Spectrum shows held there in 15 years. I'm here to tell you that it was one of the most rewarding experiences I've had in our market. The MultiValue market is thriving and growing in those areas of the world, and it was a pleasure to be a part of re-opening the communication between the USA and the U.K. and Australian markets. We had over 200 attendees at each event, and already, many people have experienced the benefits of resulting new business alliances on all sides of the pond.

In this issue, we've included a recap of these events for your enjoyment and edification. We think you'll find it interesting to see that the intrinsic advantage of the MultiValue technology continues to survive and thrive around the globe.

— GUS GIOBBI, CHAIRMAN, IDBMA, INC. —
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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.



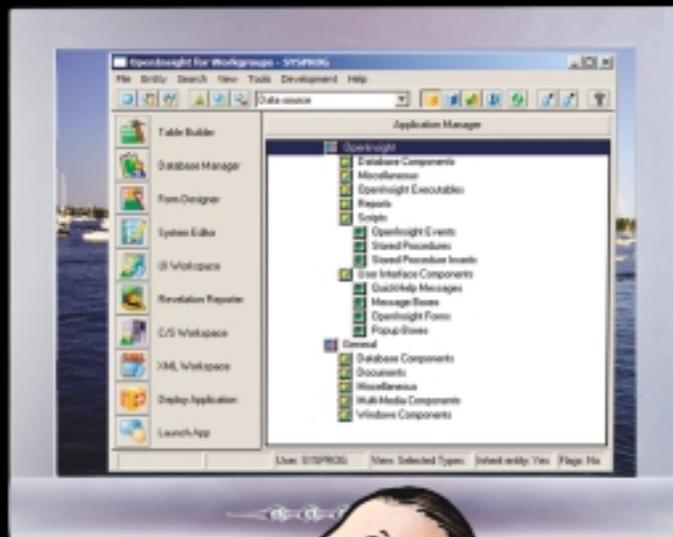
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The History of MultiValue

BY GUS GIOBBI

CHAPTER 13

The Wrong Call — Clinging to the 'Operating System' Path

Possibly the single decision most responsible for the PICK system's loss of its commanding industry lead in the 1980s was the decision to continue producing the product as a complete "Operating System." This decision handed the advantage to Bell Labs' UNIX in particular — which though more expensive and difficult to administer — was strong in the areas of communications, networking and graphics, which the PICK Operating System lacked.

To be fair, it would have been a major change at the time for the PICK organization to abandon the operating system concept. Most of the company's revenue model was based upon the number of hardware seats (ports) of a system, and this required absolute control of the phys-

ical computer at the time. In essence, if one purchased a PICK system, it essentially "took over" the target computer and threw away whatever else was on it (e.g., DOS), and it then became a pure PICK machine. Another factor was the PICK organization's belief that revenue streams would remain high enough to fund development of the capabilities it lacked.

In hindsight, it would have been a difficult call for anyone to make. Who could have imagined the exponential increase in capability and reduction in cost that the computer system was about to experience. Giants like Prime Computer and DEC didn't see it coming; Dick Pick was widely quoted as predicting that "there would be a PC in every closet!" The thought was that no one would ever be able to do useful work with a PC because it simply would never have enough horsepower. Some insiders claim that IBM approached Dick Pick at one point to develop an IBM operating system for the PC, but the idea was rejected for the same reason.

Nonetheless, one could only imagine what the MultiValue market would look like if the PICK capability had been modified in the '80s to operate "under" other operating environments like it does today; particularly UNIX, DOS and IBM's proprietary operating systems. is

At the end of the 1980s, many industry leaders expressed concern over PICK's lack of visibility and credibility in the broader computer market. Following are representative opinions on PICK's strengths and weaknesses as expressed by some of these industry executives (source: IDBMA 1991 Industry Impact Study).

"PICK has had an excellent track record of producing commercial applications, and the number of applications available today remains one of its major strengths. In addition, it's still easy to create an application quickly and have it work immediately. I still believe that the multidimensional PICK database model is a much better basis for building commercial applications and the manipulation of "real world" business data, than the two-dimensional mathematical-based COD model, which is better suited to computational/scientific markets. One of PICK's weaknesses began as a strength. The strength: PICK was developed as a proprietary operating system which could be optimized for good performance. The weakness: PICK was held back, in terms of functionality enhancements, due to the limitations of implementing in a proprietary operating system. As

such, the underlying PICK system functionality did not progress to state-of-the-art. Today, the performance issues have been resolved in standard UNIX environments due in part to the rapid acceleration of the hardware price/performance curve. The concomitant result is that users now have access to both advances in technology and performance.”

*Jim Capeless, President,
VMark Software*

“The basic strength of PICK remains its price/performance, especially in the low-end PC marketplace. This low-end PC market is the niche market for PICK. PICK is based on old technology, which continues to emerge as its basic weakness. PICK doesn’t support SQL, the industry standard data manipulation language, and PICK has virtually no support for other requirements, such as networking and graphical user interfaces.”

*Ming Yue, President,
Unidata*

“The maturity of solutions software, not in terms of software technology, but in terms of applications capability and getting the job done, is a major strength of PICK. People have been buying PICK-based systems for years and years truly based on the solution, not on specifications. PICK enables an application vendor to meet a user’s needs. PICK traditionally has not been strong in networking and communications. As time has gone by, the robustness of PICK-based communications has improved, most notably with UNIX communications capabilities.

PICK’s biggest weakness has been its reputation in the MIS community. PICK users have always had a clear voice in defining applications; [their views] are not always in concert with MIS, but even this issue is diminishing. It is very popular now [with the advent of PCs and workstations] for departments or functional entities to produce their own applications with MIS overseeing rather than dictating a solution.”

*Steve Machnik,
Vice President,
Prime INFORMATION
Business Unit*

“PICK’s greatest strengths are its large installed base, base of great applications software, and the fact that it is a truly great application-development environment for prototyping systems and bringing systems to production quickly. For a particular class of applications, PICK is unparalleled.

PICK’s greatest weakness is that Dick Pick mispositioned PICK as an operating system rather than a database management system and PICK was eclipsed by relational database management systems. PICK needs to make up lost ground.”

*Jim Pyles, Marketing
Manager for PICK,
Pyramid Systems*

“People stick with PICK because it’s easy to use, straightforward, you don’t have to be a database guru to use it, and companies don’t have to invest in expensive people.

MIS directors look upon PICK as a toy because it’s so easy to use. It suffers credibility for this reason and

because it does not require expensive MIS personnel.

Furthermore, gyrations by Dick Pick have hurt the credibility of PICK. There is a perception that PICK is an immature, adolescent, teen-aged product.”

*Tom Doyle, Director of
Marketing, Encore Computer
Corporation*

“PICK was way ahead of itself as a database management system five years ago. Today, the major [drawing card] of PICK is its application base. PICK doesn’t have communications, it lacks horizontal application power, has no good graphics, and is not considered state-of-the-art. These are the issues and arguments my salespeople face each day.”

*Jim Lawson,
General Manager,
PICK Division,
Stratus Computer*

“PICK’s major strength is its user loyalty which has been brought about by its flexibility, capabilities, and ease of use. From a system manufacturer’s standpoint, its library of proven applications is very attractive. PICK’s weaknesses are its lack of communications and networking capabilities and lack of office automation tools, which limit its ability to fulfill mainstream enterprise requirements. In addition, there is not real wide acceptance of PICK. Its advantages are not clearly understood by the whole market.”

*Russ Monbleau,
Digital Equipment
Corporation*

SOURCE: 1991 IDBMA Industry Impact Study

The London and Sydney MultiValue Market

International Spectrum Revisits the U.K. and Australia After a 15-year Absence and Finds a Vibrant and Thriving Industry

It was the first significant exchange of information between people in the USA, U.K. and Australasian MultiValue industry in 15 years. We're talking about International Spectrum's MultiValue Conferences and Vendor Fairs held in September in London and October in Sydney. Delegates came in numbers with two main objectives in mind.

"I came to find out what other people are doing with their MultiValue

systems" was the answer most people gave. "I wanted to know if MultiValue is alive and well, and if so, what the core MV database providers are planning for the future of the product" was another familiar refrain.

Secondly, they came to

see and talk with the developers of the many new MultiValue software tools that have emerged in the past few years — it was a chance to compare and evaluate in one convenient location.

With over 200 attendees in each city, the mood was one of all smiles. Most were amazed at the vitality of the market, but even more surprised by the advances in software capabilities for MultiValue systems, particularly in the areas of Web-enabling, reporting, application development, and Web services. Everyone enjoyed the added benefit of networking with local as well as overseas peers.

Continues on page 12



The Vendor Fair was the highlight of the day

Exhibitors at the London Vendor Fair included:

Cromwell Business Systems
EasyCO
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IBM
jBASE International
Jonas Consulting Ltd.
Key Ally Inc
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Exhibitors at the Sydney Vendor Fair included:

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SPOTLIGHT ON U.K. AND AUSTRALIA

Continued from page 10

Each conference consisted of 40 informative presentations and three featured speakers. The presenters were 50 percent drawn from the local market and 50 percent from overseas to facilitate a balance of information. One complete conference path was dedicated to new software utility overviews, and delegates who wanted to know more were invited to visit the developers in the Vendor Fair each evening.

All in all, each event was an unqualified success and represented a meaningful forum for the return of the exchange of information in the MultiValue market on an international basis. Everybody, including International Spectrum, vowed not to let another 15 years pass again before returning.



Show Sponsor Chris Stone (left), Managing Director of Northgate Information Solutions, welcomes Gus Giobbi and Spectrum's return to London.

IBM's Susie Siegesmund talks about U2 futures to Sydney conference delegates at luncheon sponsored by Meier Business Systems.



The sponsors pose for a rare photograph together — Mike Ruane (left), president of Revelation Software; Martin Meier (center), managing director of Meier Business Systems; and Dave Bryant (right), president of jBASE International.



Delegates get ready for the next session.



A Special Thank You

Four companies played a special role in the re-introduction of Spectrum to the U.K. and Australian MultiValue industries. International Spectrum wishes to thank jBASE International, Meier Business Systems, Northgate Information Solutions and Revelation Software for their "above and beyond" support and co-sponsorship of the 2003 London and Sydney MultiValue Conferences and Vendor Fairs.



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Prelude Systems Hits a Milestone for MITS Installations

MITS Application Support Plan Helps Reseller Achieve 33% Adoption Rate

Management Information Tools Inc., the developer of the leading MultiValue online analytical processing/business intelligence (OLAP/BI) tool MITS, has announced a reseller milestone. MITS reseller Prelude Systems has affirmed that one-third of its customer base now uses MITS, with even more penetration into Prelude's distribution software customer base expected this year.

MITS (Management Information Tool Software) is a powerful business intelligence solution that offers advanced dynamic and interactive data reporting. By design, it takes information in the company's system and makes it quickly and easily accessible. Prelude Systems develops and sells a feature-rich distribution package with optional integrated modules such as Rental, Marketing/Contact Management, Light Manufacturing and Data Warehousing.

Pat Gilbrough, president of Management Information Tools Inc. (MITI), believes the reason Prelude has recently accelerated MITS sales is because Prelude has recognized that OLAP technology is a critical component of its offerings to the distribution industry. "The Prelude user base is simply responding to this proven success in using a business intelligence tool," Gilbrough said. "Additionally, Prelude was one of the first partners to embrace our MITS Application Support Plan, which has positioned the company to sell MITS packages more efficiently and effectively."



"MITI possesses an outstanding track record in the MultiValue market because it has proven it can support its resellers' all-encompassing needs for premium products, service and support," said George James,

director of Partner Relations at Prelude Systems. "We've seen an increased demand in MITI's leading OLAP technology combined with our world-class distribution platform, and I believe this success factor is three-fold: the partnership with MITS; the affordability of MITS; and the power of MITS in the distribution marketplace." ■

Success Factor #1: A Partnership Plan Designed for Success

MITI initiated the MITS Application Support (MAS) Plan earlier this year. It is designed to assist value-added resellers (VARs) with sales, implementation and on-going support of MITS application interfaces between a VAR's vertical software and the MITS OLAP system. "The MAS plan has helped VARs, such as Prelude, to sell more product without increasing its overhead," Gilbrough explained. "MAS supports VARs that do not want to add technical resource demands for an additional third-party product, but still want to benefit from having a state-of-the-art business intelligence tool as part of their software offering."

George James echoed these benefits of MAS: "MITI's willingness to take the burden off of Prelude, take care of the MITS installations, and guarantee the satisfaction of the customer has been invaluable. They build all of the data cubes, do the analysis with our customers, and train them to use the product. It's always been a challenge to bring on

new technologies and find the time for the development team to learn something new. But when MITI said, 'You sell it and we'll take care of the rest,' it became that much easier to be successful."

Success Factor #2: An Affordable Solution for Prelude Users

The second reason for success, according to James, is that MITS is an affordable alternative to other high-priced business intelligence offerings. "Most of the BI solutions, like Datastage and Cognos, cost a minimum of \$50,000 to \$150,000. We've looked at these solutions for many years with our clients, but in the distribution marketplace, no one can justify the price. MITS, however, is affordable. For roughly \$15,000, our users can get a powerful solution that actually works and they love to use every day. MITI's strategy has worked well for our business: It's good technology with a fair pricing model so our customers can instantly see the value of it. MITS has become something that's easier to sell every day."

Continues next page

MITS is the only BI/OLAP product specifically designed to run in the MultiValue or Pick (UniVerse, UniData, jBASE, D3, mvEnterprise and/or mvBase) environment. With MITS being a fraction of the cost of non-MultiValue solutions that offer less functionality and much more complexity, MITS is intentionally priced and designed to be the most powerful and efficient solution available for MultiValue users. And because MITS is closely integrated with Prelude's UniData-based distribution software, the result is a powerful, critical and cost-effective tool for wholesale distributors.



John Clark is Prelude Systems' director of Sales. He said that offering MITS in a turnkey

approach has made the investment more palatable for Prelude clients. "We can offer our customers a data warehousing product that's already configured, already built and ready for the application software that they're running their business on. They don't have to take a data warehouse engine and spend the next two years with their IT staff trying to make use of this new tool to build the warehouse."

Success Factor #3: A Critical Component for Distribution Businesses

According to Clark, the MITS OLAP technology has become a critical component to Prelude's distribution enterprise system. "We promote the MITS solution to our end users time and time again, because deploying data warehousing is

simply one of the smartest things a distribution company can do to quickly improve the areas that matter—issues such as surplus inventory, dead stock, over usage, and corporate profitability."

"One of the issues our distribution customers face is an enormous amount of information," James explained. "Our distribution software can capture information at a very detailed level, save the data, and give it back to the users if and when they need it. However, some of our customers do several hundred to several thousand sales orders per day, and over time that accumulates into very large amounts of information."

MITS takes the captured information from the Prelude system and pre-processes it into MultiValue OLAP hypercubes in accounts on the same data-

base next to the operational data. With the information in this format ready to be accessed, the customer views its data in a true OLAP/interactive reporting environment with response times measured in seconds.

James continued, "When it comes time to look at the data, they don't have to wait for it to run. And once it's printed, they don't have to say 'now that I know this, I wish I knew something else.' MITS has already given them all of the data they need, and it's available to them in the format that they want to see it in."

"Customers with these large amounts of information, like distribution businesses, cannot effectively analyze their information without OLAP technology," Gilbrough explained. "This is

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Continued from page 15

what makes MITS so different than the less powerful and somewhat ineffective report generators on the market. The functionality exclusive to OLAP is the key to increased flexibility and speed to help companies manage their businesses more effectively."

California-based Keystone Automotive is a good example of a Prelude customer that quickly found the value in MITS' flexibility and speed after unsuccessfully trying to launch other business intelligence solutions. As the nation's largest distributor of replacement collision parts and supplies, Keystone's business intelligence solution couldn't handle the crossbred data from its various computing platforms around the nation. "We used to work all weekend managing month-end closings," said Jesus Arriaga, chief information officer for Keystone. "Since installing MITS, everyone goes home on Friday nights, and our sales force is operating in real-time, versus an after-the-fact scenario that's already contributing to our bottom line."

"Distributors have millions of dollars wrapped up in their inventory, and MITS' analytical capabilities are used by Prelude customers to quickly pinpoint and act on the most critical issues," Gilbrough said. "We've designed our software to be an efficient data analysis tool for any business, but it's especially valuable for distributors who have tens of thousands of parts to manage."

According to Clark, "MITS is the sizzle on the steak for our massive enterprise solution for the distribution industry. The MITS product helps us to win the business. If we didn't have MITS, we'd need to have some other product to fill that void for

data analysis. And our customers love the product. They are always looking for more things for MITI to do for them."

About Management Information Tools Inc.

Based in Seattle, Wash., Management Information Tools Inc.

(www.mitsonline.com), is the developer of the MITS Online Analytical Processing/Business Intelligence system that incorporates technology allowing the creation of OLAP hypercubes and a data-warehousing environment on a company's existing host computer. MITS systems are firmly entrenched

Zumasys and Sierra Bravo Ink Deal to Offer Web Integration Solutions

Zumasys Inc. has signed a multi-year agreement with Luke Bucklin and newly formed Sierra Bravo Corp. to offer cost-effective Web-integration solutions to customers running on databases including IBM's UniVerse, UniData and Informix, Oracle, AS/400, Pick and Business Basic.

Previously the director of Sales for Zumasys, Luke Bucklin founded Sierra Bravo Corp. with Michael Derheim and Michael Schmidt, pioneers in developing database-driven Web applications and CGI-to-legacy communication software.

"Luke has been an invaluable resource to Zumasys customers over the last two years and we see the formation of Sierra Bravo as the logical next step in our relationship," said Paul Giobbi, president, Zumasys. "We are excited to leverage our relationship with Sierra Bravo to offer additional Web solutions to our customers."

Bucklin has helped numerous companies add real-time Web integration to their legacy systems and create customized wireless application portals for field and sales force automation. Bucklin is the author of Zumasys' CRM WebTrack software. Under the terms of the agreement, Zumasys will offer Sierra Bravo's services to its installed base of nearly 10,000 paid database support customers. Luke Bucklin can be reached at (612) 823-3760 or via email at luke@sierra-bravo.com.

About Zumasys Inc.

Zumasys specializes in architecting and implementing multi-vendor technology solutions that allow remote offices and mobile users to work together wirelessly, improving customer service and profitability.

Zumasys applies its expertise with Citrix MetaFrame XP Presentation Server and Citrix Secure Access Manager to create centralized application portals that are accessed over cellular-based mobile Internet connections (i.e., 3G Wireless). These wireless application portals ultimately lower costs, increase productivity and ease application deployment. Zumasys maintains certifications in Microsoft (MCSE & MCP), Novell (CNE), CompTIA (A+), Citrix MetaFrame (CCA, CCEA & CCSP), SCO Unix, IBM (RS/6000 Certified Specialist & AIX Systems Support Specialist), mvBase, mvEnterprise and D3. Zumasys holds reseller agreements with Artisoft, Cisco, Citrix, Compaq, Digi, Fujitsu, HP, IBM, Intel, jBASE, Microsoft, Neoware, OnContact, ORINOCO, Panasonic, Proxim, Raining Data, Sierra Wireless, SonicWall, Systech, Tandberg, ViewSonic and Wyse. Zumasys is headquartered in Lake Forest, Calif. For more information, visit www.zumasys.com. ■

Web Based Interface for Public Housing Authorities Receives National NAHRO Award for Excellence

in a wide range of business areas: distribution, manufacturing, healthcare and services, to name a few. MITS is available on many MultiValue databases, including UniData, UniVerse, D3, jBASE, and mvENTERPRISE, and may be ported to other MultiValue databases in the future.

About Prelude

Prelude Systems Inc. is a leading high-technology provider of customer-centric enterprise solutions for customer service, integrated customer relationship management, asset management, and e-commerce for high volume industrial distributors. Prelude's mission is to help distributors maximize efficiency, quality, and competitive advantage through the use of advanced information systems technology. ■

Better Results has announced that the Housing Commission of Anne Arundel County, Maryland, has been awarded the 2003 National Award of Excellence in Innovation by the National Association of Housing and Redevelopment Officials (NAHRO). Better Results launched their @Your Service Web-based on-line public housing application processing solution late last year with the assistance of HCAAC, who won the regional NAHRO award prior to competing for their national recognition that was officially awarded at the national conference on October 21.

"We heard what Better Results was planning to do with their Web technology and we jumped at the chance to participate in their early adopter program," states Harvey Cook, HCAAC director of Information Technology. Cook continues, "Since implementing the initial housing application module in the fourth quarter of last year, we have processed in excess of 700 applicants on-line, thus relieving a tremendous burden from the shoulders of our processing staff."

The @Your Service Web-based interface for Public Housing Authorities originally was developed as a single event solution providing public housing applicants an easy interface to apply on-line for housing assistance. As a result of the successes at HCAAC, @Your Service has been re-designed to include additional modules for on-line real time Wait List Status Checking and Web-based Vendor Payment Status. Enhancements in the areas of Purchase Order Routing and On-line Job Applications are in the planning stages.

"We are extremely proud of NAHRO's recognition of HCAAC, Harvey Cook and his team for their dedication and desire in creating alternative methods for housing clients and vendors to better utilize the systems and resources that are available," comments Jeff Jakus, president of @Better Results. "We are looking forward to a long-term development relationship with HCAAC as we further develop the @Your Service solution and provide leading-edge housing specific technologies in the future." HCAAC is also one of the many housing agencies that has successfully implemented Better Results' enhanced ad-hoc query and reporting technologies based upon the ViaODBC suite of connectivity tools, the original Better Results product focus for the Public Housing Market. ■

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Zumasys

Customers Win QUALCOMM Awards for Innovative Wireless Solutions

Zumasys Inc. proudly congratulates its customers Momentum Group and Servall Company, a winner and a finalist, respectively, for QUALCOMM's inaugural 3G cdmaA-List Awards. The 3G cdmaA-List Awards is a program recognizing leading companies, public agencies and non-profit organizations for their innovative wireless data solutions based on 3G CDMA technology. The A-List winners were announced at an exclusive awards reception at CTIA Wireless IT & Entertainment Show 2003 in Las Vegas.

The Momentum Group, a commercial textile company, won the A-List Impact award for the medium companies category. The A-List Impact Award was presented to organizations for their respective wireless data solutions demonstrating meaningful results and which have made a significant financial, humanitarian or industry impact.

"We congratulate Zumasys on helping the Momentum Group and Servall Company use wireless data to improve their business processes," said Jeff Ross, director of Enterprise Market Development for QUALCOMM. "Zumasys provides a great example of how companies can reap the benefits of 3G CDMA."

The Momentum Group uses a mobile solution provided by Zumasys that is comprised of PCS Connection Cards by Sierra Wireless (Aircard 550), Panasonic R1 notebooks and Citrix MetaFrame Presentation Server, enabling sales agents to wirelessly access corporate applications. This mobile access allows sales agents to more efficiently track sales calls; search for, print and show textile samples to customers without leaving the customer site, capitalizing on real-time access to information; and point-of-sale closure. Besides being able to tote a two-pound laptop instead of a 50-plus pound bag of textile samples, Momentum's sales agents were able to track twice as many project opportunities in the first six months of implementation. The company is also able to project inventory demand based on sales opportunities in the pipeline.

The Servall Company was named as a finalist for the A-List program for the small companies category. Servall uses ruggedized Panasonic Toughbooks equipped with PCS Connection Cards by Sierra Wireless, Citrix MetaFrame Presentation Server and Citrix MetaFrame Secure Access Manager, enabling field service technicians to wirelessly access corporate applications securely over the Internet. Field service technicians can look up parts and model numbers, determine pricing, check inventory, process orders and check product warranties. This solution is enabling service technicians to process an order from a customer's home or business, improving customer response time and allowing technicians to solve more problems on the spot with real-time information. The solution has also eliminated calls back to the company's call center and reduced back-office administrative costs and manual paperwork.

"Zumasys is pleased to play a critical role in enabling its customers to successfully implement advanced wireless data solutions that are impacting and improving business operations," said Paul Giobbi, president of Zumasys. "By understanding the unique needs of our customers, Zumasys will continue to help companies increase employee productivity and improve customer satisfaction."

Based in Irvine, Calif., Momentum Group creates textiles including woven fabrics, vinyl, leather and cubicle cloth, and provides extensive custom services. For more information, visit www.momtex.com.

Based in Center Line, Mich., Servall is a regional distributor and service company for heating and cooling products and other major appliances from manufacturers such as General Electric, Maytag and Frigidaire. The company's biggest customer for parts is the product service and repair technicians at Sears. For more information, visit www.servallco.com. ■

Key Ally and Borland Award Delphi 7 Studio Enterprise Edition at Spectrum Shows

Key Ally Inc. and Borland International were pleased to award the following people a full version of Delphi 7 Studio Enterprise Edition at the recent International Spectrum Shows:

Cincinnati Spectrum MultiValue Conference
Joe Miller

London Spectrum MultiValue Conference
Mark Fuller

Australia Spectrum MultiValue Conference
Chris McGlinckey and Trevor Ockenden

New Jersey Spectrum MultiValue Conference
Carol Brown and John Sody

Apscore and ONgroup Form Partnership to Run MultiValue on Oracle in Australasia

New Partnerships Provide the U2, MultiValue and PICK Community with ONware and the Highly Available, On-demand Infrastructure Provided by Oracle and Oracle Application Server

Apscore has signed on as a new member of the Oracle PartnerNetwork to provide the Australasian MultiValue community with software and services that allow MultiValue software to run directly on Oracle and Oracle Application Server.

ONware allows MultiValue BASIC programs, dictionaries, paragraphs, PROCS, sentences, editor, commands and other common MultiValue features to work the same on Oracle as they do in a U2 or PICK environment.

Using ONware and Oracle as an integrated platform, Apscore will enable organizations running mission-critical

applications on one of the common MultiValue platforms to take advantage of the advanced business features of Oracle, including high availability, high utilization, portals, wireless, real application clustering (RAC), best-of-breed security and more.

James Murray, Apscore's managing director, states that "bringing the advanced business capabilities of Oracle and Oracle Application Server to the MultiValue market will add significant value to applications currently running on UniVerse, UniData or PICK-style databases. Value Added Resellers (VARs) as well as end-user

organizations that are looking to squeeze every ounce of value out of their existing environments will welcome the opportunity to run their mission-critical applications virtually unchanged on and with Oracle technology."

Given Apscore's outstanding reputation in the MultiValue marketplace worldwide and, in particular Australasia, Apscore is uniquely positioned to bring Oracle and Oracle Application Server technology to the MultiValue marketplace, the companies said.

About the Oracle PartnerNetwork

The Oracle PartnerNetwork is a global business network of more than 12,000 companies who deliver innovative enterprise software solutions based on Oracle software. Through access to Oracle's premier products, education, technical services, marketing and sales support, the Oracle PartnerNetwork provides partners with the resources they need to be successful in today's Internet economy. Oracle partners are able to offer leading-edge solutions backed by Oracle's position as the world's largest enterprise software company.

About Apscore

Apscore International (www.apscore.com.au) has been serving the business community since 1983, specializing in Application Run Time Environments and Application Development Tools.

Apscore's team of experts bring decades of experience in helping clients, worldwide, reach their IT goals with benefits including:

- ◆ Re-use of IT software assets versus re-engineering mature and stable legacy systems
- ◆ Choice of mainstream development and productivity tools and the ability to use them with legacy business systems
- ◆ Full integration of legacy database attributes with business applications already running in the world of Oracle without change to the legacy program code
- ◆ Sharing the same data repository (Oracle, etc.) across all business systems

About ONware From ONgroup

Oracle Application Server when licensed through ONgroup, Apscore or its distributors includes a MultiValue API. Dozens of large organizations, including VARs, government agencies, universities, healthcare, financial institutions, and Fortune 100 companies are redeploying mission-critical, MultiValue applications on Oracle. Few, if any, changes to the MultiValue applications are required to make the transition from PICK or U2 to Oracle and to begin taking advantage of technology innovations such as grid computing.

With the Oracle API, the barrier between MultiValue environments and the relational world is gone.

ONgroup specializes in helping organizations with MultiValue technology, such as UniVerse, UniData, Prime and PICK, migrate to or integrate with standard relational technology such as Oracle. Visit www.ongroup.com for more information or contact ONgroup by sending an email request to sales@ongroup.com ■

Australia Spectrum 2003 Attendees Experience MultiValue and Oracle Technology

Attendees to the **Australia Spectrum 2003 show** in Sydney (Oct. 23 - 24) learned firsthand why an expensive and time-consuming project, such as integrating MultiValue and Oracle technology, is no longer the challenge it once was.

Oracle and ONgroup have formed an alliance that lets MultiValue applications operate under Oracle's 9iAS without reengineering, a hot topic at the conference.

Thanks to this alliance, you can now move your application to Oracle without reengineering. It looks and feels the same after the move as it did before, right down to the ability to continue coding in Data BASIC.

At the conference, Stuart Fenwick, Oracle Australia's 9iAS specialist, discussed the impact of Oracle's new relationship with the MultiValue market and some of the additional benefits of deploying your applications on Oracle9i Application Server using J2EEv1.3 compliant components such as JSPs, Servlets, EJBs, Web Services, caching and portals. Attendees heard how they could Web-enable their MultiValue applications under Oracle9iAS, which offers the highest level of security and the best performance of any application server in the market today.

Fenwick has been with Oracle for more than eight years, initially from a technical background working with Oracle U.K. and U.S. in consulting and more recently in positions in pre-sales and sales in Australia. He has presented papers on Oracle and open standards technology at major Oracle conferences, user groups and independent seminars. ■

Manufacturing Companies Select OHMWeb-centric ERP Solution

For years OHM has been quietly installing OHM-WARE ERP to its share of the manufacturing application world. Now with OHM's OHMWeb release of 33 robust modules for ERP applications, small, medium and large companies are lining up to become OHM users.

Why is OHM's recent release in such demand? According to OHM Systems, the answer is simple.

OHM's product is truly Web-centric with no layers or interfaces, requires only a browser to execute, and can act as both your Internet and Intranet solution. OHM is able to provide field level validation at time of input with no page submission required. This was a challenging technological process to meet, but OHM knows that users in busy companies don't have time to receive error messages to correct, only to resubmit and find that based on the changes made, they now have more errors to correct. Users in a dynamic, fast-paced environment need to have instant feedback.

OHM further wins over the users because it accommodates "heads down" data entry. Mouse is optional! This again adds to the individual's productivity and streamlines the business processes. But OHM doesn't stop there. It takes its powerful, feature-rich system and applies its easy usage into manufacturing processes through shipping, invoicing and sales analysis for a total solution system. OHM's product is rules-based, allowing for personalization of screens, reports and forms using OHM's Web-centric Application Development Environment (WADE) product. Want to email or fax a page? Send to Excel? There's no programming. Simply pull up the form or page that you wish to affix the capability to and check the optional radial buttons. All the programming logic and threading of processes is done by the power of the WADE product.

Why should users wait for requests to have reports sorted differently, or to have the ability to send to other printers, or to set up their own menus (based on security profiles, of course)? They shouldn't. Nor should the IS department have to schedule this type of work. This gives much-needed time back to the IS department to concentrate on the bigger picture of projects and moving the company goals ahead.

Manufacturers in the selection process of new applications have used criteria of "name-brand" recognition and size of companies. When OHM is asked why it doesn't have hundreds of programmers, the answer is simple. Because of its own product development tools, which use the concepts and underlying power of WADE, the company does not require hundreds of programmers. The company said that less overhead provides better cost value to its clients.

OHM is providing an easy maintenance system to change with business changes. Manufacturers should not have to conform their business practices to meet software requirement, according to OHM. OHM's team will learn your business requirements and respond by showing you how to execute and set up using the OHM product.

OHM is an international company with a U.S. office in Cincinnati, Ohio, and International R&D in Bangalore, India. You can visit the Web site at www.ohmworld.com. ■



IBM's Susie Siegesmund and Mike Peternell visit IBM Partner OHM Systems. Posing at OHM headquarters (left to right) are Catherine Anbil, OHM vice president of Sales; Mike Peternell; Susie Siegesmund; and Suresh Anbil, OHM president.

Mike Peternell, IBM senior IT specialist, after a recent visit to OHM with Susie Siegesmund, business unit executive for IBM U2 products, stated:

"The OHM Systems technology never fails to put me in a state of awe! Each time I visit OHM Systems, they continue to demonstrate their intimate knowledge of the IBM technologies that are embedded into their applications. I travel quite a bit visiting other IBM Partners and quite honestly, OHM Systems is in the top-tier of IBM Partners offering state-of-the-art applications and tools. Their look-up's, field level validations and amount of application personalization are absolutely awesome!"



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PDA User Interface Guidelines:

PocketPC Part 3

BY NATHAN RECTOR

Last issue, I covered some of the user interface (UI) guidelines for Palm OS devices. This time, we'll focus on the PocketPC UI guidelines.

Microsoft has not published any common display guidelines like Palm has. This is a bit of a disappointment because it causes each developer to come up with their own, which leads to inconsistency between programs.

This also leads to the user having to think about which application they are using and how it operates.

Most of the information in this article is derived from personal observation rather than from set guidelines.

Control Placement

PocketPCs don't have a graffiti section like the Palms do that is a physical part of the hardware. Their graffiti section is a virtual pad that will only show if you tell PocketPC to show it. This is nice since it gives you more screen space, but makes it difficult to enter information when half the screen is hidden when the graffiti section is visible.

Because of this, make sure to place at the top of the screen the more important information you are going to need

to know when you're entering alphanumeric information. An alternative to this is programming to shift the information around on the screen when the graffiti section is displayed. This may or may not be a realistic approach depending on your applications.

Since most people are right handed, many will hold the device in their left hand and the stylus with their right. Because of this, I would recommend that the most used fields be placed on the right hand side of the screen.

I've said this many times: Do not clutter the screen. Even though PocketPC devices have larger screens than Palm devices, they still do not have a lot of screen area. Since PDA devices are used mainly for quick review of information, people tend to process the information as a picture. If you clutter the screen, then it requires the user to read the screen in order to process the information, as opposed to glancing at the screen.

PocketPC devices are more graphically oriented than the Palm OS. This allows you to use lines and boxes to help group user interface elements together.

Labels

Provide a label for any control or option that requires further explanation. Right justify the labels and left justify the fields.

Labels use bold font and right justifies

A form with four single-line text boxes. The labels are: "First name:", "Last name:", "Email:", and "Work tel:". The labels are right-aligned and bold. The text boxes are left-aligned. At the bottom right are "Save" and "Cancel" buttons.

Displaying Data

To display data, you can use text boxes, tables, or lists. Text boxes are good for allowing free-form entry of text and for

displaying large documents. Tables and lists display columnar lists of data.

Text Box

Text boxes are good for displaying large amounts of alphanumeric data. Text boxes can either be multi-lined or single-lined. Multi-lined text boxes are best used when you want to display document style information.

Multi-Line Text Box

Multi-line text box

A form with four single-line text boxes and one multi-line text box. The labels are: "First name:", "Last name:", "Email:", "Work tel:", and "Notes:". The labels are right-aligned and bold. The text boxes are left-aligned. The "Notes" field is a multi-line text box containing the text: "President", "Visual Basic", "Palm OS", "Pocket PC", "Symbian". At the bottom right are "Save" and "Cancel" buttons.

Single-line text box

Single line text boxes

A form with four single-line text boxes and one table. The labels are: "First name:", "Last name:", "Email:", "Work tel:", and "Notes:". The labels are right-aligned and bold. The text boxes are left-aligned. The "Notes" field is a table with the following data:

President
Visual Basic
Palm OS
Pocket PC
Symbian

At the bottom right are "Save" and "Cancel" buttons.

Table

Use a Table to display groups of dependent information, or provide a list of information that needs to have more than one piece of information displayed. Tables can also include icons and other visual information.

Continues on page 24

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Table

Contact list	
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Rector, Nathan	sales@natecsw

Click on a contact to view details

Command Buttons

A command button is used to perform a command of some kind: for example, used to display a detail screen, or to accept the changes to an existing screen. Place a single row of command buttons at the bottom of the form.



Tool Bar/Menus

PocketPC has a toolbar and menu system at the bottom of the screen. This allows you to include additional functionality in your application without taking up screen space.

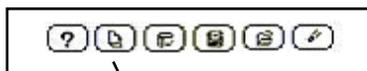
Place common but not used actions like "New Items" or "Exit" in the toolbar and menus. This allows the user to get access to them quickly, but you don't clutter your screen with buttons.

Graphical Controls

The command button and push button controls allow you to substitute a graphic for the button name. Only use graphics on buttons if there is a common, clearly defined icon similar to what is currently found in a desktop application. For example:

- ◆ Web browsers use similar arrow buttons for browsing history.
- ◆ Document readers often use arrows to move to the next page.
- ◆ Most desktop applications use a clipboard to denote paste, scissors to denote cut, and so on.

If there is not a clear predefined icon or symbol, then avoid creating your own graphical symbol for the command. It's difficult to make a graphic small enough to be useful while clearly conveying its meaning. Desktop applications often have several graphic buttons, but desktop applications often rely on tool tips to help the user learn what each graphic means. PocketPC devices do not have tool tips to help the user.



What do these buttons mean? There are no tool tips to help the user.

Color Support

PocketPC devices are designed around color screens. There are a few devices that are black and white, but for the most part they are very hard to read because of how PocketPC screens were designed in the first place.

You basically assume if you're programming for a PocketPC device you have color. This is contrary to the Palm OS devices that have more black and white devices than color devices in the marketplace.

The following is the common color patterns on PocketPC devices:

Here are some guidelines to follow for adding color to your applications:

Color:	Red	Green	Blue
White	255	255	255
Teal	0	255	255
Purple	255	0	255
Blue	0	0	255
Light grey	192	192	192
Dark grey	128	128	128
Dark teal	0	128	128
Dark purple	128	0	128
Dark blue	0	0	128
Yellow	255	255	0
Green	0	255	0
Dark yellow	128	128	0
Dark green	0	128	0
Red	255	0	0
Dark red	128	0	0
Black	0	0	0

◆ Display no more than four colors on a single screen at one time and limit the colors for your entire application to fewer than eight.

◆ Use color in combination with other emphasis techniques to distinguish areas on the interface and identify important features. Never use color alone to distinguish elements because users might have difficulty distinguishing colors under various lighting conditions. Also use fonts, icons, screen placement, or patterns to distinguish screen elements.

◆ Use common color associations, such as red for stop or green for go, to enhance familiarity.

Launching the Application

Your application must launch quickly. The typical length a user is interacting with your application is one or two minutes. If you do not include some kind of visual change within a second of your application starting, the user will assume they did not tap the screen correctly or the device is locked.

During a normal launch, you should not display a splash screen unless absolutely required. You might display a splash screen if this is the first time the user launched the application, or if the application is running as a demo that will eventually expire and you want to show how much time is left, or if you need to display disclaimer information for corporate reasons.

Always return to the last place the user was at before the application was exited. The user assumes that if they switch programs, the current program they are in is just pushed to the background and is still running. If they aren't returned to the same location they left from, they may assume they lost their work.

Exiting the Application

PocketPC applications have an OK button in the upper right hand corner. This button does not close the pro-

gram, but hides the program. This means that it can stay running for an extended length of time without the user knowing it's still running.

Microsoft did this to minimize the length of time the user has to wait for the application to start once they have accessed the program at least once. The only time PocketPC applications will be unloaded other than by the user themselves, is when the PocketPC OS decides that it needs more memory for a running application and unloads the application that has been used the least.

Unlike Palm OS applications, you will need to add an Exit menu option to your application. Since it is left in memory all the time, you may need to have a specific tool to unload it from the memory

when you upgrade the program or when you need to interact with a database that the application currently has loaded.

Conclusion

PocketPC applications do not have a lot of hard user interface rules to follow when designing them. The key is to keep the look and feel of the programs the same so that your user does not have to learn to interact differently with each of the programs they have on the device. 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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Behind the Scenes of OpenInsight:

The Repository

BY MIKE RUANE, REVELATION SOFTWARE

As discussed in previous articles, OpenInsight is a very powerful development tool for creating MultiValue applications for the Windows and Linux desktops. However, the detail of what is going on behind the scenes is not readily apparent. In this column we hope to shed some light on these mysteries.

A core piece of OpenInsight is the Repository. OpenInsight is a repository-based

development tool, which means that data about the components in the application is stored and is usable by other processes. And although most of the repository functions are handled automatically, the astute developer will take advantage of this powerful tool and really make an application swing. Read on for some basic information and juicy details!

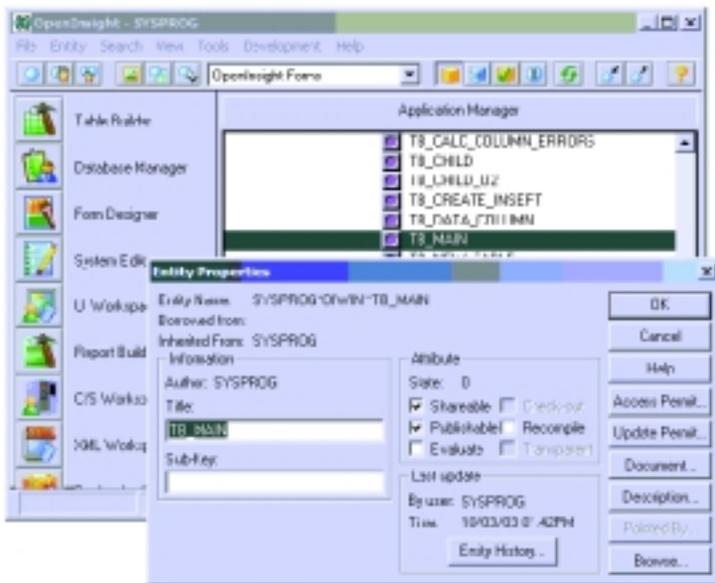


Figure 1: Repository Information for an Entity created from within OpenInsight

Tools and Tables

Since OpenInsight doesn't have a TCL line per se, developers use the tools in our Integrated Design Environment (IDE) to create the various components of their applications. The Form Designer is used to create data entry forms and menus, the UI Workspace is used to create Popups, Help Notes, and Messages, and the System Editor is used to create programs or modify

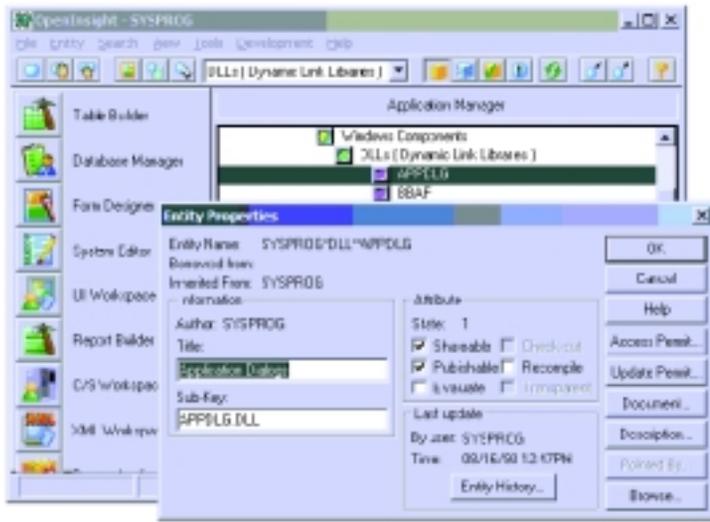


Figure 2: Repository information for an Entity not created from within OpenInsight

OpenInsight's Repository is a series of files, indexes, and triggers (known as an MFS or BFS in the OpenInsight world) that keep track of information about entities in OpenInsight, such as information regarding the creation of the entity, who last accessed it, who last compiled it, what other entities this entity uses, and what other entities use this entity. Figure 1 shows an example of this. The Repository is also used to track information about components of an OpenInsight application but are not created within OpenInsight, such as DLL files, OCX files, bitmaps, JPGs, etc. Figure 2 shows an example of such an entity. This allows for some very powerful development options, and we'll cover some of them later in this column.

data. The Reporting tools, XML Workspace and Client/Server Workspace do the same. Each of these things — a window, popup, or message — are known in OpenInsight as Entities. This is simple enough to know and

use the product, but where are the actual windows, popups, and programs stored? In two places actually — the first is a file used specifically for the type of entity created, and the second is a file known as the Repository.

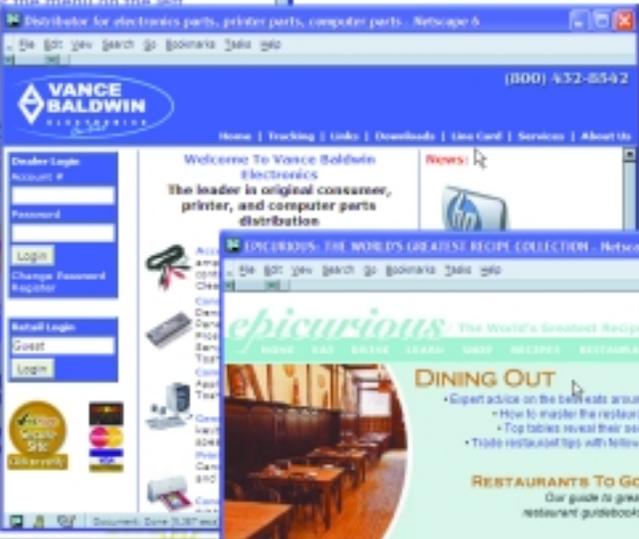
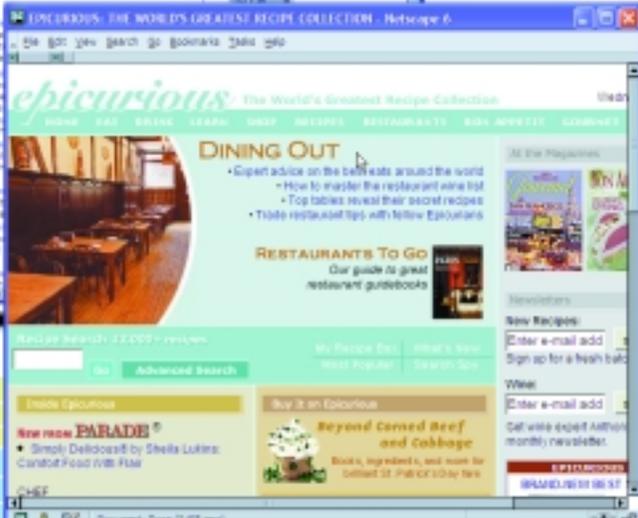
Continues on page 28

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	Pat Number: 08528				
	Description: Ruggedized PicoDot Polarized Ratio Laser				
3		\$5.00		\$5.00	YES

BEHIND THE SCENES OF OPENINSIGHT: THE REPOSITORY

Continued from page 27

However, at this point it is helpful to remind the reader of the fact that in OpenInsight, everything created in an OpenInsight tool is stored as a record in a file in an OpenInsight database. So, program source and compiled code

are stored in OpenInsight files, as are popups, reports, messages, and so on.

So, which tool's entity goes into which file? Table 1 shows some of the main OpenInsight tools, what they create, and the primary storage file:

TOOL	ENTITY TYPE	FILE	DESCRIPTION
Form Designer	OIWIN	SYSREPOSWINS	Window Source
Form Designer	OIWINEXE	SYSREPOSWINEXES	Window Object
Form Designer	OIEVENT	SYSREPOSEVENTS	Event Script Source
Form Designer	OIEVENTEXE	SYSREPOSEVENTEXES	Event Script Object Code
UI Workspace-Popup	POPUP	SYSREPOSPOPUPS	Popup
UI Workspace-Messages	MSG	SYSREPOSMESSAGES	Message
UI Workspace-Help Notes	APPNOTE	SYSREPOSAPPNOTES	Help Messages
System Editor	STPROC	SYSPROCS	Program Source
System Editor	STPROCINS	SYSPROCS	Program Inserts
System Editor	STPROCEXE	SYSOBJ	Program Object Code
Report Builder	OIREPORT	SYSREPOSREPORTS	Programs

Table 1: Some of OpenInsight's tools and the files they use. There are quite a few others, but these are the main ones.

The SYSREPOS File — The Heart of the Repository

The main repository file is called SYSREPOS, and has a four part key. With this key we can uniquely identify every type and class of entity that an OpenInsight application needs. The key structure is as follows:

Application ID * Entity Type * Entity Class * Entity Name

The **Application ID** is analogous to an Account in the MV world.

The **Entity Type** is a broad classification of the entity — the entity is either an OpenInsight window or Window executable, a stored procedure, a popup, a report, or an event.

Some of the different entity types require a further classification to ensure uniqueness, so a further classification of **Entity Class** is required. For example, we may have an entity that is of type Event, but which event? Click, Got Focus or Double-Click? The Class lets us know.

The **Entity Name** is simply the name of the entity as it was saved in the tool.

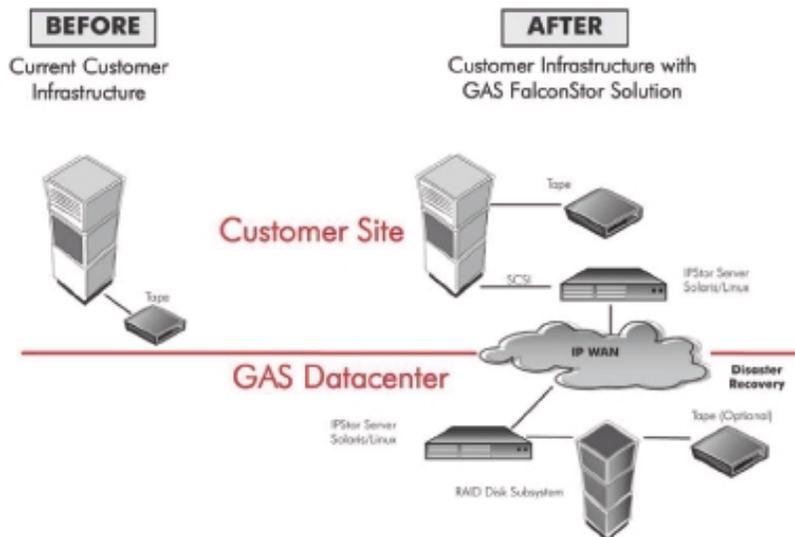
So, for the Customers window in the SYSPROG account, the repository key would be SYSPROG*OIWIN**CUSTOMERS, and the key for the executable version of the screen would be SYSPROG*OIWINEXE**CUSTOMERS.

It is important to remember that the Repository does not store the entity itself, but rather data about the entity (metadata, to be exact: data about the

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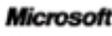


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BEHIND THE SCENES OF OPENINSIGHT: THE REPOSITORY

Continued from page 28

data!). The following list contains some of the attributes of an entity tracked by the Repository.

Author - The username of the person who created this entity the first time

Access Permit - You can limit which users can use this entity

Update Permit - You can limit which users can modify this entity

Sub Key - A pointer, usually to an operating system file, for those components in an OpenInsight application not made by an OpenInsight tool, such as images, DLLS, etc.

Used By - This is a value-mark delimited list of all the other entities that use this entity. For example, a validation program might be used by many screens. All the screens would be listed in the Used By field for the validation program's entity.

Uses - This is a value-mark delimited list of entities used by this entity. For example, a data entry form may use a data table, some popups, and validation routines. These entities would be listed in the Uses field for the data entry form's entity.

Evaluate and Evaluate Notes - This is a Boolean flag that is set either by the Repository itself or a developer indicating that this entity needs to be looked at. The notes provide an area to enter a description.

Checkout - This is a Boolean field indicating whether or not an entity is checked out. When an entity is checked out it means that no one else except for the user who checked out the entity can make changes to it. Others may still access (use) the entity, but they cannot make any changes to it.

There are a few more fields, but these are arguably the most important ones.

OpenInsight's Repository is a powerful, watchful component that makes the life of an OpenInsight developer more structured and productive.

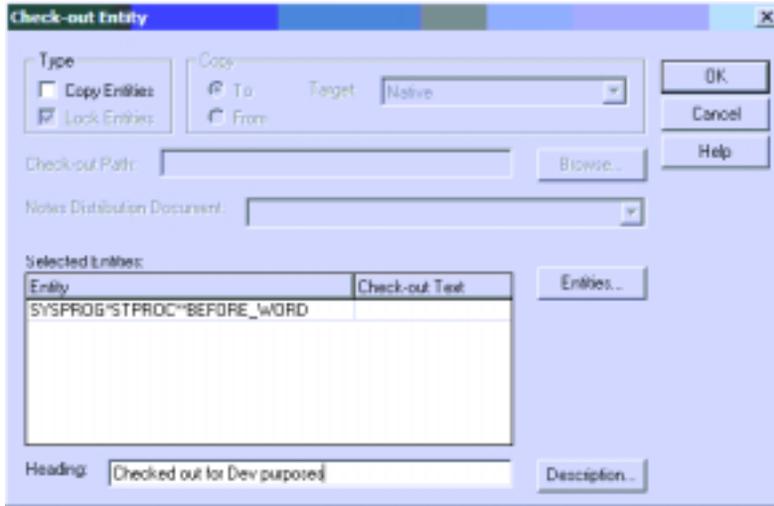
Using OpenInsight's Repository

As mentioned earlier, every single entity created in or used by an OpenInsight application is tracked in the Repository. All the tools in OpenInsight use the Repository to access the entities, check on permissions, etc. So, as a developer, how can one use the Repository to one's advantage?

One area is collaborative development. If you have an OpenInsight project where there are multiple

developers working on the application, the Repository comes in very handy. If I am a developer on the project, and I want to be sure that no one else uses a routine I'm writing named BEFORE_WORD, I would check out the routine as seen in the following screen.

Then, if another user tried to modify that program, they would see the following error:



Another feature is the use of Impact Analysis when developing. Have you ever wondered, especially in a system that you don't know so well, what the effects are of a change you're making? Impact Analysis lets you know. For example, if I were to try to see what would be affected by my deleting the Books table from my SYSPROG application, the following screen will appear:

Continued on page 32

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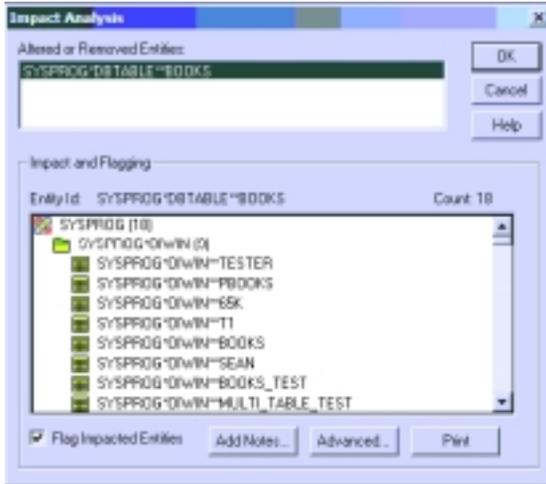
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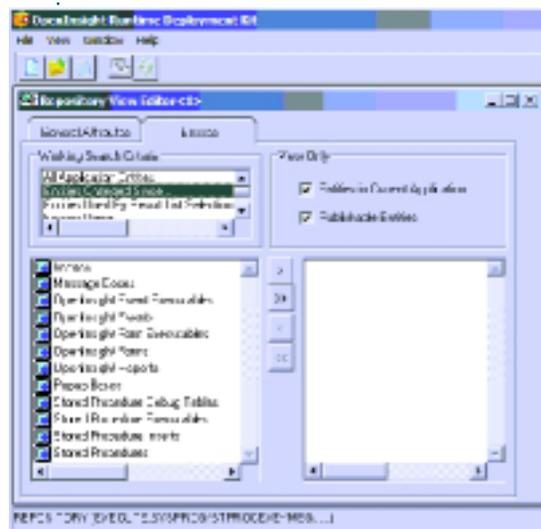
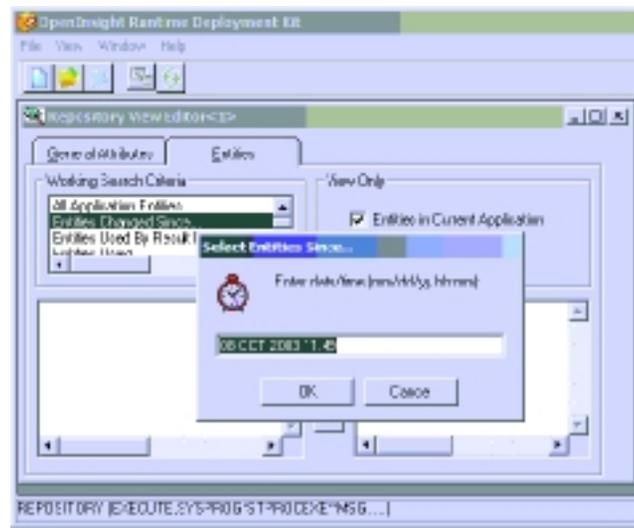


This tells me that 18 other entities will be impacted by my modifying or deleting this table, so I better be sure about the changes I'm going to make.

One final way that the Repository can make a developer's job easier is when it comes time to deploy an application. OpenInsight's Runtime Deployment Kit (RDK) lets a developer roll out changes that can be installed in a user's system, whether it's a development or runtime system. In many systems, updates are tracked via the "Yellow Pad" method — every change made to a system is noted on a yellow legal pad, and an update file and script are created by hand, and everyone hopes that all the changes were in fact written down.

Since the Repository tracks every change made to every entity in an application, it is relatively easy to create an update for a client. If I needed to roll out every change made since the 8th of October, I could go into

OpenInsight's RDK and select them using the following window:



The results of this selection are then populated and I can click and choose which specific ones I want to roll out to the client. (See Figure 3 below)

Is That It?

Is that all that the Repository does? Of course not, but it is all the space we have in this column. The Repository can also be used to quickly get lists of types of components for entities for programming or tool purposes; it can be used to launch any type of entity

in the correct tool; it can even be extended to support new types and classes, as we did when we rolled out our XML functionality. In summation, OpenInsight's Repository is a powerful, watchful component that makes the life of an OpenInsight devel-

oper more structured and productive, freeing them from a number of mundane, redundant tasks and letting them concentrate on the important things — developing the systems that the client wants. is

Figure 3

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Executive Expression of Interest Maintenance Client Maintenance

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

Sales Transactions (Current Year)

Sale Date	Product	Quantity	Unit Price	Extended Price	Tax	Total (Inc Tax)
01/10/2003	Widgets (Blue)	5	305.25	1,526.25	152.63	1,678.88
28/09/2003	Widgets (Red)	10	305.25	3,052.50	305.25	3,415.00
13/09/2003	Widgets (Green)	5	305.25	1,526.25	152.63	1,678.88
24/08/2003	Widgets (Black)	10	305.25	3,052.50	305.25	3,415.00
15/06/2003	Widgets (Blue)	5	305.25	1,526.25	152.63	1,678.88
26/05/2003	Widgets (Red)	10	305.25	3,052.50	305.25	3,415.00
26/04/2003	Widgets (Green)	5	305.25	1,526.25	152.63	1,678.88
17/03/2003	Widgets (Blue)	5	305.25	1,526.25	152.63	1,678.88
25/02/2003	Widgets (Red)	10	305.25	3,052.50	305.25	3,415.00
26/01/2003	Widgets (Green)	5	305.25	1,526.25	152.63	1,678.88

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Why You Willingly Give Away the Farm

BY MELVIN SORIANO

OK, so it's not just teenage kids who are hooked. Grandparents, moms and dads are hooked, too. And if you look around most corporate office environments, many of the newest technologies are incredibly popular. But the combination of two of these, instant messaging and Wi-Fi wireless, creates all sorts of risks that they might not realize.

Or maybe they do, but just don't care. Either way, it's a startling idea. We start whispering if the person in the adjoining seat at the airport lounge even appears to be listening in on our cell phone chitchat, yet we blab on and on about our financial projections, credit card transactions, purchases and sales prospects with alarming casualness online.

I'm not trying to bash the new technologies; I use them, promote them, depend on them. Popular technologies such as instant messaging and wireless make employees and work groups more productive, especially if they are mobile or are in various locations. But they also give hackers a lot of interesting opportunities.

Imagine a common scene. Joey uses instant messenger, at home and at the office. He works for some firm, where he chats online with customers, prospects, colleagues, family and

friends — many at the same time. It's a good way for him to figure out who needs attention most. One moment, it's a co-worker, other times, it's a prospect. If one of his friends or family rings up his chat account to say hi, he can ignore them until a more convenient point. It's like screening your phone calls, but using text and your PC screen.

But, unlike the phone, you can do more than one thing at a time. Joey can talk on the phone and have several chat conversations going, even albeit intermittently, throughout the day. In many ways, this serves his needs better and can make him more productive than before.

Perfect world, right?

The problem is that the increased productivity, attractive as it might be, comes with increased risks. Security risks to be specific. Companies need to be sure that their workers don't send proprietary data over unmonitored channels. It's already been well-documented how viruses get in and around via email, but in many ways, it's the information that goes out of a company that can cause more damage.

You might think that the data is safe, destined directly to a chat or email client that you've

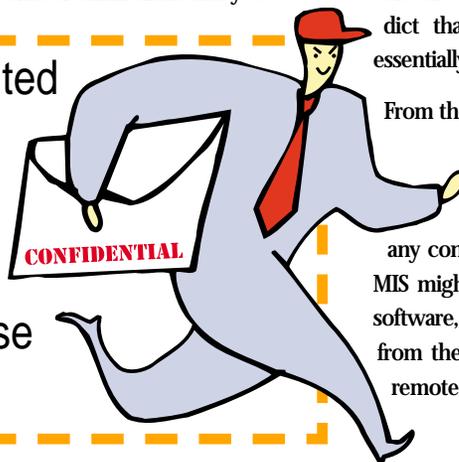
identified. But most chat programs and wireless networks simply lack adequate safeguards when it comes to confidential information. For many regulated industries and government branches, these channels may not be adequate. They are frequently required to transcribe or archive activities and transactions at every step. Most chat programs and certainly wireless network activities don't facilitate this.

In the past, chat programs have contributed to business problems. There have been instances where confidential information was instantly transmitted over networks to colleagues regarding possible stock prices, and those comments were shared as public information. The immediacy and lack of formality of the medium sometimes fools users that they are in a secure, private communication when they really are not.

The thing to remember is that we're going to see more of these situations. New technologies such as instant messaging and wireless networks have flourished at companies worldwide. Employees seem to love the easy communication. According to some studies, in 2002, over five of six corporations had chat software in use on their networks. Some predict that this percentage will increase to essentially universal use within five years.

From the MIS perspective, chat programming might seem a nightmare. In many cases, employees are downloading their own chat programs, without any consensus or standards in the company. MIS might even be the last group to use the software, as they might not benefit as much from the instantaneous communication with remote or distributed staff. This disconnect

It's already been well-documented how viruses get in and around via email, but in many ways, it's the information that goes out of a company that can cause more damage.



makes it quite difficult to monitor chats or to protect sensitive corporate information.

Of course, that means companies respond intelligently, right? Not quite. Despite the obvious productivity benefits that users love, many companies simply resort to their default behaviors and ban technologies they can't control. Others have put them into a "test phase" to see what management issues are involved.

Well, as any security expert or even libertarian-oriented person would assert, banning something that people want or like will simply motivate them to sneak the software into the company illicitly. Creating a contraband product in a way makes the company less secure and creates resentful employees who believe that they are being prevented or inhibited from succeeding.

What about connectivity tools such as wireless? This hardware can make workers productive while away from their desks. But they are also in use within office networks as well. In fact, in many large corporations, they might be in use even if there is a policy or perception that there is not a hot spot on company grounds. And, if the experts don't know that wireless is in use out there on the shop floor or up in marketing, then there are tremendous security gaps. It's highly doubtful that the unapproved implementations will have adequate security in place.

In other words, any passerby, myself included, with a \$20 wireless or with a Wi-Fi enabled PDA can access the corporate network and peruse confidential customer, medical or financial data.

Fortunately, wireless technologies can be made reasonably secure with just a little configuration. (See previous "Webonomics" articles in Spectrum magazine.) The Wi-Fi standards come with encryption built in, though in an admittedly weak form. For us road warriors, we just need to enable the security provided in the gadgets. For businesses, the standard encryption isn't good enough to protect the most valuable data; a sophisticated or determined hacker could probably crack the encryption within a few days or even hours.

Companies should therefore install a VPN, or virtual private network. These create secure channels between the employee's computer

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and the business network. Databases are far more secure then.

Chat software can be somewhat secure as well. MIS departments could let employees use free, popular chat programs then add a layer of security software. Some of these chat programs are now introducing proprietary security built in. If you were looking at third-party software, there are products that allow system administrators to monitor, search, archive and manage instant messages and file transfers.

Some of these programs also include content filters. Now, most people think that such filters work only with sexual or offensive materials. In fact, they can also be enhanced to detect other sensitive vocabularies, including words such as "guarantee," "free," or "lawsuit." Corporate lawyers and HR departments can then examine such data to determine if policies or laws are being broken. Of course, such filtering would be somewhat self-policing; you would inform and instruct employees that their conversations were being audited and they would, one expects, refrain from violating any policies or laws.

There are also programs that offer proprietary chat experiences. These programs are designed for the business environment. The main chat providers are going to start offering commercial alternatives soon, with options such as monitoring, archiving and filtering included.

Going proprietary though means that you lose some of the benefits of using the popular chat programs. Moreover, if the chat software were only in use in-house, employees who felt that hot breath of Big Brother in the chat room would resort to using old fashioned telephones

to distribute illicit information, further eroding the efficacy of such software.

For those who would prefer less proprietary solutions, there are consolidation programs such as Trillian that blend all the major chat programs into one auditable application. These programs aren't as effective when it comes to managing large chat implementations, but they do include audit trails that can help protect the company.

Most experts believe that the security weaknesses in wireless, chat or other new technologies will eventually be addressed, just as email now has more control than in the past. Nevertheless, people are in fact working from home, just as they sometimes do personal activities at work. With such realities, MIS departments will have to be attentive but flexible. With the rapid evolution of technology and the ever-increasing demands for more productivity, there really is no other way to succeed. 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.

WEB SERVICES AND .NET, PART 2

RESEARCH *before*
DEVELOPMENT
BY TONY GRAVAGNO

In the first article, I provided a basic description of both Web Services and .NET. It's impossible to truly define technologies in one article when there are entire books covering the topics, but I hope you have a better understanding of them. These articles intend to provide information to help you make knowledgeable decisions for enhancing your business software. Once again, I have asterisks* to indicate more material is available at <http://Nebula-RnD.com/Spectrum>.

In my early research of Web Services I was baffled by the glut of new acronyms, protocols, components, and language options. Before starting development for Web Services, there are many things to know which trim your R&D time and expenses, and that's what this article is about.

The basic concept of Web Services (WS) is simple: pass messages between systems to invoke functions and return data. Implementing WS requires consideration of several layers involved in these communications. Required layers are Packaging (also called Messaging) and Transport. Optional layers include Security, Discovery, and Description. These will all be described soon.

Basic agreement between systems at each layer is required for trading partners to exchange messages. Unless both sides use compatible protocols, there is no communication. But there are still competing protocols for each layer, and competing implementations for each protocol. Variety is healthy, however our own market has many examples of inter-platform incompatibility, and we've seen that too much disparity is not healthy. Some WS implementations are more mature than others. These become the "standards." Let's take a look at examples of standards for each WS layer, and how they might apply to MV developers.

SOAP was introduced in the last article as one of the common Packaging protocols that defines an XML envelope containing a message. But you can't assume the packaging protocol is always going to be SOAP. For example, SOAP is based on an older and simpler definition, XML-RPC. If you're going to use Web Services internally or with a

small number of trading partners, look into XML-RPC. The definition* is tiny compared to others, information and examples are plentiful, and it may be adequate for your needs. SOAP is the most popular packaging protocol, but why implement complex protocols unless you really need them? XML-RPC is also much easier to create and parse directly from MV code than SOAP.

It's commonly assumed that Web Services use HTTP as the Transport protocol, along with standard Web page traffic. Other* protocols are available. Transport isn't about data content, but movement between systems. Unwrapping a payload from its packaging, SOAP or XML-RPC for example, is a separate process. If you want guaranteed delivery (but perhaps not immediate), check into Message Queues (MQ) or Reliable HTTP (HTTPr) from IBM*. For asynchronous processing where there's no rush to get immediate responses, such as requesting a report to be run at month-end, SMTP (E-Mail) may be an

The basic concept
of Web Services (WS) is
simple: pass messages between
systems to invoke functions
and return data.

option. Other protocols, such as Jabber, are being developed for instant messaging, but hold promise for WS applications, and BEEP is a peer-to-peer protocol which allows either side to initiate transactions once a connection is established.

Microsoft .NET has a concept called Remoting. It's an alternative to a .NET SOAP interface when both client and server support the .NET Framework, generally for single-company development over LAN or WAN, and when speed is important. Remoting allows you to invoke functions in a remote server much like a local function. This is the essence of Web Services. Data can be compressed into binary (an alternate form of packaging), removing much of the XML bloat associated with SOAP. You can also specify a "TCP" transport protocol, eliminating the overhead of the HyperText Transport Protocol.

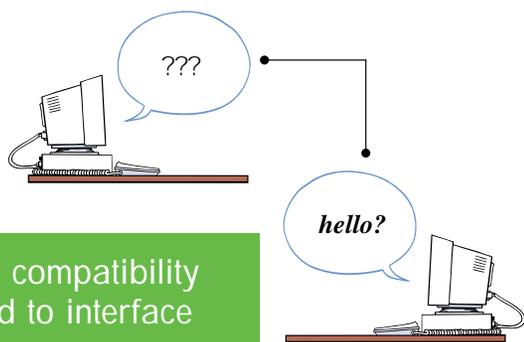
Security is found at different levels. Clients can validate themselves with user information in the data, HTTPS can encode the entire transmission.... It's up to trading partners to agree upon how much security is required and how it is implemented. The SOAP spec itself doesn't specify how to implement security at the packaging layer. There are many proposals for security standards for SOAP and various transport methods. Whatever protocols are used, compatibility is a critical factor if you intend to interface with systems other than your own. For example, IBM's Web Services ToolKit and Microsoft .NET both

include support for digitally signing* and encrypting SOAP messages — but they are not yet compatible. Standards committees are discussing these issues — more on this later.

Discovery protocols use XML to create the equivalent of a digital Yellow Pages entry for Web Services, allowing client programs to find specific categories of services, then dynamically connect to consume services. An example would be a Web Service that identifies current suppliers for some product.* A consumer can use this as part of their own purchasing application, to obtain pricing, availability, warranty data, etc.

With automated discovery, the consumer doesn't know who is providing the service at run-time, and application developers don't need to know at design-time. Of course there are issues about quality of service and data, payment models, etc. These are business issues that need to be refined as the technology develops.

The most common (Description and) Discovery protocol is UDDI.



Whatever protocols are used, compatibility is a critical factor if you intend to interface with systems other than your own.

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There are many UDDI servers in the world, and there are other* discovery protocols, like WS-Inspection, ebXML Registry, and JXTA. If you want your services to be found on the open market, you may need to “publish” in multiple locations and formats. Most MV developers don’t need discovery protocols because we do most of our business through established relationships. On the other hand, end users may want to publish and sell their own Web services, so developers should be familiar with these concepts — after all, this is all about doing business in new ways and selling new kinds of software.

Finally in our list of layers, the most common Description protocol is the Web Services Description Language. A WSDL document is XML which describes the functions a server exposes for remote consumption. There are many tools* for generating WSDL from WS programs, and generating documentation from the WSDL. There are also tools for generating WS clients based on the WSDL published on a server. Of course the link between the WS client and the business application must still be coded manually. It’s not initially important to understand the tags for WSDL, but it is important to know that most services should have a valid definition available to assist developers in creating a client interface to a server.*

Languages and Component Options

Key to planning your WS strategy is the choice of programming language(s). Unless you plan to read protocol definitions and implement WS layers on your own, you will be using components created by others as part of your projects. Almost all of these components are free and developed in the open source community, but they are tied to specific languages. Using these components means learning a new language, contracting someone for this part of the integration, or using wrapper components* so you don’t have to see the underlying implementation.

One such component is a well documented and maintained Perl module called SOAP::Lite*. Though the name

says SOAP, the bundle includes modules for XML-RPC, UDDI, and other protocols. VARs interested in selling turnkey Perl solutions should know that until Perl6 is available, it’s difficult to secure Perl code from unauthorized “migration.” Otherwise, this is a great package, but requires Perl expertise.

Java developers have a wealth of tools available, primarily from the Apache Software Foundation (ASF)*, Sun Microsystems, and IBM, and the options can be very confusing. I recommend approaching your research with some guidelines.

Despite the quest for universal compatibility, problems can arise when a client and server are written with different components. Since standards are still in development, popular components are written based on assumptions and interpretations, resulting in incompatible code. Because of this, it helps to know about the components used by your trading partners.

First, identify your requirements, then seek out the tools available. For example, now that you know that XML-RPC is an alternative to SOAP, you may investigate Apache XMLRPC from ASF, JAX-RPC from Sun, or find other components for XML-RPC. Second, try not to get confused by the alphabet soup of acronyms. When you come across

something new, find out which WS layer the standard or component targets. For example, JAXR is for Registries/Discovery, and JAXM for Messaging/Transport—knowing this, you might want more information about JAXM, but unless you’re using Discovery you won’t need JAXR.

Microsoft provides free libraries to support all aspects of WS development in the .NET Framework; .NET was designed for Service Oriented Architectures. These libraries are accessible from over 20 .NET-compliant languages. Where platform independence is important, the Mono* project is an effort to create an open source implementation of the .NET Development Framework for Linux and Unix. Microsoft’s SOAP Toolkit* allows creation of WS interfaces with tools like Visual Basic, but without .NET.

If you work with non-MV programming languages, I’d recommend first researching components (for packaging, transport, etc.) based on the languages with which you or your colleagues are most familiar. For example, why research Apache SOAP, Axis, or Xerces (an XML Parser) if you don’t plan to use Java? Save yourself the pain of protocol overload and keep your focus. On the other hand, always consider alternatives based on business requirements, stability of popular components, completeness of standards, portability, and other less personal factors.

Implementation Issues

Despite the quest for universal compatibility, problems can arise when a client and server are written with different components. Since standards are still in development, popular components are written based on assumptions and interpretations, resulting in incompatible code. Because of this, it helps to know about the components used by your trading partners. For example, .NET client/servers are incompatible with unmodified SOAP::Lite over HTTP because of different header formats. .NET and Apache SOAP also expect all method parameters to be named and typed*, which neither SOAP::Lite nor

Microsoft's own SOAP Toolkit provide. It's possible to patch the MS SOAP package and change SOAP::Lite code to accommodate these issues, but it helps to know these things before they come up during testing. Developers are addressing these issues to make upcoming component versions more compatible, and standards committees try to remedy the problems in updated protocol definitions.

Many new protocol definitions are being created to fill gaps in the standards. This results in even more "standards" being developed by different groups. You'll find Sun, Microsoft, IBM, and other large companies (sometimes together, sometimes at odds) driving development of specifications and spec-compliant components. It's important to keep your designs modular so that you can change protocols without major re-writes. For example, don't build a SOAP interface directly into your application, have the app pass data to a separate routine. This allows you to choose later between SOAP, XML-RPC, or other standards.

Because this is a developing technology, some specs and components may become obsolete or replaced. For example, Apache SOAP is being replaced by Axis. This is not unusual. Be careful about coding to either obsolete or "incubating" standards.

Finally, WSDL documents are a guideline, but they may not be accurate. The convenience of WSDL tools can be deceiving. Some on the server side don't create usable definitions for remote components written with other tools, and tools that create WS clients don't understand all WSDL. Also, some do-it-yourselfers manually write their own WSDL. When in doubt, check your code, but don't hesitate to question the source.

Summary

Whoever is driving the WS agenda usually determines the technology. The burden of compatibility usually rests with the little guy. Chances are, you'll need custom code to match whatever your bigger trading partners have, even if you're doing business with many

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companies using other protocols. If you're one of the big guys, keep in mind the issues discussed here, make sure your specs don't impose a burden on trading partners, and try to keep open channels with developers who are trying to comply with your requirements.

The Web Service Architecture* addresses issues we've faced with its predecessors. It's not perfect, but aggressive development is in progress, and it's mature enough now for serious R&D. The variety of standards may seem chaotic, but they're really a testament to the versatility of the architecture, and I think we will see a time when differences in theory won't have so much impact on basic development.

In the third segment of this series I'll provide information about specific offerings in our MultiValue marketplace. I encourage Web Service software and service providers to contact me for possible inclusion in that article. More information can be found on my Web site at <http://Nebula-RnD.com/Spectrum>. is

Tony Gravagno is founder and chief software architect of Nebula Research and Development, specializing in software and services that help developers and resellers add more value to their own offerings. Tony has been involved with the Pick market for over 20 years and has held the titles of QA Manager at Pick Systems and DBMS Product Manager at Raining Data. His latest activities include developing B2B interfaces for customers, and serving as Technical Editor for the new book from SAMS Publishing, C#Builder KickStart. He is often found in the Usenet forum, comp.databases.pick, and many other PICK-related discussion groups.

DesignBais *Puts MultiValue Web Developers in the Driver's Seat*

For the MultiValue File

Company:

DesignBais Pty. Ltd.

Founded:

2003

Ownership:

Owned by the directors

Headquarters and offices:

North Sydney, Australia

Products:

Imminent release of the DesignBais product, a functionally rich toolset that allows developers to design and create enterprise-wide Web-based applications

DesignBais Pty. Ltd., based in Sydney, Australia, is convinced that its newly developed product, DesignBais, is the kind of product that MultiValue developers would find indispensable. In fact, its makers predict that it is a product that could play an important role in revitalizing the MultiValue market. What exactly is DesignBais? It's a complete development environment that allows the MultiValue community to rapidly redevelop existing applications and create new applications inexpensively for the Web. What sets DesignBais apart is that its design was based on a number of premises intended to empower MultiValue database developers, allowing them to use their applications knowledge to generate Web applications without any specific knowledge of Web authoring languages.

DesignBais Drives Web Application Development Without the Learning Curve

DesignBais has been specifically created for developers of enterprise solutions using MultiValue databases. Designed to make Web application development simple and straightforward for MultiValue developers, DesignBais doesn't throw curves once the redevelopment project has begun.

DesignBais's benefits include:

- ◆ Existing MultiValue database developers can drive DesignBais, therefore, there is no need to have specialist Web programmers. The existing intellectual property within the company is not disenfranchised by moving to a Web development strategy.

- ◆ DesignBais applications require zero deployment — this leaves the development company free to concentrate on the software, not worry about what happens at the PC end. This removes possible security issues associated with plug-ins and HTAs and means that applications developed using DesignBais are immediately available to most of the world's PC users.

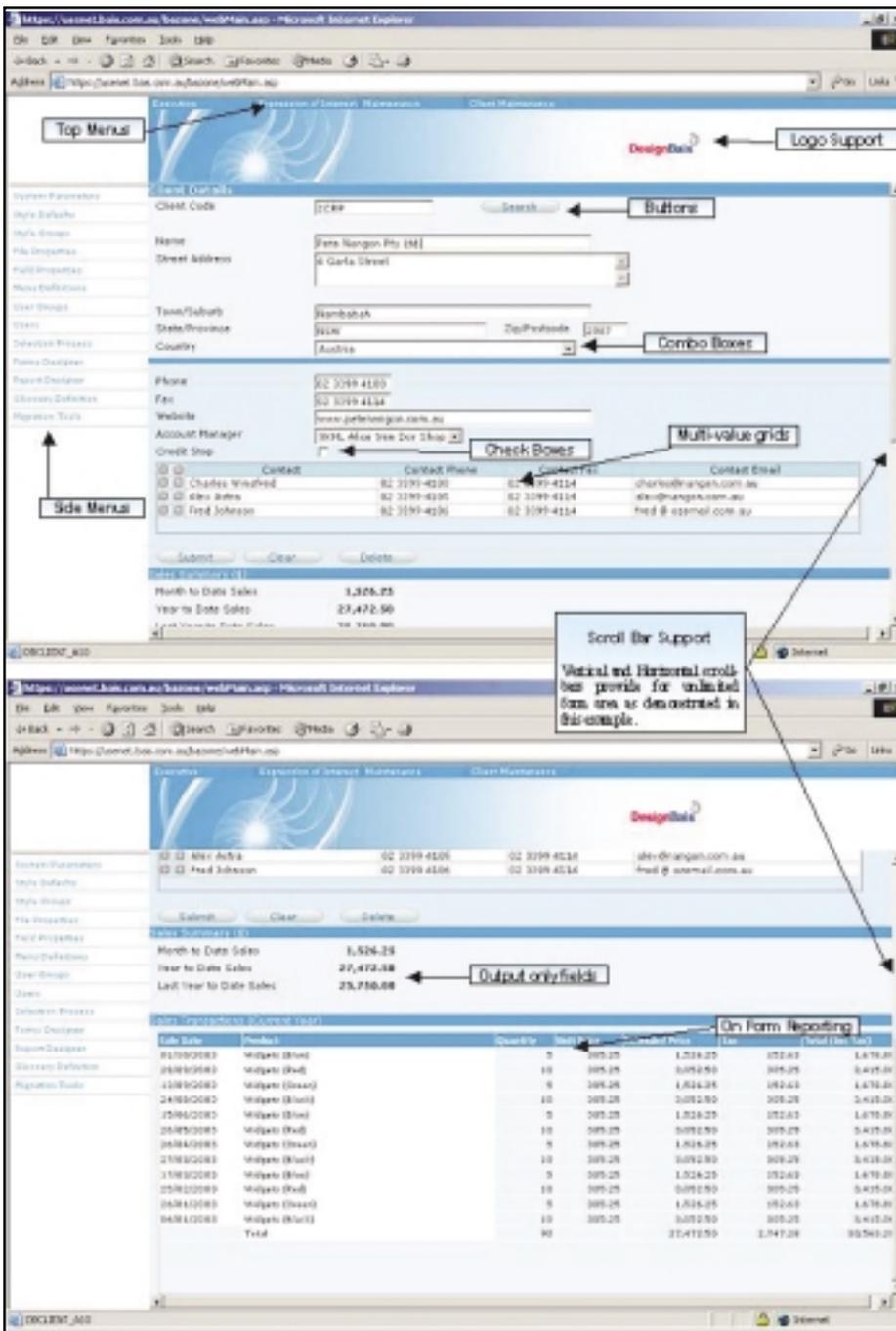
- ◆ DesignBais is aimed at giving the MultiValue community a competitive edge over rival databases by removing middleware complications and costs from deployment and by pricing the toolset and ongoing costs for mutual benefit.

- ◆ DesignBais is a complete environment and is easy to use.

- ◆ DesignBais includes specific migration tools that enable rapid conversions. The DesignBais team can also provide custom migration toolsets enabling rapid redevelopment.

- ◆ The Designer's Forum is a knowledge base of DesignBais information, which will include a knowledge exchange where designers can compare notes or ask an expert for help.

Source: DesignBais Pty. Ltd.



An input Web form created by DesignBais. The developer has total control over the top and side menu bars, the placement of all items on the screen, the style of the screen (colors, fonts, buttons, heading bars, etc.), the data that is loaded with the screen, selection criteria, and validations performed on the screen.

DesignBais can manage all database operations including the management of optimistic record-locking protocols in a multi-user environment.

DesignBais will manage record operations including key construction for up to 100 different records on one form.

DesignBais will take the screen criteria and generate the DHTML screen.

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| <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 |
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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)

- D3 Native MultiValue Reality Other _____
 jBASE uniData UniVerse 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 |

DesignBais, which is scheduled for launch in the first quarter of 2004, emanated from a redevelopment project spearheaded by BA Insurance Systems, an application development company with a suite of applications for the international insurance market. BA Insurance Systems' applications historically used U2, UniVision, D3, SB+ and SBClient. "A number of years ago," says David McLean, Technical Director, "we determined that to be competitive in the future, our products needed to be Web-based. We researched the tools available to us to undertake this project, selected one and started to redevelop our products."

After delving into the project, McLean says, they realized that it was generating some major issues for the company. "Our development team was split between Web and database developers and our company had added a layer of complexity to our development," he explained. "The designer understood the design aspects of the Web but not the database, and the MultiValue developers understood the database but not the Web. We did not want to retrain or cross train the teams."

In addition, development times were substantially longer than expected; they continually had to compromise on what they wanted as normal application features; and they had added another cost layer into their products, McLean says.

What was the answer that would solve all these issues? The development team took a time-out and reevaluated the principles on which they had based the original decisions. The team then came up with a number of important guidelines which are inherent in today's DesignBais, McLean states:

- ◆ We would not disenfranchise our database developers
- ◆ Rather we would empower them with the ability to develop Web applications by creating a toolset that enabled them to use applications knowledge to generate Web

IS 12/03

applications without any specific knowledge of Web protocols

- ◆ We would concentrate our Web team on building and maintaining the toolset
- ◆ Our toolset had to be functionally complete—we wanted to avoid making too many compromises based on lack of functionality
- ◆ The toolset had to contain functionality that MultiValue developers are used to
- ◆ It must be easy to use
- ◆ We would avoid layering costs into our products
- ◆ Applications developed in the toolset must use Internet Explorer functionality and not require any installation or plug-ins to operate

- ◆ Applications developed in the toolset must perform at levels at least equal to current terminal emulation mechanisms

“Satisfying the above requirements has not been easy,” McLean comments. “After many years of research and development we believe that we have created a revolutionary product that achieves our development goals as well as carries the potential to revitalize the MultiValue community.”

DesignBais is revolutionary because MultiValue developers now have access to a tool that enables them to rapidly redevelop existing applications and create new Web applications inexpensively—all while putting their applications on a par with non-MultiValue-based applications. “DesignBais provides the framework for applications that will compare favorably with applications developed in any language on any database and it will do so at a fraction of the cost,” McLean says.

Because of the extensive planning that went into DesignBais, its features especially benefit MultiValue developers. DesignBais supports the creation of design templates, which “allow for creation of a standard user interface that can be easily applied throughout an application or its modules,” McLean explains. “With drop-down top menus and sidebar menus as a standard feature, user navigation is simple and intuitive.”

DesignBais was developed to create enterprise applications, not only one-off forms. It also has a unique glossary feature that enables multi-language support. The glos-

DesignBais is revolutionary because

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sary is linked to every field placed on a form, including validations and defaults. This means the developer doesn't have to re-create forms to change languages.

According to McLean, "DesignBais provides a zero client deployment solution. There are no HTA's, plug-ins or

DesignBais Pty. Ltd. is readying the product for availability in the first quarter of 2004. "DesignBais is undergoing stringent quality assurance testing prior to release," McLean says. "Once we have released DesignBais, we intend to open the Designer's Forum (see sidebar) to help spread the knowledge about DesignBais.

Rapid development

Existing Basic code can be reused

Comprehensive development and runtime toolset that does not require MultiValue programmers to learn Internet programming

Comprehensive XML interface between the MultiValue database and the Web browser

Internet Explorer document model to render forms via DHTML

Standard browser controls, Multi-Value entry and active reporting

Secure environment utilizing password authentication and encrypted communication

Field validation and lookups within the browser

Field-based security

Responsive and scaleable

Cascading style sheets

Font and image support

Vertical and horizontal scroll bar support significantly increases screen real estate

Multiple form support

Glossary support

Multi-language support

installs at the client side. Internet Explorer 6 or above is the only requirement. This makes DesignBais applications available to everyone immediately — it's simply a link."

All of the functionality normally associated with MultiValue application development is supported natively within DesignBais:

DesignBais was launched at the International Spectrum Conference and Exhibition in Sydney, Australia, in late October. It will also be showcased at the Spectrum shows in New Jersey in November and Las Vegas in March.

"In the long term, we hope that our product will help revitalize the Multi-Value market by providing the right design environment to develop world-class applications that can be pitched against competing databases in circumstances where the price equation substantially favors MultiValue."

For those interested in the technology, DesignBais Pty. Ltd. is offering the opportunity to experience DesignBais firsthand through its Web site, www.DesignBais.com. You can soon "take a test drive of the product and see how it can modernize your application and enable you to become more competitive," McLean adds. is

BEHIND THE SCENES OF DESIGNBAIS

DesignBais includes the following functions:

System Parameters—basic system wide settings governing defaults and operations of the system

Style Defaults and Style Groups—A set of definitions to define the font, style and color of each class of object. These files generate the style sheets used by the system

File Create—Define a new file to be used within DesignBais. Specifies default lookup specifications

Field Properties—Define the attributes of each field to be used within DesignBais — the data dictionary of the system

Menu Definition—Definition of top and side menus content and hierarchy

User Groups and Users—Security and user default definition

Selection Process Definition—Definition of complex file search and lookups

Forms Definition—Wysiwyg forms designer. Add Input Fields, Output Fields, Images, Text, Buttons and Reports to a browser-based form with no limit on width or depth of the form. Data can be read and written from and to multiple files

Report Designer—Similar to Forms Designer but for the creation of reports

Glossary Definitions—You can convert a DesignBais application to another language, or customize any glossary for individual client requirements. This includes field text, menu text, help text and error conditions

Migration Tools—A toolset that helps migrate from SB+ to DesignBais. Tools can also be provided to enable the redevelopment of applications rapidly and cost effectively.

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Electrical retailers are living through particularly challenging times. Costs of doing business are rising fast, while margins are falling; customers are willing to shop around for the most competitive prices, so brand loyalty is limited and millions are discovering that shopping online is secure, convenient and enjoyable — meaning that retailers are having to address multi-channel marketing as never before. One challenge they can do without is to manage their own increasingly complex IT systems. This is where the market-leading software and services supplier to the U.K. electrical retail market, Cromwell Business Systems Ltd, has been able to build a compelling offering for many of its major customers. Cromwell markets the comprehensive Open-Retail system that gives electrical retailers the ability to fully understand their businesses, manage their stock and increase customer loyalty and profitability. Since 1991, the company has developed, sold and supported its software and now has over 3,000 end users using Open-Retail on a daily basis.

In July 2002, it replaced the underlying database of Open-Retail (Raining Data's D3 product) with Reality from Northgate Information Solutions Plc. The five-year contract with Northgate also includes 24/7 hosting of Open-Retail on SUN Enterprise servers at Northgate's Managed Service Centre in Hemel Hempstead. With the arrival of cost-effective broadband services, Cromwell was also able to build a private ADSL network on the back of the BT broadband network as an alternative to the often-unreliable and expensive leased line service of the past.

This all gives Cromwell the benefits of a resilient MultiValue database engine that can be deployed on any hardware platform in any location, outsourced system maintenance, cheap connectivity into a secure data centre and the ability to offer their customers a failsafe managed solution that relieves them entirely from any responsibility for their IT.

Darren Rice, Cromwell's Managing Director, regards this as a "win-win-win situation" for his own business, for his customers and for Northgate. "An unbeatable combination of the Reality MultiValue database and failsafe hosting on managed servers allows us to concentrate on our core business of software development," he said. "It also meant we were able to develop tools to help other value-added resellers port to Reality. Our Managed Services customers now have known fixed costs for their IT, no responsibility for IT infrastructure and maintenance, and the assurance of support from Northgate that has a reputation for meeting the mission-critical demands of local authorities and police forces.

"The failsafe aspect of the service is ensured by maintaining two identical databases on separate systems, so our customers have the assurance of data integrity should there be any downtime on a server. Northgate has gained from a guaranteed revenue stream over the next five years plus the introduction into the electrical retail sector in terms of new application development for some of our largest and most proactive customers. That's why it's clearly a win-win-win situation."

Cromwell will derive both strategic and tactical benefits from the Northgate relationship. Over the next three years, the intention is to migrate all Open-Retail users to Northgate's managed servers. This would greatly reduce the company's substantial current support overhead while simultaneously increasing revenues. Cromwell has also been able to offer customers a raft of new services ranging from Internet access, e-mail hosting, Web design, integration and hosting through to credit card authorization and improved supply chain management via a SOAP/XML Gateway.

Darren Rice is delighted at the success of the Northgate relationship:

"They have helped to open up new opportunities for us because they are proactive rather than reactive," he commented. "They genuinely want to work with us, not just on a tactical, day-to-day basis, but strategically over the longer term. The Cromwell customers that have taken up our Managed Services offering are reaping the benefits of the combination of Open-Retail, our private network and Northgate's 24/7 service guarantees. That is all helping them to be more competitive and to better face the challenges of today and tomorrow." **is**



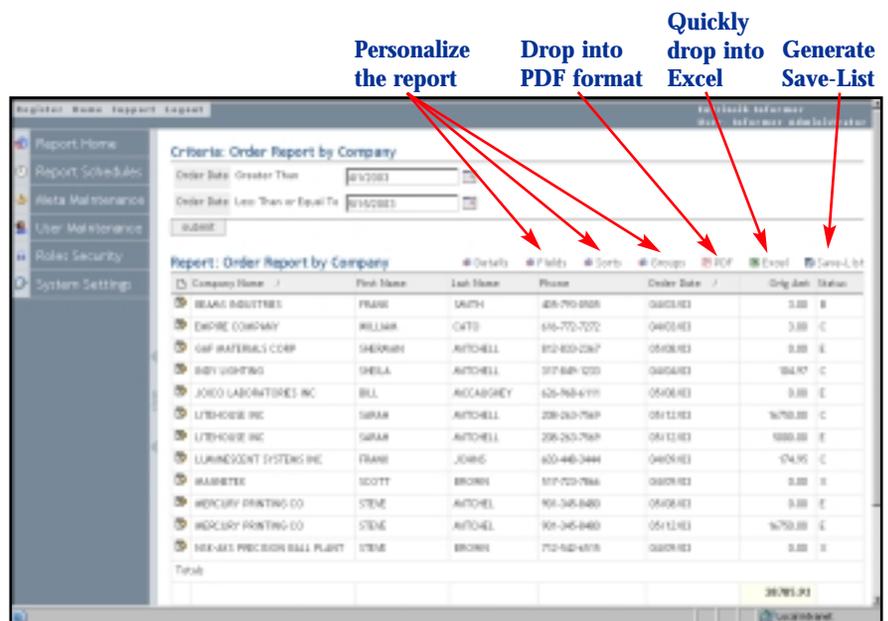
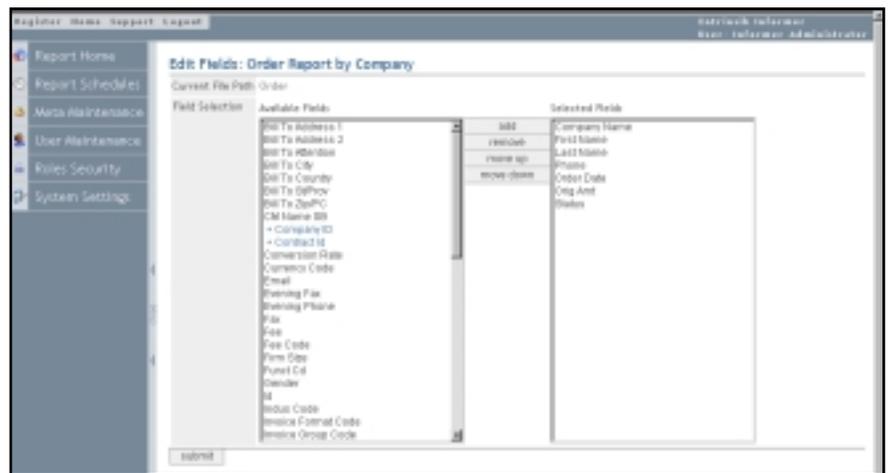
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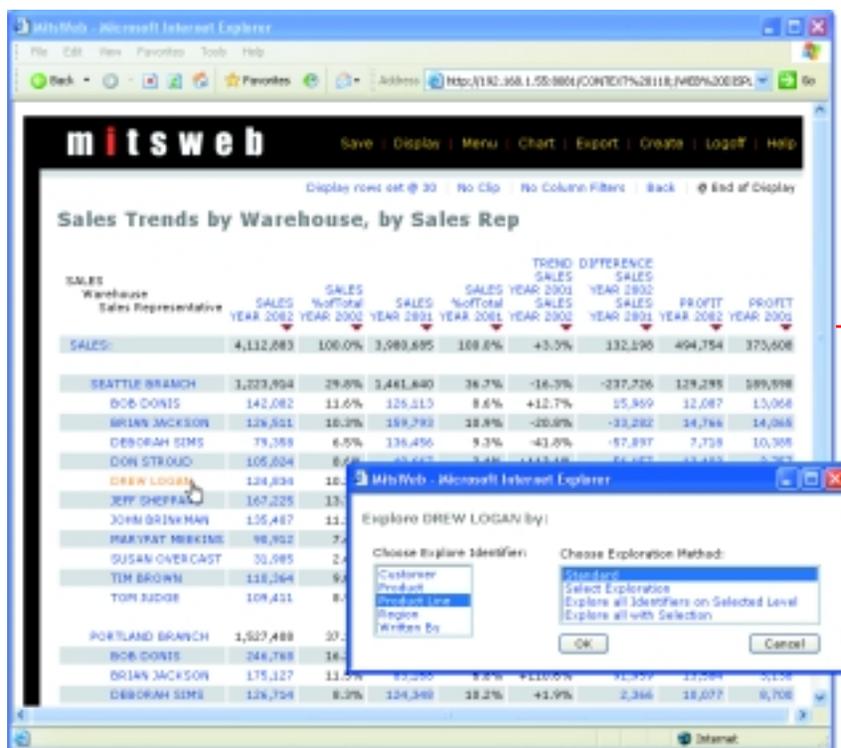
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