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INSIDE: GUI CHOICES FOR THE JAVA DEVELOPER

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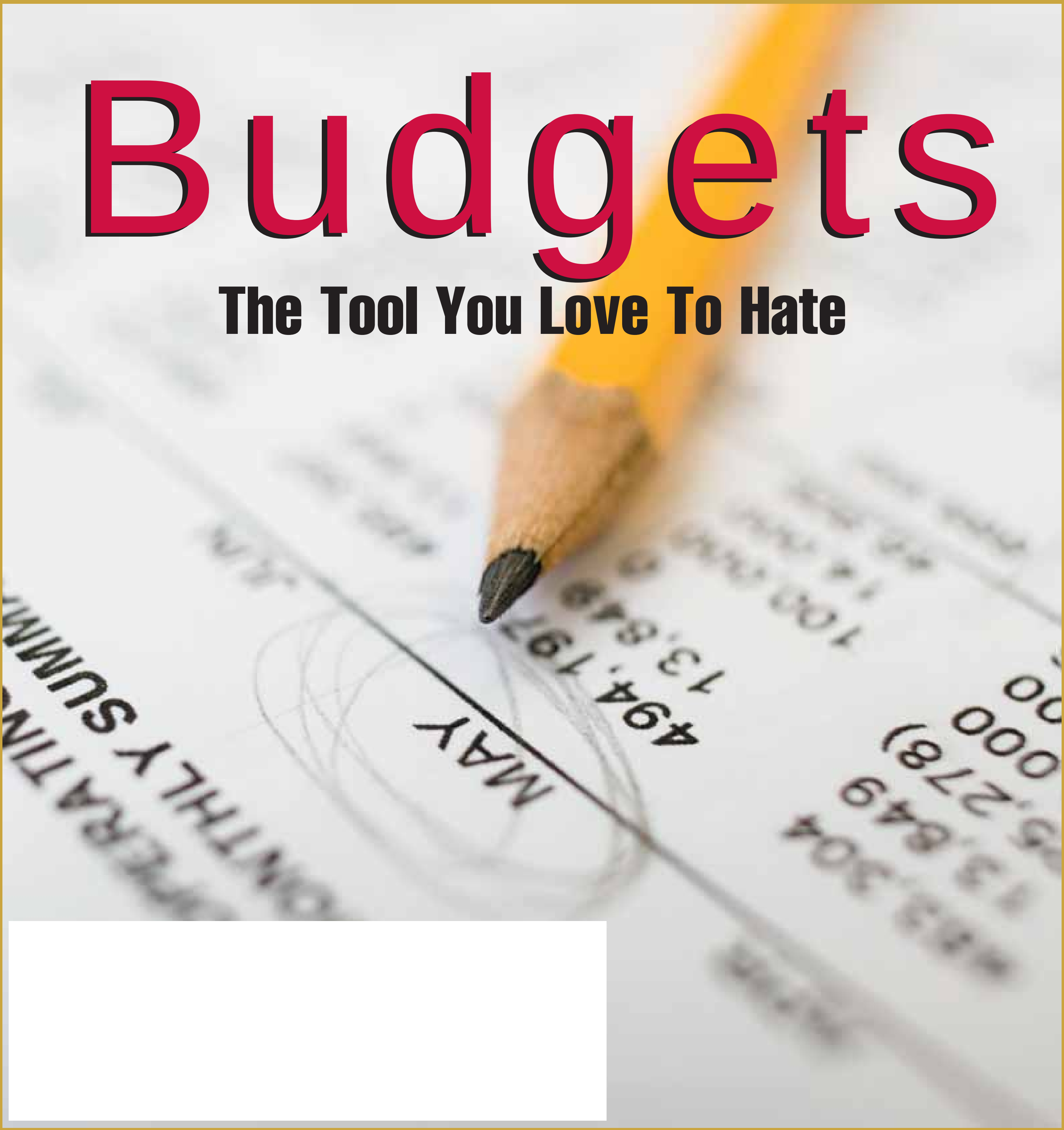
THE MULTIVALUE TECHNOLOGY MAGAZINE | SEPT/OCT 2007

PLUS! Closing the Sale



Budgets

The Tool You Love To Hate

INTERNATIONAL Spectrum®
THE MULTIVALUE TECHNOLOGY MAGAZINE

FEATURES | September/October 2007

DEPARTMENTS

From the Inside

BY NATHAN RECTOR

What is the Most Valuable Asset in your Company?

Is it the people? While good people are hard to find, and even harder to train, there is always someone that can fill that empty position.

Is it your company's inventory or property? While inventory and property cost money, they are always replaceable.

Is it your computer or office equipment? Much like your company's inventory, you can always replace it in case of damage or theft. Most companies have insurance specifically to handle this scenario.

What about your company's data? Is this an asset? YES. Companies buy other companies often for no other reason than to get their hands on the data. Your customer information — not just contact information, but also purchase history and other sales notes — is one of your most valuable assets.

But sorry to say, while this kind of information is extremely valuable, and your company can't run their business without it, there is still one more asset that is widely overlooked: Business Applications.

The other day I brought this up with a colleague. He started to disagree, like most of you are likely doing right now, but then he gave it some thought.

His first reaction was that the data is a company's most valuable asset — not just computer data, but also all those files stored in the deep, dark corners of your company that you actually have to get up out of your chair to access.

But consider this. Data has a lot of value, but we all know how much data we have in our company's databases that isn't even tapped or is only tapped to answer one specific question. Even more information is in those file cabinets sitting the dark corner that you don't even use.

Your CEO always wants answers, and wants you to use the data you have to answer those questions. The thing is, the data you have to work with is limited by how and what your business application captured.

You hear about companies spending big bucks to implement a data mining or business intelligence project and failing because they don't have the data to answer the questions. Ross Morrissey and Mike Hannigan have talked about this many times over the last few years at the International Spectrum Conference. If you have not been able to attend one of these talks, join us at the 2008 International Spectrum Conference in Newport Beach. They are very informative, even for people not doing data mining and business intelligence.

Business Intelligence will not run your day-to-day business. So back to my original point, "Your company's business application is your biggest asset." Your business needs to run day-to-day to provide the mounds of data for the CEO and CFO to evaluate. If you say that the people are more important to the company than the software, think about this a little bit more.

Most companies with high turn-over positions have refined the business application to the point where training is minimal. Because the business application has such a refinement, these positions no longer have to have trained people in them to handle the day-to-day business. In some cases the company can even eliminate the position altogether.

Please don't get me wrong! People are very important assets. The longer you can keep someone, the more stable your business will be. If a person leaves, it might hurt your company for a few weeks or months, but overall you can always get someone to take over the empty position. The flip side is that the longer you keep someone, the more holes in your business application are developed.

"Huh?", you may say. If the person leaves, what happens to the company? Because the position was filled so long by someone who knew their job inside and out, your business application was not refined in that area. Now the person is gone. Is that really a liability in the business application, or a liability in the person working in that position that didn't point out or create controls to help protect against this problem?

Thinking of the business application as an asset has helped many companies stay productive when key people leave, or — god forbid — go on vacation. I honestly don't know which is worst.

If the business can't run without a specific person, then that person is no longer an asset to the company.

Like any asset (property, people, or inventory), a business application can become a liability to the company. Your business applications are under the microscope because they show the company where their liabilities exist faster than any other process, but they can also repair most of the liability problems they highlight or create just as quickly.

You, as a MultiValue business application developer, have the advantage of being able to create the business applications quickly, efficiently, and without costing the company an arm and a leg to stay in business. Most of the time, this means a return in profits. So the more a company is willing to invest in their MultiValue business applications, the more return they are likely to see.

-NATHAN RECTOR

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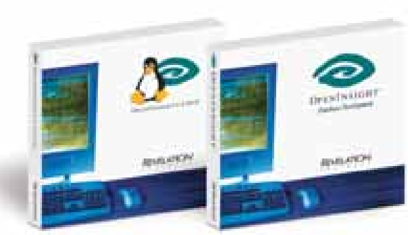

Java

BY JIM PAUL

GUI Choices for the MultiValue World

Three years ago, I presented a session at Spectrum called "Cutting Edge User Interfaces" and quite a few people attended. By now, I would think that nearly all applications being actively marketed have some type of GUI.

The path was difficult for some with projects aborted and long delays. I know of some early adopters who are re-evaluating the GUI choices they made earlier. A few years ago, browser interfaces were the thing to do, and have been given a boost by JavaScript programming techniques under the banner of Ajax. Some software houses have embraced the Software-as-a-Service model, serving their applications over the Internet, and this gave further impetus to build browser based font ends.

First I'm going to compare a browser front-end, which is HTML/JavaScript technology, with a pure Java front-end. Then I am going to explore the choices within Java. Finally I have some tips for those who want to explore a Java GUI.

Browsers as the Front-end Client

GUIs are now being built with clients that are associated with browser technology but are really separate client applications. Among these are Adobe Flex, Macromedia Flash, as well as Java in the form of "applets." All of these produce—or have the capability to produce—user interfaces that are richer than those relying solely on the browser's HTML/JavaScript capabilities. While Flex and Flash are viable choices for a rich user experience, and often run with Java back-end servers, I'm not going to discuss them here.

Although user experience is probably the most important factor in GUI technology choice, other important factors are one, ease of deployment; two, range of equipment/operating systems on which the GUI can run; and three, expense. The expense components are development costs which in turn are driven by complexity and availability of experienced programmers; stability and reliability of the technologies now and going forward; and software license fees.

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Java

GUI Choices for the MultiValue World

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Writing HTML/JavaScript front-ends is an expensive and error prone task. It is deceiving in that you can produce a decent-looking basic data input form very quickly. For more than that, you pay dearly. Although many of the products you might use to produce Dynamic HTML are free, the complexity can be overwhelming .

Browser clients are easy to deploy in that everything the client needs is loaded in a web page containing the HTML, JavaScript code, and Cascading Style Sheets. At first glance, one might say browsers are ubiquitous and the safest choice for clients. But browser compatibility issues are a serious limitation and this situation is not getting better. Browser manufacturers continue to compete on features and are still struggling with complex standards that are still evolving. Cascading Style Sheets were supposed to simplify life for browser writers but instead have become yet another thing to support. The browser is a moving target. This is a huge problem if you are a software company that earns revenue by getting new customers up and running quickly and cleanly. Ah, the days when a an ADDS Viewpoint or VT100 were all you had to support!

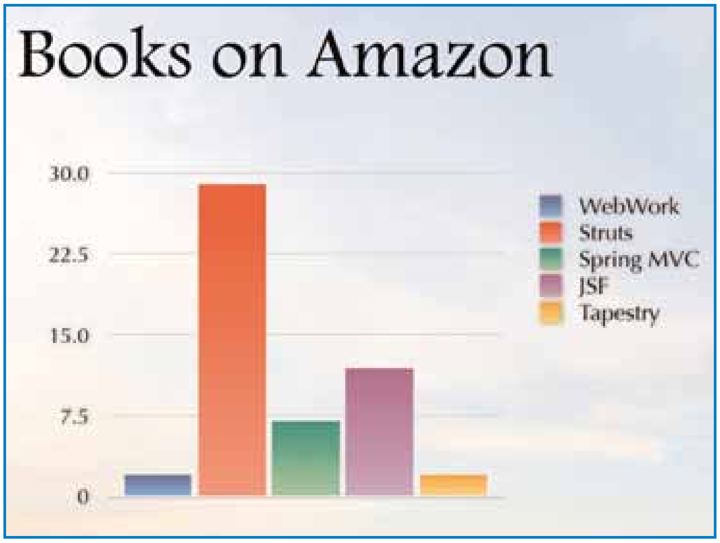

FIGURE 1 Books on Java Open Source Frameworks

FIGURE 2 Voting on adding a Swing Application Framework to Java

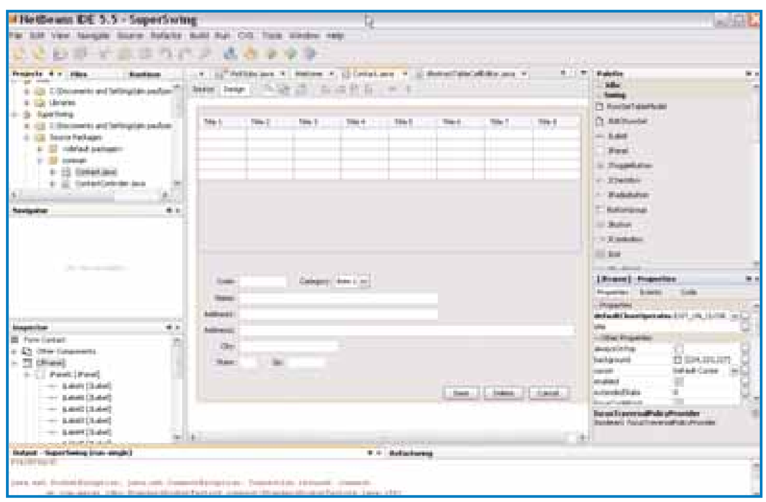

FIGURE 3 Drawing a GUI with NetBeans

In the Java world, a great amount of attention is paid to web development frameworks that support, for the most part, HTML/JavaScript clients with Java back ends. Some of these frameworks will support a Flex or Flash front-end as well. These frameworks are intended to speedup development but are complex and have from moderate-to-steep learning curves. Figure 1 shows a ranking of the most popular open source frameworks by counting the number of books about them for sale on Amazon.

Pure Java Clients

The position of Java as a thin client is one which is coming full circle. In the nascent days when Netscape dominated browsers, JavaScript's role was to provide a bridge between Java—the real programming language—and the browser. Do you remember surfing the web and browsing to a page that contained an applet? You may have waited a quarter hour while your browser downloaded and started the correct JRE (Java Runtime Engine) over a 22kb modem connection. That wait very likely was due to Microsoft shipping an outdated JRE with Internet Explorer and not pre-loading it at computer boot time or browser initialization. Applets actually worked very well and, if run on today's faster personal computers, would give you a user interface experience similar to the best native Windows program. I believe the failure of applets to catch on is the reason we struggle with HTML, JavaScript/Ajax, and browser compatibility and clunkiness now.

One of the limitations of using Java for the GUI persists. Java is like MultiValue in that the user must have a virtual machine to execute the byte code. Luckily the Java Virtual Machines (JVM) are backward compatible so a recent version should do. Also a computer may simultaneously and automatically run any of several versions that might be installed on it. The initial start-up of the JVM results in a few second delay. As for execution speed, once the JVM starts, well written Java applications will have no appreciable latency.

An alternative to writing to a browser interface is to write the user interface in Java, with or without applets. An applet is simply a Java program that runs inside the browser window. It has some security restrictions and can easily interact with objects inside the browser. If you would rather launch an independent Java application when the user clicks a link on a web page, that can be arranged also using something called Java Web Start. Unless you stay in the Microsoft world, Java is the only language that can brought to bear on both the client and server programming tasks. Java GUI interfaces can be thin or thick client. In either case, the GUI logic is executed by the JVM on the client machine. This machine can be almost anything with a microprocessor.

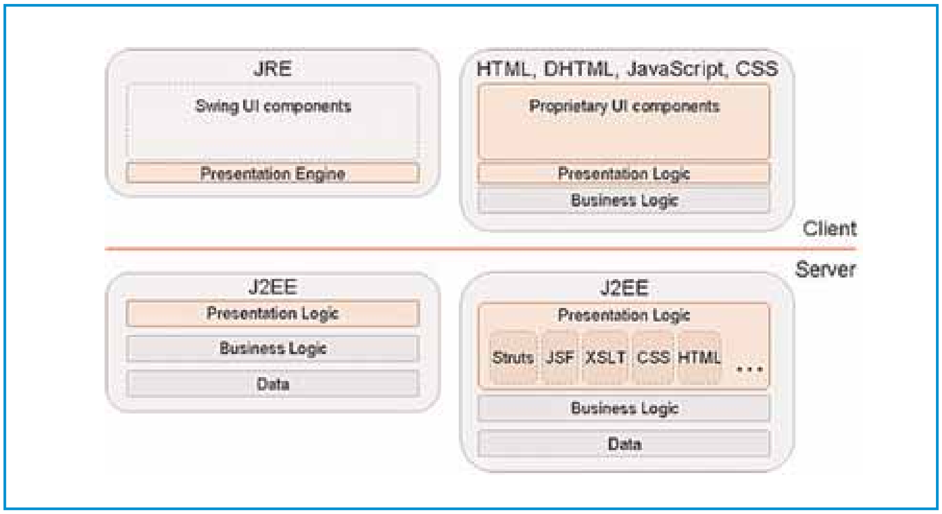

FIGURE 4 Pure Java architecture vs using a Browser Client (Used with Permission)

Although user experience is probably the most important factor in GUI technology choice, other important factors are one, ease of deployment; two, range of equipment/operating systems on which the GUI can run; and three, expense.

Swing

Swing is a library of GUI components, such as buttons and text fields, that is part of the Java foundation classes. Anyone with a JVM can run an application that has Swing components. An alternative to Swing is the Standard Widget Toolkit (SWT) from IBM. The Eclipse Integrated Development Environment (IDE) is written with these components. Like Swing it is free. Both Swing and SWT are fairly complicated; SWT maybe somewhat less so. Both require a solid foundation in object oriented programming, event handling, and threading to use; but tools help with a lot of the grunt work.

SWT is often chosen because it uses native operating system widgets and thus is purported to give the Windows look and feel that most users are looking for. Swing fans counter that pluggable look and feels in Swing addresses this. In many cases, SWT-based applications are more responsive. Swing has been around much longer and so it is easier to find tutorials and examples on the web.

A Swing framework will likely be part of the next release of Java. This framework assists with tasks common to most GUI interfaces—maintaining state between sessions, startup and shut down, and loading local resources such as colors, images, and fonts. This will make it easier for new programmers to use Swing and provide some standardization as to how these problems are tackled. Figure 2 shows the voting on adding the "Swing Application Framework" as a standard Java feature. The vote took place last year and reveals who the major player are in the Java Community Process, where such things are decided.

Creating a GUI interface with Java is much like creating one in Visual Basic in that you will draw the interface by dragging components such as text fields and buttons onto a panel. Two

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Java

GUI Choices for the MultiValue World

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open source IDEs—NetBeans or Eclipse with the Matisse plug-in—can be used for this. Figure 3 is a screenshot of the NetBeans 5.5 IDE being used to draw a Swing GUI. Java code is created in the background to initialize, position, and size Swing components. Both IDEs will also help with the task for writing the controller and business logic in that they have features such a code completion, debugging, building, UML drawing, and project management.

Thin vs Thick Clients

The difference between the thin and thick Java client is that the thick client will include not only code for the GUI or "View", but also for a controller which listens to and controls the "View", and possibly, business logic. A thick client may need only an ODBC database connection to the server, while a thin client will have a more elaborate protocol for communicating GUI events to the server-side portion of the application.

There are number of products, both open source and for purchase that assist in creating Java thin clients. Most, but not all, thin client products will present Swing components to the user (as opposed to SWT or custom components). All of the thin client products have a server component, also written in Java, to manage communication with the client. The advantage in using a thin client over a thick client is in deployment. Less application code needs to be transferred to the user's machine and that code is less likely to change. An example of such a product that is gaining traction among MultiValue vendors Cache and Revelation is InsiTech XTT. Figure 4, from the Canoo web site (http://www.canoo.com/ulc/home/whatisulc.html), contrasts a Java thin client architecture with an HTTP/JavaScript architecture. Other thin client products are AltioLive, Canoo ULC, Droplets, JDNC, and Remote SWT. The more cleanly your current application separates user interface logic from business logic, the easier any GUI retrofit will be.

Accessing your Data

Whether thin or thick client, you will at some point be reading, writing or selecting record sets from your MultiValue database. There are two basic strategies here—using ODBC/SQL or using a web server interface. Most MultiValue systems either have been, or can be, retrofitted for ODBC access. On the Java side, the interface will be called JDBC. The MultiValue vendor may provide JDBC drivers for their database but generic ones may work as well. One advantage to this approach is that you will find lots of examples of using JDBC to access SQL databases. Issues such as locking strategies are well-thought-out. The drawback is that it may take some work on the MultiValue side to make your database appear as an SQL database. The less your current database structure relies on multi-valued attributes, the easier this will be.

Another approach is to use a web server interface. If you have a way of running a MultiValue Basic program by submitting a URL to an HTTP server, then you can use that as the gateway to your database. The advantage is that you can simplify programming on the Java side by writing MultiValue side programs that return exactly the data and format that is needed by the Java side. You will have to come up with your own locking strategy and ensure data security.

A variation on this strategy is to have the web server execute a Visual Basic program which in turn accesses the MultiValue database with something like UniVerse UniObjects or jBASE OBjEX. If you have a very old MultiValue system, I have seen an application that uses a Perl script to read and write data to a folder as a way of communicating with a Basic program doing the same thing. If you use XML in a SOAP wrapper, you are basically building a web service.

Recent improvements in the NetBeans IDE's GUI builder, significant improvements in JVM performance, and the creation of a Swing Framework that will become part of Java all bode well for Swing fans. The easiest way to get a taste of Swing development is to download NetBeans and try it. This link will get you started with the IDE, http://java.sun.com/docs/books/tutorial/getStarted/cupojava/netbeans.html.

It gives you step-by-step instructions on what to download and how to set up your first project. When it directs you to download the NetBeans IDE/JDK bundle, use this link: http://java.sun.com/javase/downloads/netbeans.html.

Finally, follow this tutorial to create your first GUI: http://www.netbeans.org/kb/55/quickstart-gui.html

It is possible to follow these tutorials without knowledge of Java programming but you will need Java programming skills to get any further. Although Java is quite a bit harder to learn than MultiValue Basic, training is easy to find.

If your users see your application as an Internet application, a pure Java interface may not be appealing unless applets make an unlikely comeback. If your users expect a more Windows-like look and feel from your application, and you can specify that a specific version of the JVM be loaded on the clients, Swing may be the way to go. Although I do write HTML / JavaScript applications for my clients, Swing is my choice for my own company's applications. **IS**

Principle in Northtec Consulting Group, which he formed in 1985, Jim Paul speaks at dozens of conferences and has written articles for several different publications, including Computer World. A Sun certified Java programmer with a BA from Indiana University of Pennsylvania, he has written complete software applications for finance companies, manufacturers, and health care providers. He can be contacted at jimpaul@fuse.net.

How to Sell Stuff: Closing the Sale

BY STEVE ALEXANDER

This is the final article in this series. In previous articles, I discussed prospecting, discovery, and negotiation. Closing the sale is not really a long process, although there have been thousands of books written about it (3,900+ on Amazon.com), but here goes.

I chose the title "Closing the Sale" because there has been so much written about it, and it is such a big deal in the minds of so many sales people. It's the payoff. It's the final step. It's payday! You work for months or even years, and the prospect finally signs the papers and instantly becomes a customer. You get a big commission check and move on to another sale.

Well, as the Hertz commercial says, "not exactly."

Closing the sale is not a big deal if you have done your work up front. It is merely the next logical, almost unavoidable, step in the ongoing relationship of trust and respect between you and your prospect/customer. As a salesperson, you should avoid the temptation to dance around and celebrate like a NFL player who has just made a touchdown. You should think and act like you have been here before, you expected it, and it is a comfortable place for you. Imagine you are the guy signing the order and the salesman jumps up, pumps his fist in the air, and yells "YES!" Is that going to generate trust and respect? OK, that's a little too weird to imagine, but you get the point.

The idea of "closing" a sale is mostly a misnomer. You don't "close" a sale. The customer signs the contract—that's all. The sale, if you intend to stay in business, must continue long after the customer signs on the dotted line. There will be delivery, installation, support, referrals, and perhaps many years of service. You may be around to service the account, or the salesman who takes your place may be the lucky one.

I said "lucky one" because that's exactly what I meant. Customers who have bought from your company in the past are very likely to buy from your company in the future. You don't close the sale—you open a relationship. You open a customer file. You open another micro market. You open the door of opportunity. It's almost like opening a bank account. So, whoever is there after the sale "closes" is the lucky one.

I was wondering why salespeople get all stressed and excited about "closing the sale."

I think the source is the "traditional" sales approach. Almost everything in the traditional way of doing sales is designed to manipulate, educate, convince, cajole, and persuade people to buy your product or service. These tactics generate massive sales resistance. I sometimes wonder how salespeople using those tactics sell anything at all.

> You don't close the sale — you open a relationship.

These smarmy (it's a word—I looked it up) techniques actually worked in the 1940's and 50's. The world was a more trusting place then. Respect was much more prevalent in our culture. If a clean-shaven young man in a coat and tie knocked on the door and claimed to be the "Fuller Brush Man," most housewives would let him in. Many would buy a brush or two from him.

If a guy carrying a vacuum cleaner showed up and asked to demonstrate how his machine could save you time and get your house cleaner, many people would let him in. He would then proceed to pour a jar of dirt on your floor and clean it up in a jiffy. He'd clean your carpet, your sofa, your blinds, and your bed (people are embarrassed when they see how dirty

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How to Sell Stuff: Closing the Sale

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their bed is). If you liked the product, he'd sell you a brand new Electrolux vacuum cleaner on the spot—right from the trunk of his car. You'd pay with a check. Credit cards had not been invented. Total time elapsed—45 minutes. Cost of the vacuum—$350. His commission—$120. Business was simpler then.

I wouldn't try the door-to-door approach today unless you want to spend some time talking with the local police.

There are no Fuller Brush Men anymore. There are no Electrolux door-to-door salespeople. The Fuller Brush is still in business—online. www.fuller-brush-products.com

You can still buy Electrolux vacuum cleaners, too. www.electrolux.com

What happened? Customers learned that salespeople were using "techniques" on them.

Customers learned that salespeople would say things that were not true. How shocking! Customers learned that salespeople would pretend to like their homely kids, mangy dog, junker car, and brindle-brown shag carpet, in order to make a sale. Salespeople did these things long before they were called "rapport building technique number 12". And all the while, customers were learning.

Customers soon learned the "puppy dog" close, the "Ben Franklin" close, the "take-away" close, and the other 97 closes taught to every new salesman. Customers learned to distrust salespeople. Meanwhile, salespeople continued to add to their arsenal of closing techniques, and they continued to make sales in spite of the sleazy techniques. salespeople continued to think the techniques worked. After all, "I used technique 27 and they bought, so it must work." The majority of sales people today are still using techniques. I think that's the main reason customers do not trust and respect most salespeople.

Meanwhile, a few highly observant, smart, honest, and trustworthy people became the top sales people across all industries. These sales people knew the techniques. They knew the "50 most powerful closes" and the "15 instant, guaranteed, rapport building techniques." But they did not use them. They went quietly about selling more than all the other sales people in their companies combined.

Hmmm, how did they do that?

They found something much more effective than techniques—trust and respect. Their toolbox has only one tool—honesty. These top producers don't fit the stereotype that most people have of sales people. You know. You've seen it in the ads HR departments write, "Enthusiastic, competitive, driven, passionate, energetic, persuasive, go-getter needed for commission sales position. Unlimited earnings potential!"

I suggest that a person with those qualities has an extremely limited earning potential as a salesperson. I assert that top salespeople display none of those characteristics.

Top producers are typically quieter than average individuals. They don't talk much. They ask a few questions and they listen a lot. They are very good listeners.

"What kind of software do you want?"

"Why do you want it?"

"When do you need it?"

"What do you think it would do for you?"

"It costs between $5,000 and $7,000. Can you afford to spend that much?"

"If I do a demo for you and you like it, what will you do?"

They don't sugarcoat the shortcomings of their products and services and they don't handle objections. That's right. Top sales people don't handle objections at all! Isn't that a relief?

"Our product is more expensive than theirs. Is it worth the higher price to you?"

"Our software is written in Vietnam by 14-15 year old kids who make $10 a day and work 10 hours a day, seven days a week. Do you have a problem with that?"

"All our employees are married, Lutheran, Caucasian males, who don't smoke and speak only English. Do you want to business with us, or not?"

"Our software has no user manual. Do you need a user manual?"

Top salespeople have several other surprising characteristics in common.

Top salespeople are detail junkies. They know exactly how many phone calls they have to make to make a sale. They know their earnings in dollars per call, dollars per hour, and dollars per appointment.

Top salespeople are lazy. They don't make appointments with people who are "interested". They meet with people who are willing to agree to buy if the product meets their conditions of satisfaction. They don't dance for prospects. They don't jump through hoops like a trained seal. They qualify or disqualify prospects by asking, "Is this something you want?" They won't spend two seconds educating, convincing, or persuading prospects to buy. They only spend time with qualified prospects who already want and can afford to buy their products and services.

Top salespeople are not passionate. They are not enthusiastic. They are not energetic. They usually speak in a fairly boring monotone—sort of like a good friend would speak to you if you are having lunch and they said, "It's raining outside."

Top salespeople are brutally honest. Their integrity is complete and unshakeable. They earn your trust by telling the truth, the whole truth, and nothing but the truth.

Top salespeople always have their attention on trust and respect. They build trust and respect from the first prospecting phone call, through the discovery process, and during negotiation about the myriad of details necessary to complete the sale. With the background of relatedness, trust, and respect in place, signing a sales agreement is a mere formality. Closing the sale is pretty much a "ho-hum" affair.

It's much easier than lugging the vacuum cleaner in from the trunk of your car.

A note from the author: I learned this kind of sales thinking from Jacques Werth, owner of High Probability Selling (www.Highprobsell.com). Jacques sells books, tapes, and phone classes. I recommend his stuff. **IS**

Steve has been a salesman for over 20 years. Having lived in several foreign countries and most of the states, he is now settled in Coronado, California, with his wife and two kids. Steve has sold computer software and hardware, professional services, insurance, stocks and bonds, cars, books—you get the idea. He is now semi-retired, though he occasionally takes on a contract involving training and coaching sales people. You can reach Steve at sanado@san.rr.com or 619-435-6789.

Document Management for Accounting-Centric Applications:

Ask Why and Think About How

BY MIGUEL ESCOBAR, SYNERGETIC DATA SYSTEMS, INC.

Organizations have many reasons for wanting to electronically archive documents. Ultimately, in one way or another, they all boil down to efficiency.

MultiValue integrators take note. UnForm Laser Forms software has morphed into a full document management solution platform. The best part is it's a low-profile horizontal application.

MultiValue vertical applications in every industry niche, including the most custom of custom applications, can benefit from an integrator-oriented approach to document management software implementation.

This first in a series of three articles should whet your appetite for efficiency-focused document archiving integration opportunities. Next issue, we'll focus on the morphing part—given technology trends in the last decade, how logical it truly is for a laser forms product to evolve into a full document management solution.

Serving as the primary communication vehicle between just about every type of organizational entity, it is logical that documents are becoming, in ways large and small, the focus of many organizations' IT strategies. This can happen at a strategic mission level, where an organization's documents become the central focus of a broad new IT paradigm, or at a lower tactical level, where the focus is on specific efficiencies to be gained from automating or computerizing document storage, workflow, and handling—very often on a case-by-case, document-by-document basis.

Much has been heard recently in the content management arena about what is referred to as e-discovery. There has been a consequent temptation to think of document management primarily in terms of corporate legal compliance issues and opportunities. But a 2006 survey by AIIM-ECMA (a primary trade association for the enterprise content management industry, www.aiim.org) discovered that cost-driven users outnumbered both compliance-driven and customer-driven users of content and document management solutions. Cost-driven users were those survey respondents who listed improved efficiency, reduced costs, or increased profits/improved performance as their main business driver for implementing a document management solution.

This probably comes as no surprise to most of us at work in the cubicles of technology, where a premium is

Continues on page 18

Document Management Solutions with UnForm®

Production › Delivery › Archiving › Scanning

UnForm is a powerful enterprise document management software solution that seamlessly integrates with any application. The UnForm suite includes laser form and electronic document production, document delivery via email and fax, document archiving and management, and document imaging/scanning. UnForm is a platform independent client server application for Windows®, Unix®, and Linux.

UnForm Laser Forms

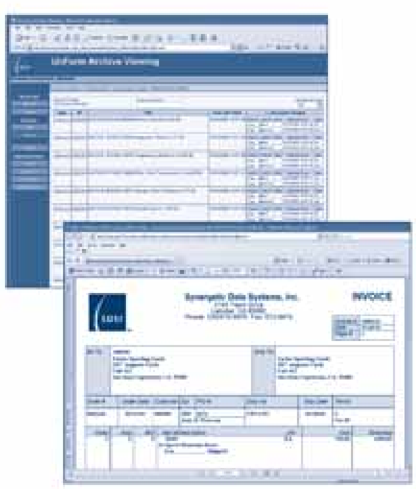
UnForm seamlessly integrates with any software application.

- Windows-based graphical design environment
- Eliminate pre-printed forms with laser printer output
- Produce presentation quality reports
- Create e-Documents in Adobe® Acrobat PDF format
- Email e-Documents automatically
- Print bar codes in most symbologies
- Create laser checks with MICR encoding
- Dynamic image conversion and scaling capability
- Database access via ODBC
- Microsoft® Fax Server support
- PCL 5 and Postscript® printer support
- Extensive programmability

Document Archiving and Management

The UnForm Document Archiving and Management component provides the ability to capture, store and retrieve paper-based and electronic documents.

- Rules-based document archiving
- Archive concurrent with document printing
- Store multiple versions of a document
- 10 levels of user defined category indexing
- Document linking control
- Fast web browser-based retrieval
- Client API for application-based retrieval
- Index oriented archive browsing
- Full feature search capability



Universal web browser document retrieval

Document Imaging/Scanning

Windows client application that provides a document scanning and importing tool for capture of documents external to the UnForm processing environment.

- Windows client application
- Integrated work environment for image capture and upload
- TWAIN compliant scanning interface
- Multiple property assignment modes
- Barcode and OCR zone detection
- Automatically match or group images with related archive documents
- Extensibility via VB Script

Document Image Manager

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2195 Talon Drive
Latrobe, CA 95682 USA

(800) 446-7374 or (530) 672-9970
Fax: (530) 672-9975
sales@synergetic-data.com
www.synergetic-data.com

DOCUMENT MANAGEMENT FOR ACCOUNTING-CENTRIC APPLICATIONS *Continued from page 16*

placed on "roll-up your shirt-sleeves" approaches to problem solving in a competitive, fast-changing world. It simply becomes too big of a risk to tap what are usually finite budget resources to bet on costly or trendy technology that touts a whole new paradigm as a solution. Proposing that kind of technology becomes problematic when it needs to be expressed in terms of a payback period, that golden efficiency equation at work in most business decision making.

We've recently heard document management solutions being described affectionately as a blip on the radar screen of IT and other key managers. Whether the blip travels to bull's-eye center depends on a number of factors, not the least of which are economics and its close cousin for IT professionals, ease of integration.

So, let's put away for the time being notions of new paradigms in enterprise content management, and look instead at some of the nuts and bolts issues and concepts underlying the need for document management technology solutions. One thing that will become clear is the logic and elegance inherent in a solution that leverages the existing data resources of host MultiValue accounting, ERP, and other applications.

Why Archive?

Organizations have many reasons for wanting to electronically archive documents. Ultimately, in one way or another, they all boil down to efficiency.

• In the here-and-now for an enterprise, lowering paper usage lowers supply costs, but perhaps more importantly, eliminates physical handling steps which can translate immediately into increased labor efficiency.

• Savvy organizations key in on the document-matching capabilities that electronic archiving can provide. Many key accounting and business workflow activities revolve around matching up related documents. To the extent that a computer system itself can perform, this function can increase efficiency and reliability, with human resources acting in higher-level monitoring and exception-handling roles.

> To be intellectually honest here, sometimes the how scares us away from fully tackling and addressing the why—especially when it seems like the logical prospective solution induces sticker shock.

• Many companies strive for a streamlined organizational efficiency of either a fully paperless environment or, at least, a minimization of clutter associated with storing paper files and archives. Often, an improvement in employee morale and retention can be traced to such efforts.

• Filing systems to handle paper resources themselves are costly and can occupy valuable commercial office space better used for more productive assets.

• Many acknowledge or believe that going fully paperless is impossible or impractical, but envision being able to relegate paper to a backup position in the scheme of retention and accessibility.

• Enhanced security over document resources can be a factor addressed by electronic archiving, as archive libraries

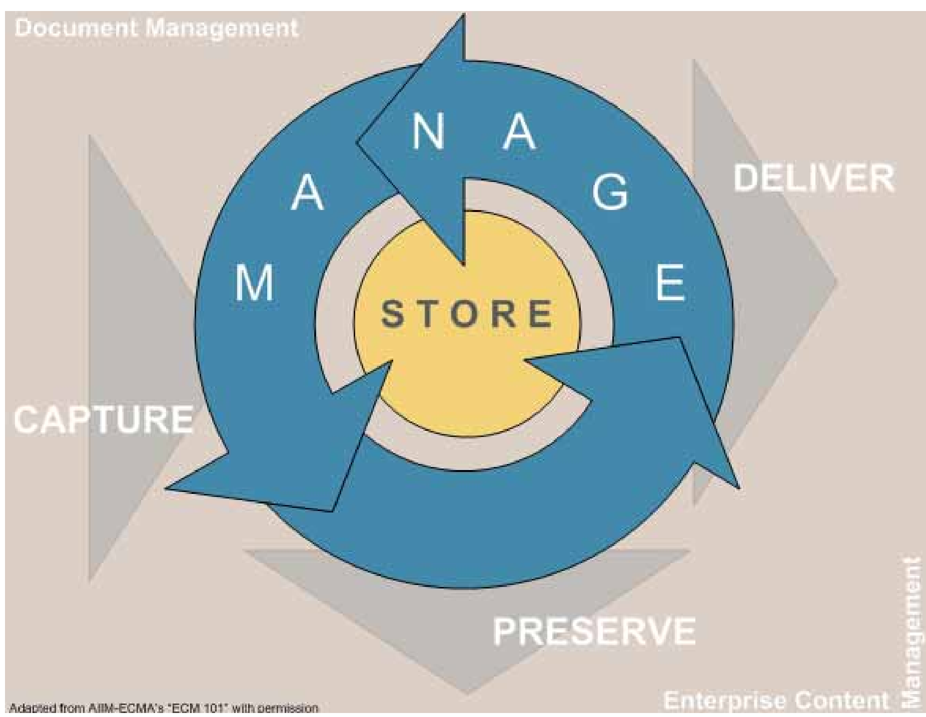

FIGURE 1 Enterprise Content Management

are able to be secured from non-authorized access in an environment familiar to system administrators. Paper copies of documents, if retained, can be stored with greater security because access to them is only needed on a rare or exception basis.

• Legally-mandated compliance issues in larger organizations can be a driver for the implementation of electronic archiving, and increasingly it is the efficiency of the up-front computerization of the archives that is measured favorably against the after-the fact costs of compliance in a litigation scenario where speedy and efficient access to documents has not been previously established.

• Environmental reasons related to better managing earth resources through lowering paper usage ultimately boil down to efficiency, albeit in a longer-term ecological sense. But in today's so-called green social and political climate, it's really not a bad idea to adopt

Continues on page 38

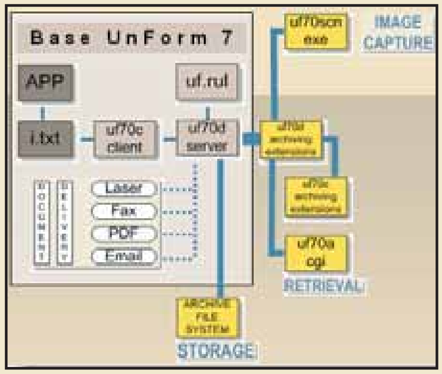

Figure 2 - A graphical depiction of a document management solution that integrates with an existing accounting/ERP application via a client/server API model:

• Archive PDF storage is essentially a simultaneous document delivery method that happens seamlessly and transparently when documents are printed, faxed or emailed.

• Retrieval is provided via a browser/CGI interface or API integration with the host application.

• Scanned document support is provided using a client MS Visual Basic image manager workstation which uploads images to the archive via a connection with the server component.

• Document indexing and identification metadata properties are open to the developer/integrator to customize the properties for the particular accounting/ERP application or end user's needs.

New Products

BlueFinity International Offers Migration Package from Raining Data's PDP.NET to BlueFinity's mv.NET

BlueFinity International, a leading provider of cutting-edge software development tools and consultancy services to the MultiValue database and Microsoft .NET developer communities, recently announced a special offer for Raining Data's PDP.NET customers to migrate to BlueFinity's mv.NET.

Some of the incentives qualifying PDP.NET customers will be eligible to receive from BlueFinity include discounts on licenses in addition to the volume discounts in the price book, beneficial payment terms, and a variety of consultancy services.

This limited time offer comes in response to requests from the market as evidenced by comments on various industry message boards. Peter Hughes, Director at ALMA Services, comments, "We made the move to mv.NET from PDP.NET nearly two years ago because of its superior functionality, especially in the area of MultiValue item updating and database management. We were also impressed with the mv.NET roadmap that was being described at the time and subsequently met with the introduction of .NET Framework 2 and Reporting Services. With no support for .NET Framework 2 and Visual Studio 2005 in Raining Data's PDP.NET nearly 18 months after BlueFinity released support in mv.NET, we are certain we made the right move."

BlueFinity, a member of the Mpower1 Group of Companies, has become a powerhouse player in the MultiValue industry, carving out a solid presence in the marketplace. The company's published roadmap, available on the corporate website, includes plans for the development of both additional features for their existing product range and the introduction of brand-new, innovative products.

Updates to the product and/or documentation occur on a monthly basis as mv.NET is aggressively enhanced based on feedback from the field. Future enhancements to mv.NET including support for .NET Framework 3.0, extended Ajax integration, Vista, and 64-bit support reinforce the company's dedication to the product.

"BlueFinity is a smaller company, but seems to have their heart in their product," states Sholom Hamada, Prudential Stainless & Alloys. "The company is staking themselves on .NET and mv.NET. They seem to have the personnel to develop it. They also seem to be advancing it along as Microsoft advances .NET itself. That's a good sign. We feel comfortable with their vision."

Customers who migrate to BlueFinity's mv.NET also do so for its unique technical capabilities. Drexel Management Systems has many new installations and has successfully migrated all of their original sites. "We had successfully installed other connectivity solutions, but after trying mv.NET, we have found it solid, fast, easy to install, robust, and feature rich," says Drew Conboy, Drexel's President. "The fact that it fits across multiple flavors of MultiValue makes it the ideal solution. The latest release supports Ajax which is a must-have feature for future web development. If anyone is looking for a way to bring open system technologies to their MultiValue applications they should look no further than to mv.NET from BlueFinity".

BlueFinity customers find it easy to integrate the technology with their existing infrastructure. Jon Neutens, President of Thede Ward Systems, migrated their .NET integration tool from PDP.NET to mv.NET. "mv.NET was easy to install and use and it ran as advertised. We now use mv.NET to run D3 subroutines and to read and write data for our proprietary browser-based business intelligence and reporting tool," explains Neutens. "In fact, we are so impressed with BlueFinity that we have now implemented a universal D3 Data Object Web Service and are incorporating other new web-based tools and applications, augmenting our current offerings."

BlueFinity has developed superior expertise within their team and prides itself on their strategic role of customer service. The company routinely hears from industry leaders that BlueFinity takes care of its customers, making a commitment to work together as a team. Tony Gravagno of Nebula Research & Development comments, "mv.NET support is absolutely outstanding. It is personal, fast, and informative. If I have issues or I need to escalate questions from my clients, we always have an excellent rapport with BlueFinity and it always leads to some sort of resolution as a fix, an enhancement, or a documentation update. This is the sort of service that people appreciate. I have confidence that they are interested in building their business and they constantly reinforce the belief that they want to do business with my company and others."

For more information regarding this special migration package for PDP.NET customers, please contact pdp@bluefinity.com.

About BlueFinity International

BlueFinity International, a member of the Mpower1 Group of Companies, offers its two flagship products—mv.NET and RSDC—to the global MultiValue community. mv.NET allows the full benefits of the .NET service oriented architecture technology to be realized by users of established MultiValue applications; RSDC enables MultiValue developers to utilize the very latest Microsoft Reporting Services technology. For more information, visit www.bluefinity.com. ■

NEWS MAKERS

Paciolan Completes the Integration of Informer Web Reporting Software

Paciolan, a leading provider of ticketing, marketing and fund development solutions for college athletics, performing arts , museums, arenas professional sports organizations has completed the integration of Entrinsik's Informer Web Reporting Software into their core solution.

"Integrating these two packages provides our customers 'information on demand' with Entrinsik's intuitive Informer Web Reporting Software" said David Raber, Paciolan's Chief Technology Officer. "Obviously, we're excited to offer our customers the very latest in web reporting capability, all seamlessly integrated with our ticketing solution package."

With Informer, Paciolan clients are able to quickly access all customer data to understand and act on trends in their business. As part of the integration, Paciolan developers modified Informer's look and feel to be consistent with that of their software and customized application behavior to reflect custom business rules needed for user security and other processes.

"The Paciolan partnership is exciting for us as it again demonstrates Informer's ability to seamlessly integrate with ERP applications," said Doug Leupen, President of Entrinsik. "I am confident that Informer will provide the extra edge to allow Paciolan to maintain a leading position in venue ticketing software."

Paciolan began offering Entrinsik's Informer as a system add-on in July.

About Entrinsik

Entrinsik Inc., a privately held company,founded in 1984, has been creating and delivering the most complete ERP product solution for the training, conference, and seminar industry. In response to customer demand for greater access to their data, Entrinsik developed Informer in 1999. Informer is a web-based reporting tool that allows end users to intuitively and securely access data directly from IBM U2 databases and view the data in HTML, Excel, or PDF formats. For more information on Entrinsik and Informer, visit www.entrinsik.com.

About Paciolan

Paciolan is a leading venue-enabler providing a fully integrated ticketing, marketing, and development infrastructure that puts venues in direct control of their customer relationships, brand, and revenue potential. Paciolan also provides complete ticketing solutions for ticket distributors that wish to build relationships with venues under their own Paciolan-powered brand. For more information on Paciolan, visit www.paciolan.com. ■

New Products

Continues on page 37

Easyco LLC Unveils "Ultra Performance" Storage Solution For Enterprise Servers

EasyCo announces the release of its "Managed Flash Technology" (MFT) storage solution for Linux servers. Dubbed "The 300,000 RPM Disk Drive", MFT combines Flash memory based Solid State Drives (SSDs) with a patent pending drive management layer. The result is disk performance that is 10 to 30 times faster than 15K RPM disk drives when working with random IO operations.

Flash SSDs only solve the "read half" of the enterprise performance equation. By delivering 2,000 to 7,000 4K read IOPS (IOs Per Second), Flash SSDs randomly read 10 to 30 times faster than 15K SCSI drives. Unfortunately, the random write performance of Flash SSDs is terrible. With random write rates of only 13 to 50 IOPS, even applications that do as few as 5% writes will spend 95% of their time writing. This renders existing, unmanaged Flash SSDs as unsuitable for most enterprise applications. This is what SSD manufacturers refer to as "the random write problem" of flash technology.

EasyCo's Managed Flash Technology solves the Flash SSD random write problem and delivers sustained random write performance that is more than 100 times faster than the bare solid state flash drive. As a result, random write speeds increase from the 8 to 50 range to 3,000 to 10,000 IOPS. Without MFT, Flash SSDs are only marginally faster than desktop hard disk drives. With MFT, Flash SSDs are accelerated into a class by themselves.

EasyCo's president, Sam Anderson, laughs about the first production data tests. "In our first live test, a prospect copied 218,000 of their own records, deliberately sorted out of sequential order, from one database file to another. Running on a 15K SCSI drive, the file to file copy took over 45 minutes. In fact, at one point, the client called to ask if the server had hung. (They were testing remotely.) The same job on an MFT Flash drive took only 2 minutes and 45 seconds, or 3,963 IOPS."

Chief Technical Officer Doug Dumitru commented, "That's only half the story. The MFT technology can also be used in situations with lots of file system RAM cache."

Many users load up a server with enough memory to store the entire active database. This solves read performance issues, but doesn't help applications that do a lot of writes. MFT allows you to build a system using RAM to eliminate all disk reads and push real-time writes to an ordinary disk array at >100,000 random writes/sec. "It's like having a non-volatile RAM disk without any special hardware."

Even small servers can benefit from this behavior. Many database import operations end up 100% write-bottlenecked. A database import job importing 2.2 million voter records for a local political campaign went from 50 minutes with a traditional hard disk to less than 3 minutes with MFT. .

The MFT solution addresses random IO bottleneck on several fronts. First, it allows servers to scale. With MFT, you can support as much as 10 to 30 times the number of users or hits with existing CPUs and RAM configurations. Doing this with traditional hard disks would require arrays consisting of dozens or even hundreds of drives. While hundred drive arrays do exist, MFT lets you reach the same level of performance with a handful of solid state disks occupying 1/50th the space and consuming 1/500th the power.

Second, MFT can put the snap back into an application. The ultra low latency of solid state drives directly translates into quicker screen responses and better interactivity, even with busy servers.

The third front is the performance of single threaded jobs. These batch jobs are stuck in a time warp, at the performance levels of a decade ago with nowhere to go. Adding drives does not help. With MFT running, the morning "picking ticket" job finishes in 10 minutes instead of 2 hours, and a rebuild of your data mining cube finishes in hours instead of days. One customer reports that their end-of-day job went from 10 hours and 57 minutes to just 27 minutes after migrating to an entry-level MFT server.

EasyCo is now shipping Linux servers pre-configured with RAID protected Flash SSD MFT storage subsystems. Available configurations range from 7 GB to over 600 GB of ultra performance solid state storage. These configurations deliver from 2,000 RW IOPS to over 50,000 RW IOPS depending on drive model and quantity. In comparison, 15K SCSI drives are about 200 IOPS per drive. End-user pricing starts at under $2,500 and extends to over $50,000 depending on the configuration. Reseller discounts are available.

More information about MFT is available at http://www.easyco.com.

Sales and Reseller queries should be directed to Sam Anderson at 610 237-2000 x1 (sales) or sam@easyco.com.

Technical queries should be directed to Doug Dumitru at doug@easyco.com ■

NEWS MAKERS

Datatel e-Marketing Solutions and Creative Design Services Selected by Several Institutions

Datatel, Inc. has announced that several institutions have chosen its ActiveAdmissions and web site design solutions to provide prospective students with personalized web experiences, online applications, and easy-to-use enrollment processes.

San Francisco Art Institute purchased ActiveAdmissions in order to provide a powerful e-recruiting tool and enrollment features for its prospective students and parents. Laramie County Community College, Montgomery County Community College, and Northern Wyoming Community College District chose ActiveAdmissions Community College Edition to increase web site usability, provide online applications, and offer personalized contact with prospective students.

"We are very excited about implementing ActiveAdmissions at Laramie County Community College (LCCC)," said Michael Walters, vice president of information technology and chief information officer at LCCC. "The online personalization ActiveAdmissions offers will give LCCC an advantage in recruiting prospective students."

"The push for ActiveAdmissions is definitely a step toward capturing more prospective students through an inviting and easy-to-use application process," said Brady Fackrell, information systems manager at Northern Wyoming Community College District.

"Our web site is a critical recruitment tool, and we realized that a dynamic redesign was necessary to help attract new students to Montgomery County Community College," said Celeste Schwartz, vice president of information technology at Montgomery County Community College. "Restructuring our web site and providing targeted and personalized messaging are several of the features we look forward to benefiting from by implementing the ActiveAdmissions Community College Edition."

"Providing a personalized and interactive web site is essential for recruiting students," said Bill Knight, Datatel's vice president of sales. "Students expect an institution's web site to provide all pertinent information regarding admissions, including an online application. Similar Datatel institutions have experienced an increase of over 82 percent in applications through the ease of using the ActiveAdmissions online process."

Datatel ActiveAdmissions transforms institutions' web sites into personalized and engaging e-recruitment tools, driving their prospective students through the complete enrollment process. ActiveAdmissions connects directly to an institution's information system, using existing data about prospective students to enhance personal communications with them when they visit an institution's web site.

Datatel's Creative Services Team designs higher education web sites using the latest usability standards and design techniques to captivate prospective students, invigorate current students, and keep alumni connected. The team captures each institution's culture and values to create a unique graphical interface and navigation system that is distinct and integrated with each institution's brand.

About Datatel, Inc. Datatel is a leading provider of fully-integrated information management systems that provide value for higher education institution administrators. Headquartered in Fairfax, VA, the company counts more than 740 institutions throughout North America as clients. Datatel has exclusively focused on meeting the needs of colleges and universities for more than 25 years, helping them operate more efficiently so they may better serve their constituents. For more information, visit http://www.datatel.com. ■

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Rest Easily— You use a MultiValue Product

BY ROBERT CARTEN, REVELATION SOFTWARE

I confess. I am a buzzword junkie. I enjoy finding the information technology buzzword of the week and showing how it demonstrates that the core concepts of MultiValue products are again cutting edge. When XML was the new thing I was all over it. The fact that delimited text provides magical benefits for interoperability was new to the rest of the world, but old hat for us MultiValue folks.

My new buzzword is REST. REST is an acronym for Representational State Transfer. If you have heard of Ruby on Rails, then you have heard of the primary toolkit used by REST implementers. REST is a noun or data-oriented approach to designing application interfaces, rather than a verb or process-oriented approach. If XML is confirmation that the MultiValue approach to storing data is correct; then REST is confirmation that the MultiValue approach to retrieving data is correct. My objective in this article is to provide an example of a RESTful application interface. I work for Revelation Technologies, so my examples will be written in that product, but the concepts apply to every MultiValue product.

Just the Facts Ma'am

The core idea of REST is that applications interoperate by exchanging facts (resource representations), and that every fact has a unique identifier or key. The REST evangelists say that an interface which employs a very small set of verbs to operate on a very large set of nouns survives change. They use the term Representation of State to describe a fact or set of facts. These are the nouns. They say the verbs POST, GET, PUT and DELETE are the only verbs you need. These verbs correspond to CREATE, READ, UPDATE, DELETE (CRUD) in a database environment.

They distinguish between the state of the resource and the state of the session or interface. They teach that session state is unreliable and unnecessary.

REST is not a new concept. In fact it is the basis for the World Wide Web. It is getting attention now because Roy Fielding, a player in the implementation of the Internet, has been reminding people of the design principles behind the web and suggesting that applications written for the Internet follow these design principles. To quote one article, "the thing to keep in mind is that REST is about exposing resources through URIs, not services through messaging interfaces." (http://www.prescod.net/rest/mistakes/).

> "The REST approach is very compatible with the core principles of the MultiValue architecture."

I translate that into MultiValue-speak as "access information by its key." Give us a checkmark on that requirement. The 'R' in REST stands for representation. The REST approach states that interactions transmit representation of resources, not the actual resource. Given the MultiValue dictionary, all views of our data are representations. Check that box too. The examples state that the GET of a resource may return a list of other resources. Sounds like a multivalued column to me. Check. Finally, do we support CREATE, READ, UPDATE, DELETE of resources by their address (key)? Yep, checkmark there too. Seems like we MultiValue folks have tools ideally suited to anchor these REST applications.

Is it Secure?

A detailed explanation of security is beyond the scope of this article. Proponents claim that REST is more secure than remote-procedure-call web patterns because it abides by the security policy set by the web administrator. REST says that plain GET requests should never change data. If your application modifies resources it should send PUT or DELETE requests. These will only succeed if the user is authenticated per web server policies. The effect is similar to a single sign-on approach.

What do you know?

I don't know much, just that REST sounds like a good fit for us. I found an excellent set of resources at http://tss-blog.techtarget.com/index.php/interoperability/mini-guide-rest-representational-state-transfer/. Credit goes to those authors for all the background information provided in this article.

How about an example

For a demonstration, I put together an example where I provide a library page which offers to list books by title or author, lets you drill to each book, and then lets you reserve or un-reserve a book.

Continues on page 28

Rest Easily–You use a MultiValue Product

Continued from page 27

Design

I chose the resources I wanted to expose.

I chose the representation for each resource.

I decided on a scheme for expressing them as URLs.

Figures 1-3 show how this example appears. Note that the links are plain URLs.

RESOURCE	REPRESENTATION	URL
Library	Menu of Services	/LIBRARY
Books	List of Books in the Library	/LIBRARY/BOOKS
Books	Sorted by Author	/LIBRARY/BOOKS/AUTHOR
Books	Sorted by Title	/LIBRARY/BOOKS/TITLE
Book	Details for a book, including reservation status	/LIBRARY/BOOKS/<id>
Reservation	Reservation status of the book	/LIBRARY/BOOKS/<id>/RESERVATION
	Use GET to Query	
	Use PUT to Reserve	
	Use DELETE to Un-Reserve	

> "Seems like we MultiValue folks have tools ideally suited to anchor these REST applications."

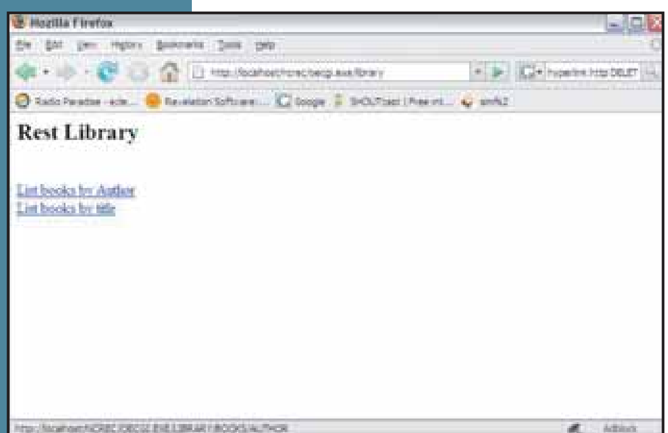

FIGURE 1 Note links are plain URL

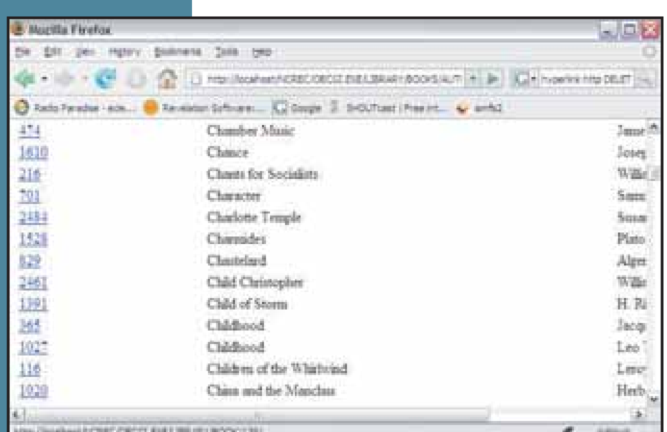

FIGURE 2 Book Report – again the link is a plain URL

How Did I Do It?

First, I created a REST-oriented request processor in OpenInsight (fig. 4). The full source is at http://docs.google.com/Doc?id=dhh9ztnx_23ggzn77. Then I modified OECGI to use that processor (fig. 5). And, finally I wrote a program to generate the pages (fig. 6). Nothing exciting here, except counting the levels in the URL.

Lessons Learned

I had trouble with the PUT and DELETE requests that REST purists recommend. In real-world applications, instead of the plain hyperlinks which I used, one generates pages with JavaScript to communicate with the server. I implemented a hack where I include ADDITION and DELETION as part of the Reservation URL. This let me avoid a PUT or DELETE, but meant I violated the rule that a GET request should not change data.

I noticed I was using long URLs for even such a simple example. In a complex application you might generate resource 'tokens', a set of characters which represent the full name of a resource. Now that I am done, I realize that I should use URLs which look like \table\column\key, and have the MultiValue dictionary do all the work.

Working the REST way feels a lot like event programming. I had to write my code to check the state of the object. For instance, I wrote the reservation part to give a different answer if the book is already reserved. The good news is that coding in this style meant that users who hit the back button and resubmitted a request did no damage.

Could I use Ruby On Rails?

Sure. Get a book and a copy of RUBY (see http://www.ruby-lang.org/en/). When it is time to hook to the database, just call it from Ruby. For OpenInsight users, an example of calling OpenInsight from Ruby is at http://docs.google.com/Doc?docid=dhh9ztnx_6ccv6p3&hl=en. The example calls INET_TRACE, but you can change it to call whatever function you need. The point of this REST design is that you just provide addresses to resources.

FIGURE 3

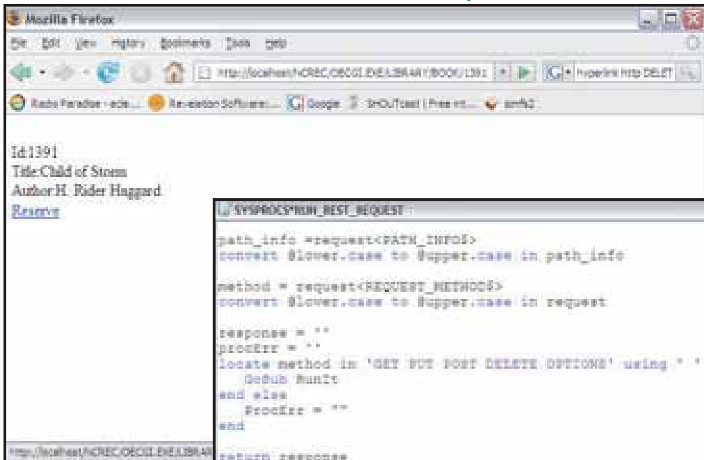

FIGURE 4 REST Gateway processor Strips function name from URL, calls it

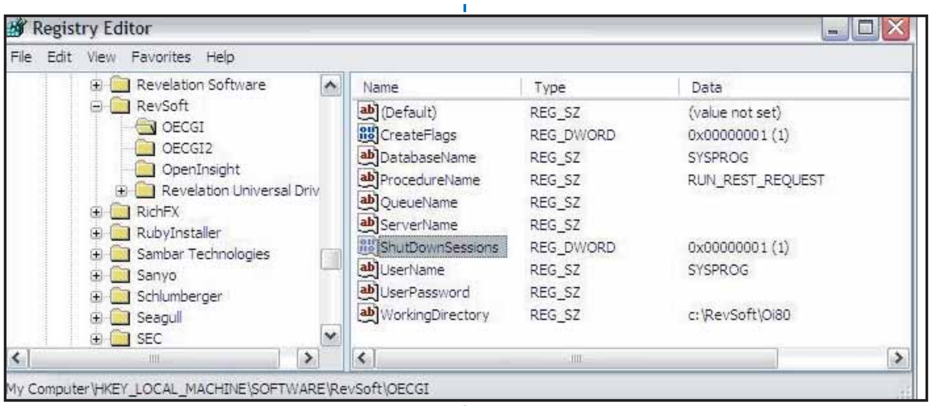

FIGURE 5 Registry settings to make OECGI use my REST processor

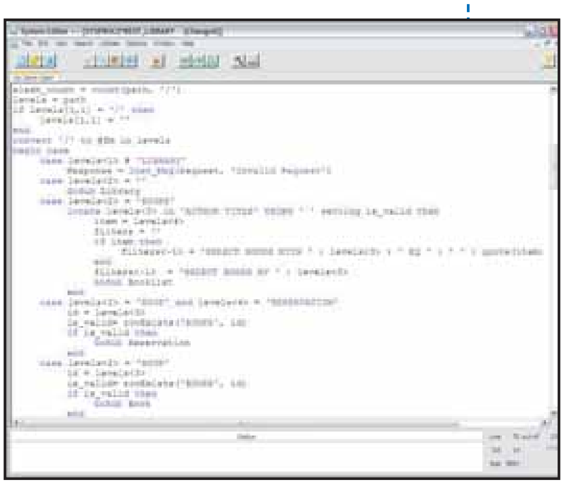

FIGURE 6 REST handler specific to Library

Conclusion

The principles espoused by the REST community describe a systems integration approach which is optimized to scale for increases in complexity and distribution. The REST approach is very compatible with the core principles of the MultiValue architecture. While the buzz is about web interfaces, the principles apply to any interoperability need. There is a lot of passionate discussion surrounding the topic; best practice is still evolving. So, read up on REST literature, especially the Ruby on Rails discussions; and, when the time comes, REST easily. You use a MultiValue database. IS

INTERVIEW WITH THE REV GUY

Revelation Software

> We constantly learn, adapt, and do something new. If we don't keep moving, we'll get run over.

B Y C L I F T O N O L I V E R

Spectrum Magazine was able to chase down one of most well-known yet elusive figures in our MultiValue community—the Rev Guy. We've seen him for years as the face of Revelation Software and Cosmos before that. We were finally able to sit down with him and find out a bit more about him, his work with Revelation, and his thoughts about MultiValue.

SPECTRUM: ***Thank you for agreeing to talk with us, Rev Guy. You've been the face of Revelation Software for some time. When did you start with the company, and how did that come about?***

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INTERVIEW WITH THE REV GUY

Revelation Software

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Rev Guy: Clif, thanks for the opportunity to talk about myself — it's almost my favorite subject! I first began work with Cosmos (as Revelation was called then) back in 1982. They were beginning a new advertising campaign where some C-level executive was given a directive to get a database system up and running, or else he'd be sent to Patagonia. Luckily, he knew about Revelation, and all was well.

SPECTRUM: ***One of the questions we hear a lot is, "Rev Guy? That sounds like a position title. Does he have a name?" So, how about it? Does your contract allow you to tell us your name? Or, are you contractually bound to live in anonymity?***

Rev Guy: Sure I have a name—doesn't everyone? However, I've been associated with Revelation for so many years that I'm happy to be known as Rev Guy. You should see the tags on my car. That'll show you.

However, for those with long memories or some old computer magazines (such as International Spectrum) from the early 1980s, take a look at the Cosmos ads for Revelation. You'll see my real name.

SPECTRUM: ***Being with the company as long as you have, you have seen a lot of changes to the product. What do you think the most significant advance has been in the last three years?***

Rev Guy: By limiting it to just the last three years, you're making it tough. I've seen these guys go from PCs, to networked PCs, the advent of Windows, the Web, Java, Linux, plus a whole bunch of technologies that have failed over the years. Anyone else remember OS/2? But in the last three years, I'd say that there are two big things: the U2 Connector, which allows OpenInsight to use U2 data tables seamlessly, and our Engine-Server technology that allows interfaces such as Arev32, Character to OpenInsight, OECGI2, and other web extensions into OpenInsight.

SPECTRUM: ***In the Revelation ads, you are sometimes depicted as an experienced computer technologist and sometimes as a master chef. What other roles have they had you portray? And are these actual interests of yours? Are you actually a chef, or do you have trouble remembering the difference between a béarnaise and a burnoose?***

Rev Guy: What on earth is a burnoose? I had to Google the word just to answer this question! I am not a chef, but I do enjoy cooking. Some of my other roles include artist, superhero, doctor, instructor, orchestra conductor, race car driver, and so many more I can hardly remember. After twenty-odd years, you end up doing a lot.

And Clif, I think that's a statement that covers most guys in the MultiValue community. We constantly learn, adapt, and do something new. If we don't keep moving, we'll get run over.

SPECTRUM: ***As an old-time PICKer from the early days, you've seen a lot of changes in the MultiValue market. At one time, it was Pick against Unix, and IBM was enemy number one. Now, OpenInsight runs on Linux, and IBM is one of your business partners. Where do you see the MultiValue marketplace being five years from now?***

Rev Guy: I see some more consolidation in the marketplace. I've been around, and you can tell when a company is just phoning it in. There's a vendor or two in the MultiValue community that this might describe real well, if you know what I mean. The users see it as well. And, if I were in their shoes, I'd be a little bit nervous.

Also, in the IT market in general, there's a move to Software as a Service (SaaS) that seems to be catching on well. It's just the old Application Service Provider (ASP) of a few years ago, but it looks like people have figured out how to use it.

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INTERVIEW WITH THE REV GUY

Revelation Software

Continued from page 33

SPECTRUM: ***Can you tell us anything about how Revelation Software plans to address those changes?***

Rev Guy: I'm not a real technical guy, but I know Revelation has been selling thousands of new seats every month for the past couple of years. They have great products, and excellent tech support. It seems like their web site has answers for about every question asked. I also hear that it's real easy to change from other databases to OpenInsight. Regarding the SaaS, Revelation has added a lot of connectors so that users of browsers and mobile devices can connect very easily to OpenInsight. I know of a number of sites that are supplying SaaS solutions based upon OpenInsight.

SPECTRUM: ***A final question: What's with that grin? I've heard people say it's like you have an almost gleeful delight in knowing something we don't know. Come on. Share it with us.***

Rev Guy: Clif, have you ever been in a situation where you know the question, you know the answer, and you watch the same game play out again and again? Revelation has been through so many changes and we continue to come out on the top end of the pile. We see the entire industry heading towards XML, which is a delimited, hierarchal database design, and it's the architecture we've had since the beginning. Organizational systems are being called on to be even more flexible with their databases, and that's an area where OpenInsight excels. It's kind of like when you're listening to a joke that someone is telling, and you already know the punch line.

I gotta tell you, I love my job here. Based upon the way that things have gone for the last twenty-five years, I'm looking forward to a beautiful relationship.

SPECTRUM: Thanks, Rev Guy. We appreciate your time.

U2UG Wiki

The U2UG Board is pleased to announce the next step in our mission to promote and teach the benefits of the IBM U2 model: the U2UG Wiki!

The Wiki is YOUR chance to be heard — even if you don't have the time to write complete articles, you can still add your comments and experiences. A Wiki is a collaborative effort, and we want you all to decide how this can grow and flourish.

Here are just a few subject areas where we hope the Wiki may lead:

- How-To pages
- Technical tips
- Source code and tools
- Real life examples
- Undocumented features
- Success stories
- Links to blogs and organizations
- Vendor space
- And anything else IBM U2 related
- This is YOUR wiki, so please use it!

You will find the Wiki now available from the U2UG Website (www.u2ug.org): just look under the Related Links menu.

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Compass Announces E-Documents – Quantum Release

The Compass Consulting Group has unveiled the Quantum Release of its popular Compass e-documents software. Quantum represents the next level of powerful document management technology designed specifically for successful integration with IBM U2 or any MultiValue database software system. Compass e-documents has been fully integrated with many major software packages for financial, wholesale distribution/manufacturing, retail, government, and healthcare. Compass e-documents offers vital features not found in other general purpose document management systems.

According to Compass CEO, John Walsh, "With the Quantum release of Compass e-documents we've pulled together our document production, capture, and searching software into one comprehensive set of PowerTools to help companies, law firms, and government offices operate effectively by having immediate access to the documents they need. Included in the software is our U2 SDK for easy integration with any package or custom software you may be running or we'll integrate it for you, being expert in the U2 environment ourselves."

" In addition to the other features, we've put bar codes everywhere. From labels on paper filing documents such as orders, to placing bar code fonts on in-house produced documents like statements and letters. The bar code allows documents to be identified instantly and tracked automatically."

Compass e-documents features SmartCapture, that lets users drag-n-drop Microsoft Office documents, email attachments, or even multimedia files on its capture window and link them to critical business transactions simply and securely. For a more automated approach, Compass Electronic Document Capture (EDC) will process folders full of faxes, emails and attachments, client downloads, or documents produced by mail-house outsource vendors. The net result is a comprehensive view of the transactions during functions like customer service resulting in more one-call resolutions of client issues.

On the document production side, Compass e-documents will create stunning, high-quality Adobe PDF files of any printed document including statements, reports, and letters automatically. Included are our PowerPack templates, production printing modules, and automatic, secure email distribution software. In addition, any document or report may be published to a company website or exported to a third-party web provider.

If compliance is a concern, Compass e-documents has built-in security, encryption, records management, and discovery software which is key when considering the requirements of HIPAA, Sarbanes-Oxley, and others.

Hundreds of users in companies, law firms, and government rely on the integrated document management features of Compass e-documents everyday as a powerful complement to their IBM U2 software. Visit Compass at their website at www.compassedocuments.com for more information or a free webinar on product features.

ABOUT Compass – The Compass Consulting Group is headquartered in New York, NY and is a leading provider of document management solutions to the financial, government, and healthcare industries. ■

DOCUMENT MANAGEMENT FOR ACCOUNTING-CENTRIC APPLICATIONS *Continued from page 19*

a corporate position that acknowledges the positive impact our own individual practices can make on the life and sustainability of our community as a whole.

• So, which reason or combination of reasons fits your particular scenario or environment?

It is not so much a matter of debating the merits or pitfalls of particular reasons for adopting a particular strategy or response to an organizational problem or opportunity. There is a diversity of need and experience which does not conform to a boiler plate mold. It is, rather, a matter of recognizing the opportunity presented by the fact that the evolution of technology is actually to the point where the cost of improving organizational and administrative efficiency puts the solutions within the reach of virtually any size organization.

Delivering Efficiency

Once an organization's particular reasons for considering an electronic archiving and document management solution have been analyzed and have crystallized into a list of concrete expected benefits, the key requirements and/or necessary features of a prospective solution usually emerge. Properly addressed, they should result in the promise of the ability to deliver the benefits envisioned. The capabilities of the prospective solution are evaluated for their fit with the needs of the organization's business or administrative processes, and for their fit with the organization's expectations for efficiency improvement.

The special needs of every organization are of course different, but there are generally common needs that revolve around administrative functions that many organizations share. For the archiving component of a document management solution, there are some key capabilities and features that are needed to address common organizational needs for efficiency improvement:

• Ease, speed, and flexibility of document access.

These are the key demands that usually stand front-and-center when considering archiving solutions. This includes not only a general stand-alone document retrieval interface as part of the solution, but also integration with the existing accounting or ERP application itself.

• Logical and flexible pre-defined and custom-indexing and linking capability, preferably custom-tailored to the user's business model or specifications.

This can add such efficiency to the document retrieval process that employees' time can be much better utilized in higher-level aspects of their job description, or can flat-out reduce or eliminate the need for clerical support staff in some areas, reducing costly overhead.

• Barcode-enhanced and OCR enhanced image scanning capability for certain documents that cannot be archived directly from the driving accounting or ERP application.

This can apply to stand-alone document types, like outside vendor AP invoices, or to attaching related documents to parent documents from the accounting or ERP application. Signed delivery copies of packing slips being batch-scanned and uploaded to match-up with the parent packing slip document are a good example.

• Automated document matching.

Workflow considerations often involve a matching of documents. A system which enables multiple workflow-related documents produced or acquired at different points in time to match up with each other in the archive can produce obvious clerical-handling efficiency benefits.

Typical examples include an accounts payable vouchering process that relates and matches a purchase order, packing slip, receiving report, and vendor invoice; or the revenue-cycle matching of quotes, sales orders, work orders, packing slips and accounts receivable invoices.

• A minimum amount or level of intrusiveness to the driving accounting or ERP application.

The amount of synergy which can be generated from a system which transparently or seamlessly integrates with existing systems is in direct proportion to its non-intrusiveness. Synergy is another word for superior efficiency.

The above list is not meant to be all-inclusive. But it is intended to start the problem solving wheels turning for the process of finding creative ways that a particular software technology can be employed to deliver efficiency benefits in an organization.

The entry cost to the above technologies and their corresponding benefits is down at a level where they can make sense for even the smallest of organizations. And, the entry or investment cost is always a critical factor in measuring the overall efficiency of a business solution.

Accounting–Centric Solutions

The enterprise content management solutions industry, known as ECM and best thought of as a technology umbrella, has over the last decade come to encompass a very broad range of information and document technologies. The result is that the gamut of content and document management solutions being offered often must be filtered down to eliminate those that focus on needs that are not currently central needs to the organization at hand.

The term *accounting-centric* is seeing use as a way to distinguish between broad enterprise-wide content solutions and those that focus more narrowly on managing the documents and output generated by accounting and ERP applications. Such output is intended directly for the conduct of the resource-oriented or transactional-trade aspects of an organization's activities.

In an *accounting-centric* document management solution there are some important distinctions made between types of documents. Those distinctions are useful in understanding how a particular solution approaches document generation or handling activities differently based on those different types.

Trade And Non-Trade Documents

The term *trade documents*, as the name implies, refers to documents used to conduct trade between different entities. Entities include things like customers, vendors, and employees. The accounting terms *trade accounts receivable* and *trade accounts payable* gives a sense of the meaning. Enterprises generally trade products and services for money. Specific legal documents like purchase orders, packing slips, delivery slips, invoices, statements and timecards are used to control the process of trade.

Trade documents are usually the main output of accounting and ERP applications. If a document management solution provides an API for communication with a host accounting or ERP solution, then the push of trade documents into the archive is via a mechanism that can be completely transparent to the user. It can be integrated into the operations of the accounting or ERP application itself, often seamlessly and nonintrusively via the application's printer configuration interface.

What this means is that in the above case, no separate handling is required to file an archive copy of a document. Note that solutions that are completely scanner-capture-based cannot provide the same level of hands-off integration with an application's print-data stream.

A non-trade designation would include documents such as word processing documents, spreadsheets, and other supporting paper documents. These are examples of documents which typically are not processed by an accounting or ERP application. The processes for archiving non-trade types of documents like these should logically include a scanning workstation interface for supporting paper documents and a network filesystem browsing utility for importing word processing, spreadsheet and other format documents. Both processes should include indexing and metadata property assignment capabilities.

An accounting-centric document management solution which can be integrated easily with a host accounting or ERP application has the benefit of intimacy with the application's data print stream. That data print stream, besides being the document itself, also contains the indexing and identification property metadata necessary to create truly custom archive retrieval scenarios which match the way organizations function and do business.

Why leads to How

Asking why is the usual precursor to innovation. Moving from why to how happens *after* the answer to why has resulted in a compelling enough argument for action. To be intellectually honest here, sometimes the how scares us away from fully tackling and addressing the why—especially when it seems like the logical prospective solution induces sticker shock. But that's where some accounting-centric integrated solutions differ from others.

Whether in the field of science, technology, business, the arts, or education, at the root of all human progress is the concept of moving forward in a way that maximizes efficiency. Every organization has key players tasked with guiding the organization forward with simultaneous views of short, medium, and long-term strategies for success and improvement. Many of those strategies revolve around eliminating waste and increasing productivity and efficiency. And many of those strategies involve IT.

Technology has brought us to a place where the document, the central vehicle for communication between organizations and entities, can be managed electronically to provide efficiencies that can allow organizations to devote more resources to the truly productive, non-administrative activities they engage in.

I invite you to visit www.unform.com for information about the UnForm Document Management Solution and SDSI's other products. While you're there, see the News Pages link www.unform.com/newspages and take a look at the article on document management in the *2007 2nd Quarter* issue. There are links to related articles and resources there. And, watch for our next article in this series. The story of the evolution from laser forms to document management is an interesting technology story.

Now may be the time for your organization to consider the why's and how's of implementing a document management solution—especially one designed for a transparent and seamless integration with your main vertical application, where the potential for synergy is high. **IS**

BY MELVIN SORIANO

Browsed and Beaten

One of the aspects of the massive browser war a few years ago was the perception that users worldwide were eventually going to select either Internet Explorer or Netscape. There was also the assumption that once one of these browsers won out, the battles would cease — the war over.

Well, victory in war apparently doesn't mean much, as we've learned only oh-so-well since then.

Internet Explorer, victorious conqueror, won a short-term near monopoly, but suffers from near ceaseless attacks that compromise our security, personal privacy, and stability. It seems as though we in technology have paid a heavy price for having a singular point of contact by which to conduct much of our electronic commerce. Nonetheless, it's almost as inconceivable that we'd relinquish the many benefits that the Web has delivered, benefits that we all seem to know almost instinctively.

But we suffered in another important way: browser innovation stopped. The browser war saw Internet Explorer leap up from a rather awful version 1.0 to a reasonably XML-supportable Version 6. The consensus Internet Explorer 6.0 product seemed "good enough" and our expectations adjusted to this plateau. But, the "Pax Redmondus" gave unscrupulous attackers an ever-present monolith to attack. Worse yet, it lulled technological developers into a false sense of permanent stability.

Now, I'm not the first one to think that the phrase "MultiValue technological innovation" is inherently ironic. Most of us, however, flatly relished the fact that the Internet, its software, and expected business deployments were suddenly stationary targets on which IT departments could focus. The furious pace of change in browsers and Internet demands slapped around many MultiValue IT departments and companies. We in this technological sphere seemed to take the opportunity to deepen our implementations and make sure that our MultiValue Web 1.0 could transition successfully to MultiValue Web 1.1.

A couple years ago, however, we saw the rapid rise of Mozilla's Firefox browser. The relentless attacks on Internet Explorer created a groundswell of interest in IT departments worldwide to demand that its users use a less-targeted Firefox as an alternative corporate browser. Personally, I switched myself, as I saw features and options that seemed genuinely helpful, speedy, and customizable.

Firefox quickly claimed double-digit market share in the browser marketplace, and we as developers realized that our web testing efforts almost doubled. Suddenly, our rather pretty interfaces and clever scripts were found wanting, as we realized that we had unwittingly been exploiting Internet Explorer features that served us well, but were not part of the standard. Except for the absence of malice, we were doing what the hackers were doing.

The rise of Firefox, however, once again raised that bar, and for that we should all be thankful. If you enjoy tabs in your new Internet Explorer browser, if you like its additional security features and cookie management functions, then we are witnessing the benefits of market competition.

But this article isn't about macroeconomics. Actually, I wanted to bring up two technological developments in the past few years that have created even more turmoil in the marketplace. Some lead discussion, no?

Here I was, smugly thinking that finally a nice dose of competition in the marketplace would create just the right amount of browser innovation when we see these two developments. First, there's the enormous consolidation of technological gadgetry into a teeny, itty-bitty slip of metal we call the cell phone (or mobile phone, if you're chatting with English speakers outside of North America).

Cell phones are no longer size 11 shoes, nor are they merely, well, phones. They're cameras, walkie-talkies, calendars, games, PIMs, and whims—and even play hymns.

And now, they've even merged with the other technological onslaught of the past few years: the iPod players. iPods have moved beyond mere cultural phenomenon to business essential. (Mind you, I would strongly consider giving an eyetooth for the opportunity to be the developer of a mere cultural phenomenon.) iPods have given rise to podcasts, and podcasts have become a staple of marketing, training, and product education.

So what did we see this summer? The unthinkable integration of iPod and cell phone—the iPhone. If this wasn't a sign foretold by Nostradamus or John, then Steve Jobs certainly has elevated himself to a position of a high e-Prophet (homonym assuredly intended).

OK, I'm sure that those of you paying attention must be wondering—how does this relate to the browser wars?

Well, if you hadn't had an opportunity to see it in person, that browser on the iPhone is astonishing. On that crystal-clear, high-resolution color screen, without mouse buttons or mouse, without physical buttons or keyboards, without any self-consciousness, the iPhone browser is a looker. Is it easy to use? Zooming on a web page is merely a two-finger stroke that is not just easy, but so obvious as to beg why it hadn't been done before.

The browser that the iPhone uses is Apple's Safari browser. It's fully JavaScript-compliant, so all those Web 2.0 (that is, Ajax) functions that many of us depend upon are supported.

Can you test the Safari browser? Sure. Check it out on Apple's web site, for they've ported it to non-Mac OS like Windows XP/Vista. Is it as secure or bug-free as we'd wish? No. But it has created yet more opportunities for us to innovate and create value for our users and customers worldwide.

If people assume that these browsers are going to work with your existing web solutions, then you'll need to make sure that your software, services, and integrated applications support the innovation.

And worldwide customers who cannot get (or won't pay for) the iPhone aren't out of luck. There are options that are popping up even to the variety we have today. For example, if you take a look at the Mozilla site on your cell phone, you'll be able to download the Minimo browser. This is a delightfully small browser that still fully supports JavaScript.

Alas, all this supportability does create work. Because if people are checking out your web sites on these browsers, if people assume that these browsers are going to work with your existing web solutions, then you'll need to make sure that your software, services, and integrated applications support the innovation.

Do I despair? Not really.

I'd rather be putting extra effort into making sure that software tools and applications are productively using the best in the marketplace, rather than avoiding features out of fear of browser security exploitations. It's a win-win, work-work world right now, and that's a type of worldly peace-of-mind that I'm willing support. **is**

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Business For Programmers—Budgets

BY CHARLES BAROUCH

If you have ever offered someone exactly what they want, and had them get mad at you for it, you've either encountered someone on a diet or on a budget.

(Fuss) Budgets

For most people diets and budgets are painful and futile activities which seem designed to frustrate and demoralize. Those of us in the consulting world have watched managers put off critical projects at the start of the fiscal year because they are gripped by the fear that they will overspend. The very same company might bring in five or six consultants near the end of the fiscal year, so they can spend down the budget rapidly. After all, if they have money leftover, they may not get as much next year.

This isn't baseless fear. Many organizations use budgets ruthlessly, holding executives' feet to the fire, regardless of how much damage that does to real productivity and rational timing of activities. While there are notable exceptions, it seems that the bigger the company, the more prone they will be to this tactic. If upper management uses the words "responsibility to the stockholders" more than once a week, the chance of singed toes goes up dramatically.

So, with all the panic and paralysis, it is no wonder that budget has become a four-letter word in the business world.

Finding a Purchase

Obviously, if budgets had no upside, they would have gone the way of the dinosaur. Bad ideas can only run for so long before they kill the companies which practice them, and budgeting has been with us for quite a while. In fact, budgets serve several important purposes. And the people who understand this can wield meaningful influence in their company by working the budget system correctly.

Understanding, however, comes at a cost. You have to start with a premise which doesn't sit well with most people: you have to expect to be really bad at budgeting before you can be even adequate. Good budgeting, for nearly all of us, is an iterative skill, only learned by evaluating progressively less bad attempts we've gone through in the past.

The mantra I teach new programmers and new budgeters the same: "Anticipate, then do." This is the key to budgeting. A budget isn't a straitjacket, it is a hypothesis. As such, it can be either proven, found to be partially correct, or debunked. When we approach budgeting as the creation of a goal (anticipate) before making an attempt (then do), the process becomes useful and informative.

The power in budgeting comes from your ability to use the process as a tool for managing expectations and sharing blame. When I ask my boss for two million dollars to run a department with a salary budget of one million and a known set of expenses—rent, phone, coffee, etc.—pegged at half a million, the boss knows that I have no room for big staff build ups, big capital expenditures, or big initiatives of any sort. When I get a sign off on that budget, I have a tacit, an agreement that modest goals are expected.

Another reason people have trouble with budgets is that they think budgets are about money. In some places, they are — but not in most places.

If I instead ask for fourteen million dollars for that same department, I'm effectively promising big things. If I get most—or all—of that budget, I am being actively challenged to make good. This is a case where the budget has become a spotlight, highlighting my success or failure. Believe me, asking for a seven-fold increase is going to get people's attention.

If management signs off on only three million of the fourteen I asked for, they become complicit in my purchasing decisions. In a true budget, they will even have to specify which lines they are shorting or cutting. That sounds like a way to use budgets to manage expectations, spread responsibility, and communicate vision.

Lining Your Nest

How we draw up our budget lines can help predict the level of success of fail-

Continues on page 44

Budgets *Continued from page 43*

ure we will have when trying to make the hypothesis work. On the one hand, having a separate budget line for pens, another for pencils, and a third for paper clips—when they might all share a line called supplies—will make a budget overrigid and hard to manage. On the reverse, having a single line called "stuff I buy" won't cut it. Like most things, success trends toward the middle.

When I budget, I think in terms of uniting alternates into single lines. If I run a photo-retouch lab, Macs and PCs are both viable alternatives. Therefore, I have a budget line for Computers. If I need to expand my offices and build new counter space, I put tables, desks, shelving, and new construction in the same line, since they all represent alternative ways to get more surface area. Budgeting in alternatives makes me think about buying in alternatives; we wanted counters, but desks might be more cost-effective. These are simple examples but they lead to the less obvious ones.

> **When we approach budgeting as the creation of a goal (anticipate) before making an attempt (then do), the process becomes useful and informative.**

Car-less

Another reason people have trouble with budgets is that they think budgets are about money. In some places, they are—but not in most places. Yes, at the start of my year, I can probably budget rent to the penny. I should be able to budget many of the cost-of-business items which tend exist in most businesses. However, the core business items don't budget well in money. We need another sort of number.

Have you ever gone to a car lot and had the salesman tell you this: "Oh, that's our most popular model, but we ran through the materials budget. So, we can't make any more. Shame, really, you're the fifteenth person I've turned away this week."

Most core business budget lines are not money, they are indexed percentages. My raw materials spending should be a percentage of expected—and real—sales, with a floor (minimum) of whatever it will cost to get the initial batches out. My budget for travel should be indexed to the number of trips planned for sales and other purposes.

As we scale back or expand the travel plan, the budget should shift with us. You can't do that when you budget in dollars or pounds or rubles. Budgets aren't really about saying no the things you want. They should not be about crippling a business which needs to spend more money in the first quarter than in the last.

BEP • ROI • P&L

Part of indexing is understanding the tipping point—the place where loss changes over to profit. In the manufacturing world, the BEP (Break Even Point) is the formula for when profits first begin to match or exceed costs. In the accounting world, this is measured in P&L (Profit and Loss) statements, which are broader than BEPs because they cover a range of activities, not just one product or process. Taking it to an even more general level is ROI (Return on Investment) which is the point where stockholders, with no particular expertise in your business sector, can measure success.

For example, if I decide to start a new line of business services, I factor in the fixed costs: licenses, website, and such. Then, I index the cost of providing the service to the fee I plan to charge. Next, I might mix in some advertising dollars, which I might index to failure. (If I'm not getting business, I need to get the word out more actively.) So, with a fixed floor on expenses, an index for providing the service, and an index for advertising, I can look at this new service and decide if it is even worth offering.

Can't Budget— It won't Move

Given all of this, imagine mounting a major project without at least a rough cut at a budget. Think about buying a house. Would you buy without first knowing the property taxes? Can you see yourself moving in with no budget for painting and repairs? How about signing a mortgage for a house without asking what the place costs?

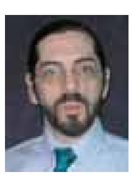
We don't buy a house without doing the math. We shouldn't hire staff without having a plan to pay salaries. We can't set up a business year without some sense of where we are going. We've all made bad spending decisions at one time or another. With a financial plan, like a budget, we decrease the chance of making the same mistakes twice.

Drawing a Profit

A good budget is never just about expenses. When I start a new year as a consulting business, I budget my time between existing work, finding new clients, visibility planning (like attending conferences, writing for magazines, advertising), and other goal oriented issues. I also map out vacation and family plans.

With my time budget in hand, I design a profit budget. I line up my goals for each of the revenue making parts which will make up my year. Only then, with time and profit indexes in place, do I attempt to budget expenses. I try to iterate through my budget several times before settling on my hypothesis for the year. With everything in place, I sit back and prepare to be wrong.

Because I have a budget, differences between my plan and reality cause me to make reasonable course corrections. Without a budget, I would be forced to rethink everything when reality intrudes. Budgeting helps me frame my expectation to myself, my family, my clients, and my co-workers. Because I embrace it, I have the opportunity to get better at it. **is**



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Clif Notes

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Get cranky. Declare in no uncertain terms that you are, by Atlas' Golden Truss, going to win over this problem. You will find a solution that not only works, but has style.

Get rid of the distractions. When you're blocked, you have to focus. If you have a guy in your work area who cluelessly plays music without using headphones and sings off key to it, eliminate him. Wait! I mean eliminate the distraction, not him in his person. The jail time just isn't worth it. Find a place you can take a notebook to that's quiet and secluded—a place you can relax, put your hands behind your head, close your eyes, and think about the problem rather than about how much you really hate hip-hop.

Get a new way of thinking about the problem. Are you one of those who usually thinks in code? Doodle on a whiteboard. Do you think visually and use UML or Warnier/Orr diagrams? Try talking it out in pseudo code.

Get help. One of the things we programmers can do that most writers cannot is ask a colleague to take a look at the problem with us. The best way I've found to break programmer's block is to put ego aside and go to a colleague and ask, "Would you look at this with me? I'm stuck."

Get cracking. Sometimes you just have to beat a problem into submission through brute effort. I call this "wookie-ing" the problem into submission. (It's a Star Wars reference. You know, where Chewbacca roars and beats his fists on the console until it works? <sigh> Never mind.)

These are some suggestions about overcoming programmer's block. It's been nice chatting with you, but I have to go. I have to find an idea for this issue's column, and I'm past deadline.

Hey. Wait a minute... **is**

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

1. What is your job function/title?

- ☐ Principal/Owner
- ☐ President/GM/CEO
- ☐ MIS/DP Manager
- ☐ Controller/Financial
- ☐ VP/Department Head
- ☐ Sales/Marketing
- ☐ Programmer/Analyst
- ☐ Purchasing
- ☐ Consultant
- ☐ Other

____

2. Is your company a (check one):

- ☐ Computer System Supplier
- ☐ Dealer/OEM/VAR
- ☐ Software House
- ☐ Consultant
- ☐ End User
- ☐ 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?

- ☐ Accounting
- ☐ Medical
- ☐ Direct Marketing
- ☐ Legal
- ☐ Banking/Finance
- ☐ Dental
- ☐ Construction
- ☐ Retail
- ☐ Education
- ☐ Insurance
- ☐ Other ____________

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

- ☐ Under $500,000
- ☐ $500,000 - $1 million
- ☐ Over $1 million - $5 million
- ☐ Over $5 million - $10 million
- ☐ Over $10 million - $25 million
- ☐ Over $25 million - $100 million
- ☐ Over $100 million - $500 million
- ☐ Over $500 million

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CLIF NOTES

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first draft is going to be junk and just get the ideas out onto paper, but they do rewrites. They have editors to catch the junk before it goes into print. But programmers? You are going to have to work very hard to convince me that re-factoring and code walkthroughs are a reality in your shop before I'd buy off on you using this technique.

Merlin did have one that I think is applicable, and it will bring us to some more ideas that are actually workable for programmers.

"Turn off the router."

Remember, he's talking to writers. It is his way of pointing out that when you are writing, you don't need IM, e-mail, YouTube, and all the other distracting junk. Now that's a writing idea I can vouch for. When I started writing, we didn't have word processing. Back in those days, horses were still steam operated, and all we had were typewriters. When you sat down at one, you were there for one purpose and one purpose only—to write. I was reminded of this when I ran across a program called WriteRoom. This program is a very, very basic word processor whose main feature is that it takes over the entire computer screen. You see nothing but your words. There are no task bars, trays, dashboards, or e-mail notifications. There is no browser icon inviting you to pop over to CNN to find out which Hollywood celebrity is checking into rehab today. A screen. The words. And you.

You know what? It really works. Oh, it doesn't help with writer's block. But once you are past that, you can really, really crank out the verbiage. So the next time I get programmer's block, I'm going to try shutting down e-mail and IM, hiding the dock (what we Mac users call our version of a Task Bar) and putting my editor into full-screen mode.

So what will help with programmer's block? From my last experience, I've isolated several things.

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Some Days We're All A Blockhead

BY CLIFTON OLIVER

I think everyone who has ever put pen to paper, or should I say pixel to screen, has occasionally suffered from the malady of writer's block. Perhaps the only writers who don't suffer from it are technical writers. I do not mean to imply that technical writing is easy. But it is, after all, primarily a descriptive function. Someone hands you a widget, and your job is to describe to a user how to get it to widge.

The following quote, or something similar to it, has been attributed to various writers. This should be an indication of how common this phenomenon is.

"Writing is very easy. You simply stare at a blank piece of paper until sweat drops of blood form on your forehead."

I personally favor the technique of banging my forehead on the keyboard and then examining the resultant random characters generated on the screen for patterns and hidden messages from my inner muse. I'm very hard on keyboards.

This issue, after disposing of three keyboards and two boxes of bandages, I was nursing a bad headache and pondering on the more general question of psychological blockage and how to overcome it. It dawned on me that the last time I had felt this blocked was when I hit a programming snag on a project a while back and just couldn't seem to get around it. After working in MultiValue Basic for as many years as I have, I churn out code fairly quickly. But not this time. I'd write some code, and I'd delete it. I'd write some code, and I'd delete it. I took me two solid days of frustration (and a long night of dreaming about the problem, to boot) to produce 418 lines of code.

Remembering this incident caused me to start wondering if programmer's block and writer's block had anything in common? They didn't seem to. With writer's block you usually are at a loss for an idea. When you are having programmer's block, however, you have the idea—you know what the program has to do. You just can't seem to get your head around the solution. But still, perhaps some of the techniques writers use could also be used by programmers. So I did what any programmer or writer does these days when blocked.

I gave up and went web surfing.

I found a number of interesting suggestions for overcoming writer's block on several sites. Most of them, however, don't look like they would work very well for programmers. Take, for example, the first suggestion from the Wikipedia entry on the topic.

"Scheduling time to write and working, regardless of the quality of the output."

From what I've seen, that's what many programmers simply call "going to work." Even those of us who are self-employed do not have the luxury of not programming simply because we are blocked.

One technique mentioned almost unanimously is doing a "free writing" exercise, which Wikipedia defines as impulsively writing whatever comes to mind. For programmers? Oh no, no, no. In our environment, this idea is not a Good Thing. It would, however, explain the origins of a lot of that code you and I find ourselves poring over, scratching our heads, and asking, "What was he thinking when he wrote this?" Maybe he wasn't thinking; it was just a warm-up exercise, which then got promoted to production.

On his web site—43folders.com—Merlin Mann had some interesting suggestions. The first one was:

"Talk to a monkey."

I'm not making that up. That's what it says. My first reaction was, "If I'm stuck on a programming problem, what good is it going to do for me to talk to someone in the Oracle marketing department?" But Merlin goes on to explain that he is suggesting that when you are trying to work out what you are trying to say, try talking to a stuffed animal or cardboard cutout. I've got news for you. If you get your technical advice on implementing connection pooling from a stuffed animal, you are not suffering from programmer's block. You've had a full schizoid break.

Another suggestion was:

"Write crap."

Oh, lord. Here we are, back into Microsoft coding rules again. It may be all right for a writer to accept that their

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