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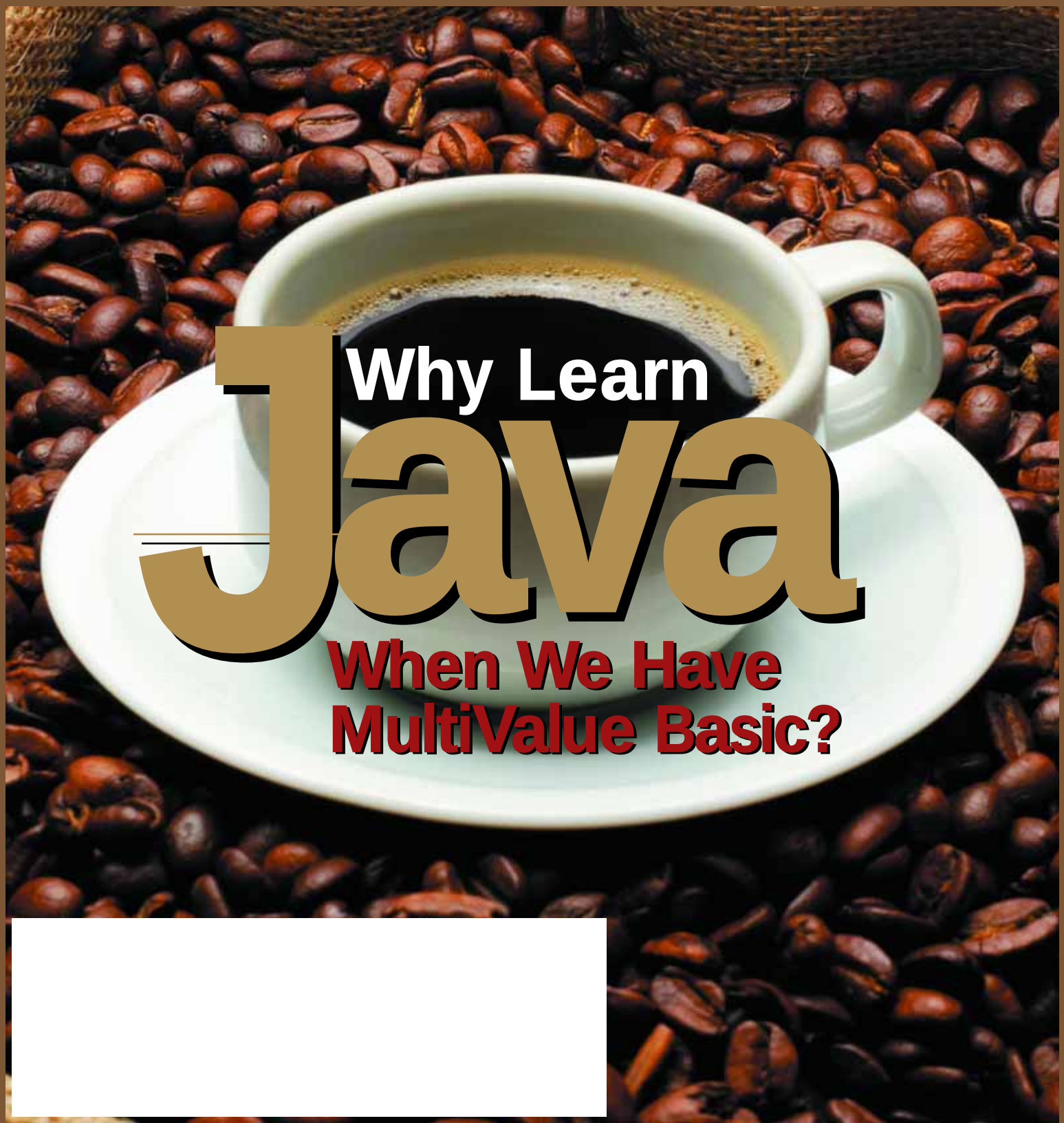

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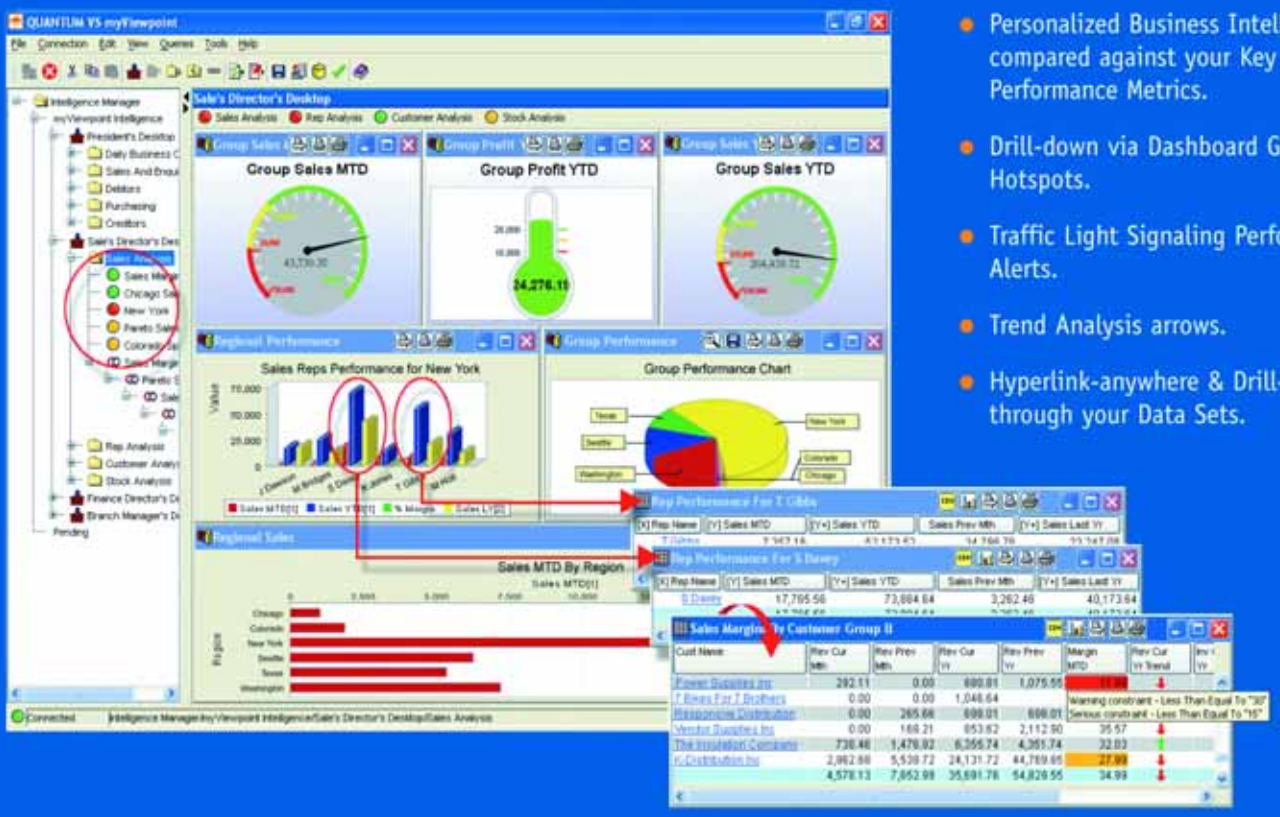

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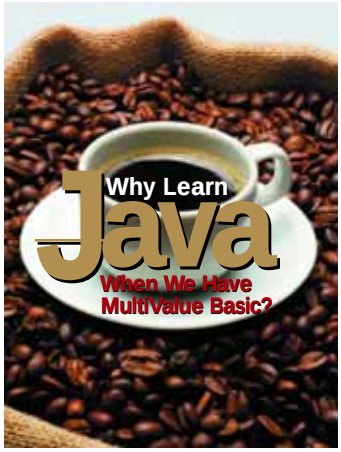

INTERNATIONAL Spectrum
THE MULTIVALUE TECHNOLOGY MAGAZINE

THE CASE FOR USING JAVA IN MULTIVALUE SHOPS

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BY JIM PAUL

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From the Inside

BY NATHAN RECTOR

Business Application Paradigm. Some of you may have heard of this, but for those of you that haven't, I thought I'd bring it up. The Business Application Paradigm is something many businesses use unconsciously when evaluating new software or changing their existing business software.

The Business Application Paradigm is this:

- Business Applications are large, very large, or very, very large.
- Business Applications are magnitudes of order more complex than academic computing class assignments.
- Business Applications are long-lived (10, 20, and 30 year-old applications are common).
- Business Applications are dynamic. Business applications grow in complexity, and evolve well beyond the original design and specification requirements.
- Business Applications are critical. Applications must be stable at high volume and capacity. If applications ABEND, they must be fix-able, and restart-able under duress.
- Business Computing Architectures evolve and change.
- Business comes FIRST. Technology for technology sake is not good business
- Business projects will be understaffed and overworked.

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Production requirements rule IT. If production systems fail or do not handle the monthly changes in business, IT will drop everything to address the problem, significantly killing momentum on new projects or implementation of new technologies.

If this is your first time hearing about this paradigm, then many of these points will likely resonate with you and may clarify some of what you are seeing and doing in your current enterprise applications.

There is no clear solution, or "Silver Bullet," to address any one of these. Business applications need to balance the requirements of day-to-day, month-to-month, and year-to-year business changes with keeping pace with technologies that are emerging. There is a reason why many companies are still using green screens that were developed 20 or 30 years ago.

For the same reason, it explains why many companies are always three years behind the latest technologies and do not plan to implement the new technologies in the near future, unless something forces them to.

Many times, I talk with people in the MultiValue community and find that they are only now planning on upgrading, or implementing something, because there has been no change to their business applications in 10 or 15 years. The only reason they are looking at these new solutions is because their existing business application no longer handles their day-to-day business needs, not because they dislike the technologies or software they have been using for the last 10 or 15 years. This is actually a credit to MultiValue databases and technologies used.

It is no wonder that we, as a community, have lasted as long as we have, and are continuing to find advantage with the MultiValue technologies and databases. We have created stable, reliable, and fast business systems that easily keep up with the changing world of business with very low overhead.

Now, after all these years, we have tons of data that we don't know what to do with, or how to present the data. This is not a short coming of the application or database, but part of the complexity of business applications.

-NATHAN RECTOR
President, International Spectrum
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JULY/AUGUST 2007

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Programming Drag and Drop in OpenInsight

BY SEAN FITZSIMONS, REVELATION SOFTWARE

As part of the continual improvement process of OpenInsight, we look for opportunities to add functionality to that software that would benefit end-users directly and not necessarily always make improvements that the developer would understand and appreciate. This process brought us to Drag and Drop. Drag and Drop is a feature of software that end-users have come to expect from windows-based software, and in an effort to provide end-users with the functionality that they expect, Revelation Software has added Drag and Drop functionality to the OpenInsight application development toolkit as of version 8.0.

Drag and Drop will allow the developer to create screens in which the end users' needs and expectations are met. The transfer of data from within the application on a control by control level and from controls to other software applications will provide the developer with a more robust toolbox when working with OpenInsight. In this article, I will discuss the various ways of adding Drag and Drop to controls and the properties, messages and events necessary to process Drag and Drop.

The OpenInsight Drag and Drop Model

On the face of it, every Drag and Drop operation has two components:

Drag

Drop

If we take it one step further, every Drag and Drop operation has three components:

Drag Source – the control from which the Drag and Drop operation was initiated

Data Object – the data to be Dragged and Dropped

Drop Target – the control that will accept the Data Object.

The Drag Source

The Drag Source is the fount from which all Drag and Drop operations flow. The Drag Source control has two events that occur on the control. The events for the Drag Source are DRAGSTART and DRAGEND. The DRAGSTART event occurs when the user has begun the drag. The DRAGEND occurs when the drop operation is completed. During the DRAGSTART event there are a number of messages that can be used to manipulate the data that is to be dragged. You can get the data, set the data, remove the data, clear the data, and set the bitmap image to display while a drag is occurring. There are also numerous properties that can be queried and/or set during the DRAGSTART event, including determining what mouse button was used to start the drag, the data format of the data that is being dragged, and the starting XY coordinates of the dragged data, among others.

The ENABLEDRAG property needs to be set on a control for OpenInsight to recognize a control as a Drag Source. For an edit table to be recognized as a Drag Source the ENABLEDRAGROWS property needs to be set and/or the COLSTYLE message needs to be updated to enable dragging from individual cells.

The Data Object

The Data Object is created when a user starts a drag operation in a Drag Source control. During the drag operation the operating system is looking for any controls which are marked as Drop Targets. The Data Object may then be dropped into any of these controls. The Data Object contains the data being dragged. The data may be in more than one format.

Continues on page 8

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Drag and Drop

Continued from page 6

The Drop Target

The Drop Target is the control that can accept the Data Object. The Drop Target has two events that occur the DRAGOVER and the DRAGDROP. The DRAGOVER occurs when the data object is dragged over the control while the DRAGDROP event occurs on the dropping of the data into the control. During these events the Drop Target properties to accept, copy, and move data may be set.

The ENABLEDROP property needs to be set on a control for OpenInsight to recognize a control as a Drop Target. For an edit table to be recognized as a Drop Target the COLSTYLE message needs to be updated to enable dropping into individual cells.

Setting Drag and Drop Properties

ENABLEDRAG / ENABLEDROP Properties

The two main properties that will be set to allow for the Drag and Drop operation to occur are the ENABLEDRAG and ENABLEDROP properties. These properties may be set at design time through the use of the Raw Style Bit screen in the OpenInsight Form Designer as shown in figure 1.

The Raw Style Bits screen may be accessed from the Properties menu within the Form Designer. The Raw Style Bits need to be set for each control in a window. This may seem a bit cumbersome. There are two other methods of setting the properties, one is programmatically during runtime and the other is through the use of the Add Drag and Drop tool.

Drag and Drop is a feature of software that end users have come to expect from windows-based software. Revelation Software has added Drag and Drop functionality to the OpenInsight application development toolkit as of version 8.0

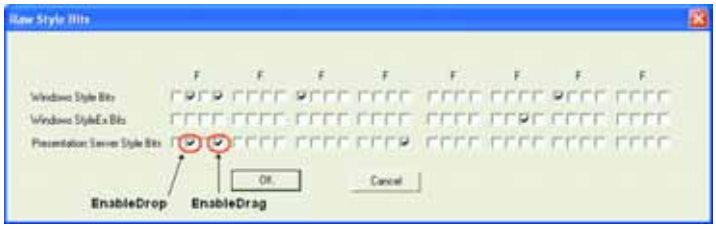

FIGURE 1 **ENABLEDRAG and ENABLEDROP Raw Style Bits**

```
Equ TRUE$ to 1
controlName = @window:".ID_CTRL"
x = Set_Property(controlName,"ENABLEDRAG",TRUE$)
x = Set_Property(controlName,"ENABLEDROP",TRUE$)
```

FIGURE 2

The properties may also be set at runtime through the use of the Set_Property command. The syntax to set the ENABLEDRAG and ENABLEDROP properties are shown in figure 2.

The Add Drag and Drop Screen

Drag and Drop may be added to existing windows within an application through the Add Drag and Drop window (fig. 3) which is included in OpenInsight and is accessible from the TCL Assistant.

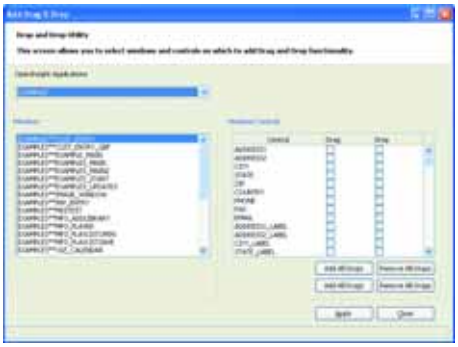

FIGURE 3 **The Add Drag and Drop Screen**

The screen contains a dropdown of applications within OpenInsight.

Selecting an application will display all the windows within the application in the Windows List box.

Selecting a window in the Windows List Box will display all the controls in the Windows Controls table.

You can individually add Drag and Drop to each control by clicking the appropriate Check Box.

There are buttons to Add and Remove Drag and Drop to all controls within the selected Window.

Clicking the Apply button will apply the Drag and Drop styles to the selected Controls without closing the window, in order to continue applying Drag and Drop to other Windows.

```
Subroutine RTI_Add_Drag_And_Drop(windowName)

/*
Sample Code to Add Drag and Drop Programmatically
Steps
The Get_Property "CTRLMAP" command will return all the Controls on a form
Loop through the controls.
If the current control is an edit table then:
    1. Set each column's style to allow drag and drop
    2. Set the edit table to allow for the dragging and dropping of complete rows
For all controls set the ENABLEDRAG and ENABLEDROP property to allow Drag and Drop.
The code is probably best served if executed on the Create Event of a window.
*/
Declare Function Get_Property, Send_Message, Set_Property

ctrlSet = "" ; propSet = "" ; valSet = ""
thiscontrol = "" ; cPos = 0 ; cFlag  = ""
equ TRUE$ to 1

ctrlMap = Get_Property(windowName,"CTRLMAP")
loop
    remove thisControl from ctrlMap at cPos setting cFlag
    controlType = Get_Property(thisControl,"TYPE")
    if controlType = "EDITTABLE" then
        numCols = Get_Property(thisControl,"LIMIT")<1>
        for i = 1 to numCols
            ColStyle = Send_Message(thisControl, "COLSTYLE", i)
            ColStyle = bitor(ColStyle, 0x10000000) ; * enabledrag
            ColStyle = bitor(ColStyle, 0x20000000) ; * enabledrop
            ColStyle = Send_Message(thisControl, "COLSTYLE", i, ColStyle)
        next i

        ctrlSet: = thisControl: @rm
        propSet: = "ENABLEDRAGROWS" : @rm
        valSet:  = TRUE$: @rm
    end

    ctrlSet: = thisControl: @rm : thisControl: @rm
    propSet: = "ENABLEDRAG" : @rm : "ENABLEDROP" : @rm
    valSet:  = TRUE$ : @rm : TRUE$  : @rm
while cFlag
repeat

rv = Set_Property(ctrlSet, propSet, valSet)

* End
Return
```

FIGURE 4 **Adding Drag and Drop Programmatically**

Add Drag and Drop Programmatically

Adding Drag and Drop can also be done programmatically as shown in figure 4.

Processing Drag and Drop

By default, just adding the ENABLEDRAG, ENABLEDROP on all controls and the ENABLEDRAGROWS and column styles in an edit table will allow for drag and drop. The dragged data is moved from the Drag Source into the Drop Target. If it is necessary to further manipulate the data being dragged, then there are properties and messages that can be set and invoked within the Drag operation events to accomplish the task.

By default OpenInsight will do a MOVE operation when dragging and dropping data. In order to stop the default behavior, the DRAGMOVE property of the Drag Source control needs to be set to FALSE. By doing this, the data will be copied instead of moved. The end-user could also hold the CTRL key down while dragging and a copy operation occurs.

Drag and Drop Messages

The messages (fig. 5) are all issued against the Drag Source control.

If you wanted to change the data midstream then you can use the GETDRAGDATA message to retrieve the data and the SETDRAGDATA message to set it to a new value.

As an example, in the windows shown in figures 6 and 7, the dragging the data from one control to the other changes the value of the text that will be dropped into the editlines.

The code to accomplish this (fig. 8) occurs on the DRAGDROP event of each of the controls. A call to the following subroutine passing the control name will change the data accordingly.

Continues on page 10

Message	Where	Available Usage
GETDRAGDATA	All Drag and Drop Events	Use this message to extract the data from the data object.
CLEARDRAGDATA	DRAGSTART event	Use this message to remove all data from the data object.
SETDRAGDATA	DRAGSTART event	Use this message to post the data to the data object.
REMOVEDRAGDATA	DRAGSTART event	Use this message to remove a data format from a data object.
SETDRAGBITMAP	DRAGSTART event	Use this message to set the bitmap to be used by the system when dragging data.

FIGURE 5 **Drag and Drop Messages**

Drag and Drop

Continued from page 9

OLE Drag and Drop

OpenInsight passes control to the Operating System during the Drag and Drop operation. In doing this, OpenInsight can accept data from other applications and send data to other applications. You may then drag data from an OpenInsight edit table and drop it into a spreadsheet. You may pass text back and forth between word processing programs and OpenInsight. If another application has drag and drop capability then OpenInsight can communicate with that program.

The following images show a copy of data from an OpenInsight edit table to an Excel spreadsheet.

FIGURE 9

Step 1

Select the rows in the edit table. Hold the CTRL down and drag the data to Excel (fig. 9).

Step 2

Place the cursor at the row and column in Excel you would like to drop the data into (fig. 10).

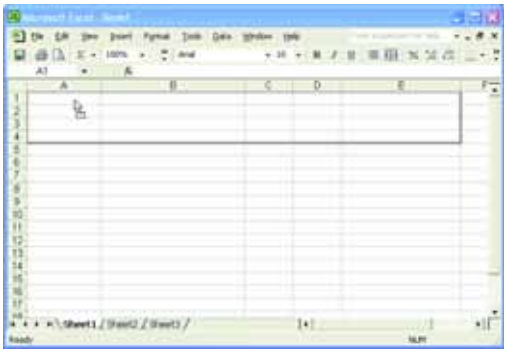

FIGURE 10

Step 3

Drop the data (fig. 11).

It's simple enough to get started in using Drag and Drop in OpenInsight.

Since there is much a developer can accomplish using the Drag and Drop functionality and since I have scratched the surface, I encourage developers to delve deeper and experiment with the different permutations of messaging, properties and events. IS

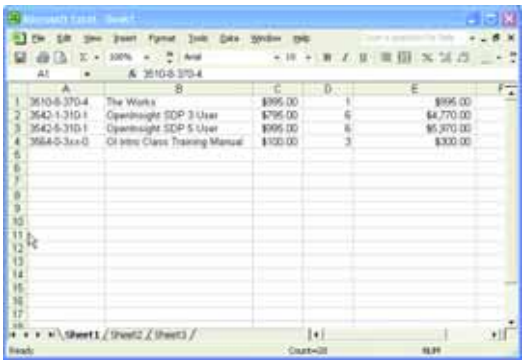

FIGURE 11

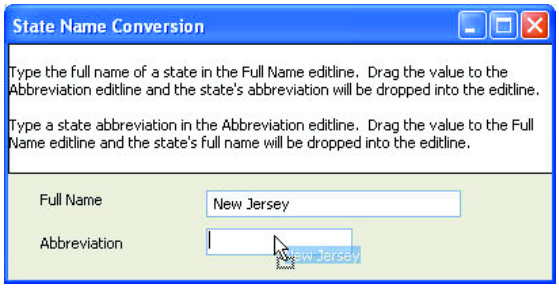

FIGURE 6 **During the Drag Operation**

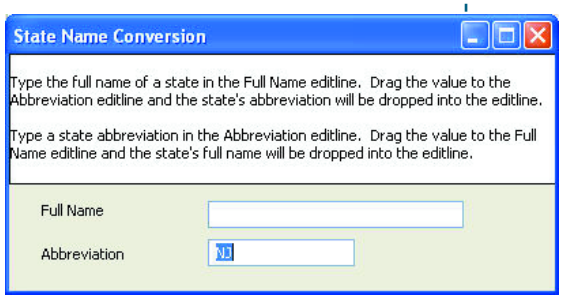

FIGURE 7 **After the Drop Operation**

```
Subroutine State_Drag_and_Drop(CtrlEntid)

Declare Function Get_Property, Set_Property, Send_Message

equ Null$ To ""

dragSource = Get_Property("SYSTEM","DRAGSOURCE")

dragData = Send_Message(dragSource,"GETDRAGDATA","TEXT")

if dragData then
        newValue = null$
        Begin Case
                Case CtrlEntid = @Window : ".STATE"
                        convert @lower_case to @upper_case in dragData
                        newValue = XLate("STATE",dragData,"NAME","X")
                Case Ctrlentid = @Window : ".STATE_ABBREV"
                        call Extract_SI_Keys("STATE", "NAME", dragData, newValue)
        end case

        dragData = Send_Message(dragSource,"SETDRAGDATA","TEXT","",newValue)

end
return
```

FIGURE 8

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BY JIM PAUL

The Case for Using Java in MultiValue Shops

Java will be around for a long time. Many, if not most, of the world's large technology companies made major commitments to Java a decade ago.

"Why would one go through the trouble of learning Java when we have an easy-to- use Basic language tied to a great database?" you might ask. The reason is that MultiValue Basic does not address all of our programming needs. When your computer system was a self-contained island with a green screen interface, MultiValue Basic sufficed. But in an interconnected world, we've had to improvise to get the functionality we need. Here are some the tasks that we often need to perform that cannot be implemented with MultiValue Basic alone:

- Converting documents, such as reports, into PDF format.
- Sending and receiving e-mails and faxes.
- Accessing and providing web services and network services like SOAP and SOA.
- Giving users a Graphical User Interface (GUI), whether browser based or not.
- Interface with cell phones, PDA's, and equipment with a network interface.
- Create and manipulate images, such as jpegs.

We integrate with outside software products to give us this functionality. For products that are not written specifically for the MultiValue market, the interface can be messy. Here are some examples.

Executing a utility that has a DOS command line interface. Some examples are "cURL" for web services, "IrfanView" for image processing, "FTP" for data transfer, and "Blat" for e-mail. The problem is that these programs are controlled indirectly by stacking parameters in the input buffer or programmatically writing script files that contain a mock dialog. The program is then launched with an EXECUTE statement and output is gathered in the CAPTURING clause. This is clunky, slow, error prone, and does not scale to higher volumes.

Faxing is sometimes accomplished by running a fax utility that will pick up text entries in a given folder and periodically send them. Possibly confirmations are picked up in another folder.

GUI interfaces are sometimes created with a Visual Basic or mainstream GUI tool and linked to the MultiValue database with MultiValue vendor extensions such as UniObjects or jBASE Objex, or mv.NET. GUI tools like Accuterm GUI and Wintegrate are linked to the MultiValue host via telnet.

For browser-based interfaces, we may use middleware and tools that are specific to MultiValue hosts. Some examples are such as U2 Web/Redback, Flash Connect, Web Wizard, Wade, Coyote, FusionWare, and Cache Server Pages.

Sometimes we choose these approaches because no other is available. Sometimes we choose them so we can stay in our familiar, MultiValue Basic environment. But the problem is that we are using tools and techniques that are far from the mainstream. Whether you are a software company or end user, it will be hard to find programmers familiar with these tools. You will either have to train someone, or rely on the vendor's in-house consultants.

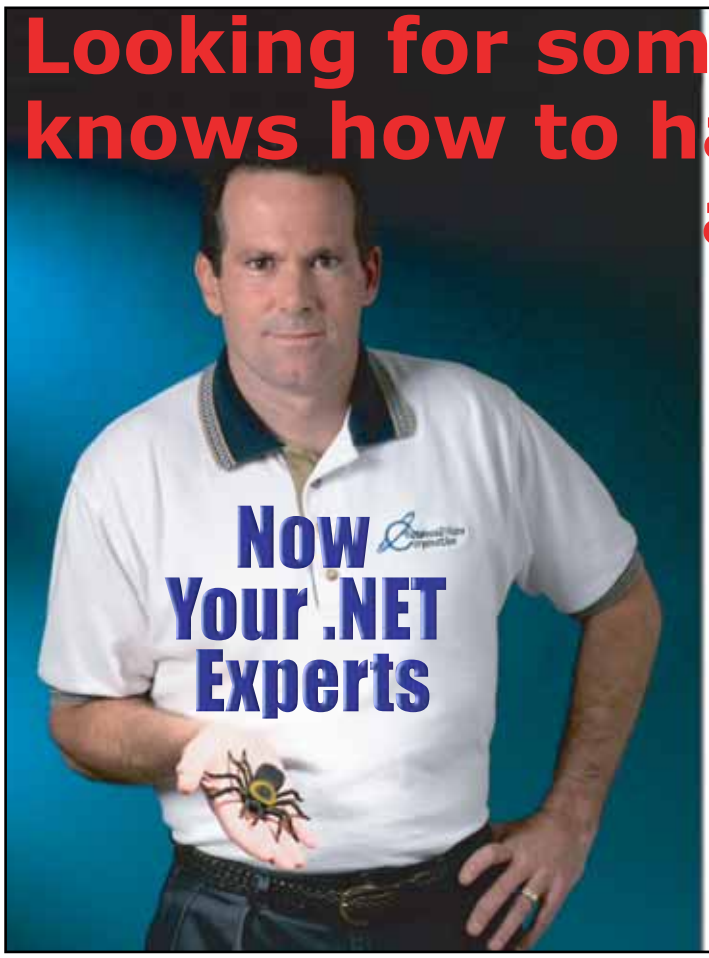
One of the effects of integrating with so many third party tools is that porting an application from one MultiValue platform to another has never been more difficult. This partly because of the chain of product dependencies that has developed. The MultiValue implementations are diverging, and language extensions such as network support, access to the native file system, integration with other languages, and EXECUTE statement syntax are idiosyncratic, making matters worse.

How does java help with these two problems—vendor dependency and hard to find programmers? All of the interfacing problems listed above can be addressed directly in the Java programming language, using mainstream technologies that are free. Java gives us a path back to portability. Granted, you will still have the MultiValue system, and will need a way for Java programs to move data in and out of MultiValue files, but you can limit your vendor/technology dependencies overall. The main barrier to this strategy is that Java is complex and very different from MultiValue Basic. I am not proposing you scrap already working subsystems and convert them to Java, but rather consider using Java as new needs arise. If you are a large company or software solution provider, moving more functionality to Java may be a strategic goal of achieving independence and reducing license fees.

Java has some of the features that makes MultiValue so attractive. More so than any language, it is a "write once run anywhere" language. The JVM (Java Virtual Machine) is available for just about anything from a toaster oven to mainframe. Like MultiValue Basic, the JVM supports advanced debugging and prevents the programmer from accidentally crashing the machine. The language is absolutely standard, with no forks or flavors. Until recently the specifications were rigidly but transparently controlled by Sun Microsystems. Now it is open source. The compiler, JVM, and programming tools are usually free. The Tiobe programming index ranks Java as the most popular programming language (fig. 1). Visit their web site to see how they compute their rankings.

Java is not a substitute for MultiValue Basic. It is a lower level, general purpose programming language. Multi-

Continues on page 14



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THE CASE FOR USING JAVA

Continued from page 13

Value is a database with a high level language tailored to it. It is much more difficult to learn than MultiValue Basic and, given a database task, you will not accomplish it as quickly. Objects, events, call backs, pointers, frameworks, design patterns, variable types, build scripts and a huge class library all make the language more powerful but much more complex. Fortunately the online resources for learning the language are enormous. The effort to learn it depends on your starting point.

Java is similar to C++ and even more so to C#, both popular in their own right.

Java is Already in the MV Market.

IBM showed an Eclipse (IDE) for the U2 databases at Spectrum in March leveraging its huge investment in Java technology.

IBM purchased a large customer support system written in Java and based on Cache. Cache is currently advertising on Java sites such as dzone.com and devx.com. Cache reports there are Cache plug-ins for the Eclipse and IntelleJ IDEs.

Revelation has been selling a Java-based GUI development system called JOI, from InsiTech, since 2002. Cache has also been in discussions with InsiTech.

Virtually all MultiValue vendors have JDBC drivers that give Java programs an SQL type interface to their databases.

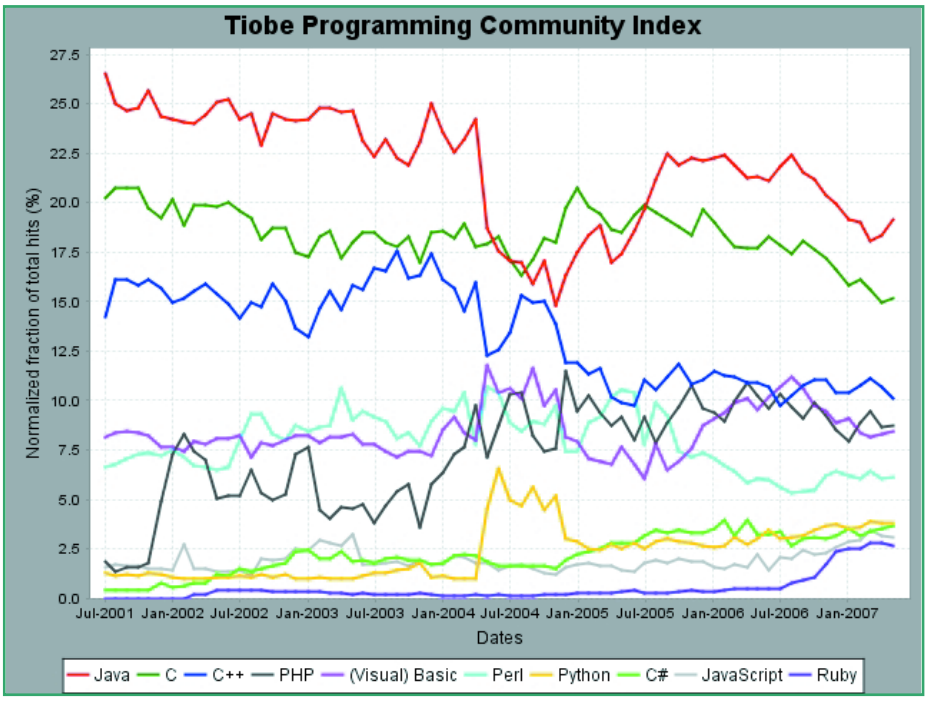
The market for Java programmers is thousands of times larger the MultiValue market and there are many niches. Figure 2 shows job search hits on dice for Java related terms. All the terms are names of popular open source tools, which means they are free and community supported. What is community supported? It means that development moves ahead by consensus, and programmers are not directly compensated for their work. Programmers, testers, and writers working on a project are often compensated by consulting related to these projects, or by larger employers such as Oracle, HP, IBM, Redhat, and Sun who have a strategic interest in the projects. The colors used in figure 2 group these technologies roughly by function. You can look them up on Wikipedia to explore them further.

Java will be around for a long time. Many, if not most, of the world's large technology companies made major commitments to Java a decade ago. Advances in hardware and the JVMs have eliminated most performance concerns. It is the de-facto standard for programming cell phones. If you write and sell computer applications, you need a stable, consistent platform if you are going to make money. Every new version of Java is backward compatible. Although Java programmers will cost a company more than some other types of programmers, they are not hard to find. Java is no longer "cool" but is mainstream/establishment.

Right now, Java is most popular for server-side logic for web-based applications. PHP and Ruby serve the same niche and are easier to use. Java, because it is harder to learn, lost some market share to these and some of the dozen or so server side scripting language, but appears to be rebounding. Arguments favoring Java point out that it is more robust and executes more quickly than the scripting languages. Although the formality of Java has cost it some popularity, it's rigidity (forced error checking, variable typing, allowing no subroutines or functions) has made it ideal for large, collaborative projects, as evidenced by the large number of Java open source projects on SourceForge.

I predict (or hope) that there will be a resurgence of Java for graphical user interfaces (GUI). I think it is particularly well suited for applications that

FIGURE 1



run over the Internet, and for applications that get heavy use by skilled users, or that need Windows-like elegance. Even now, the market for Java GUIs, as seen by search terms in green text in figure 2, is not small. Personally, I have chosen to use Java "Swing" components to build GUI interfaces for MultiValue applications rather than go the browser route. Swing components are controls (and a type of "bean") like text boxes, buttons, and grids, that can be dragged and dropped to visually build an application. Swing is part of the standard development library. Although Swing components can appear to run in a browser (in the case of applets), they are actually run by a JVM launched on the client machine.

I find browser programming to be frustrating and difficult. Just to program the UI you need to understand JavaScript, Ajax techniques, the Document Object Model (DOM), and how these differ between browser makers and browser versions. You need to guess at the target audience's browser and depend on a number of browser vendors to maintain backward compatibility with updates. Debugging tools are poor or non-existent. Integrated Development Environment (IDE) support is (or maybe was, I can't keep up) poor. You need to understand HTML, XML, JSON, and CSS. Possibly you need to know XSLT. You need to maintain state, handle time-outs and database locks, consider the browser back button, bookmarked links, and prevent the accidental re-submitting of forms. And all this just to get a clunky interface (relative to Swing or Visual Basic). You still need to write the server-side logic, and that will be written in yet another language. In short, too many technologies, all evolving, all complex in their own right.

For any company that is thinking of writing or re-writing a GUI interface for an MultiValue application, Java/Swing/Netbeans may be your ticket. You'll get an interface as slick and functional as any Windows application. No license fees. Excellent tools. What is the catch? The catch is that it takes time to learn, and to become good at Java programming. You may never

Continues on page 16

FIGURE 2

Search Term	Title	Body
Java	4457	17147
j2ee	1723	8271
hibernate	43	1436
maven	4	212
Jsp	89	4229
spring	45	1967
struts	41	2265
jboss	18	1044
tapestry	0	109
swing	89	705
eclipse	12	1219
applet	1	174
netbeans	1	51
gwt	1	21
mysql	120	1895
php	263	1779
jbase multivalue D3 mvbase revelation unidata "IBM universe"	5	35

Job hits for search terms on dice.com on May 11, 2007. "Title" hits were for searches in the job title only.

Keys: General Java Terms
Server Side Java Programming
Java based Graphical User Interface
Miscellaneous for Comparison

THE CASE FOR USING JAVA

Continued from page 15

whip out a database program with Java like you can with MultiValue Basic, and you may find that frustrating. It is also somewhat of a one-way street because of the time/training investment.

The first steps are easy. J2EE (latest Java compiler and JVM) can be downloaded from Sun for any version of Windows, Linux or Unix. Books, online tutorials, online forums, user groups, classes, and articles are everywhere. Learn the basic language syntax. Learn the methods for strings, floats, and integers. I wrote a Java library of functions similar to MultiValue functions such as INDEX, FIELD, and DCOUNT to ease the transition. Learn how to fetch data from a URL (easy) because this is probably going to be the method you will use to access your MultiValue database. If you already use ODBC with your MultiValue database or have a flat file structure with limited use of multivalues, and know SQL, you might go the JDBC route. After writing a few programs with a text editor, switch to an IDE—NetBeans or Eclipse. I like NetBeans because building GUI's does not take a plug-in, and I found it easier to learn. Designing with the IDE is an easy and fun drag-and-drop process. Connecting forms and tables to each other and the database takes intermediate level skills. Writing things like HTTP services are not very difficult. Keep your browser open so you can search for help. For example, if you need your program to be able to send e-mails, type "Send e-mail from Java" as a Google search, and you will get possibly 30 examples that you can cut and paste into your program. The president of the Cincinnati user's group once told me he feared for the Java programmer because there was so little original programming to be done. It was all integration.

The payback for learning Java and using open source tools is reduced license fees and vendor dependencies, which means larger margins and less risk for you. I once thought that MultiValue Basic should become object-oriented and adopt features of modern programming languages like Java. But that would make the language more complex and less accessible. We already have an auxiliary language suitable for complex problems. We only need to learn it and connect it to our database.

If you would like to receive a Java program full of methods that emulate MultiValue functions, send an e-mail to JimPaul@fuse.net. **is**

Principle in Northtec Consulting Group, which he formed in 1985, Jim Paul speaks at dozens of conferences around the country and Europe and has written articles for several different publications, including Computer World. He has had clients and distributors in Europe, Australia, Russia, South America, and the Caribbean and has written complete software applications for finance companies, manufacturers, HMOs, and medical providers. A Sun certified Java programmer with a BA from Indiana University of Pennsylvania, he has taught college level courses in math, accounting, history, and economics. He can be contacted at jimpaul@fuse.net.

Will Java skills transfer to JavaScript? The basic language syntax is very similar and at first glance looks the same. The way they handle objects and methods is very different. Also JavaScript has only three variable types while Java has a dozen or so. Wouldn't it be nice to have one, simple language for web programming on both the server and browser? For some reason JavaScript (Microsoft calls it jScript) never caught on for server programming and even Microsoft no longer offers it as a Windows programming language. Java applets in the browser could make a comeback as an alternative to both Flash and JavaScript. See "Java goes back to the PC" on CNET, May 11, 2007.

Java Facts

Java is a lower level general purpose language while MultiValue Basic is a higher level focusing on business database applications.

Java variables are strongly typed and converting back and forth between types such as string and float accounts for a large amount of code.

A new scripting language called Groovy is built on Java. Java has lost some ground to PHP and Ruby for server side programming because they are easier. Groovy is simple, borrows from Ruby, but draws on Java programming skills and library knowledge.

Language interpreters for the Ruby and PHP scripting languages have been implemented in Java. This is done partly to give these languages access to Java library classes. But PHP has grown to about 4,000 functions itself.

Google offers a free tool for cross compiling Java into JavaScript, possibly solving the sticky problem of browser compatibility for Ajax programmers.

Sun made Java source code open source in November of 2006 and the reaction was mostly a yawn. Language specifications have been public from the start.

Informer Web Reporting for U2

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MultiValue Friendly, Intuitive Web Reporting. People Are Talking . . .

"... intuitive enough for technically inclined users to be able to set up their own reports without my IT staff."
- Lori Murray-Hawkins, University of New Brunswick

"Informer was a really quick way to get at data nobody could ever reach before. We found no other tool provided the graphical view into our multi-value database."
- Jordan McCall, Bratrud Middleton Insurance

"People in departments that we haven't introduced it to yet have seen other people using it and have approached us asking to get access to it."
- Joan Anderson, Gustavus Adolphus College

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IBM Business Partner

Simple Version Control — Part 2

BY BRIAN LEACH

In the previous article on Simple Version Control, I introduced the popular version control system CVS. This is the backbone of the Open Source community and a natural choice for many professional IT departments. But it would be wrong to think that it is the only open source contender.

CVS offers a very flexible arrangement of modules to handle the needs of sites with multiple and shared projects. The flip-side of this functionality is the need to manage CVS more actively: someone needs to be directly responsible for controlling the repository, tagging revisions and building linked structures to ensure that all the constituent parts of a project can be pulled out together.

The main challenge for any source management is completeness. If you are going to use version control, you must include all the code needed to reconstruct a particular version of your software.

Figure 1

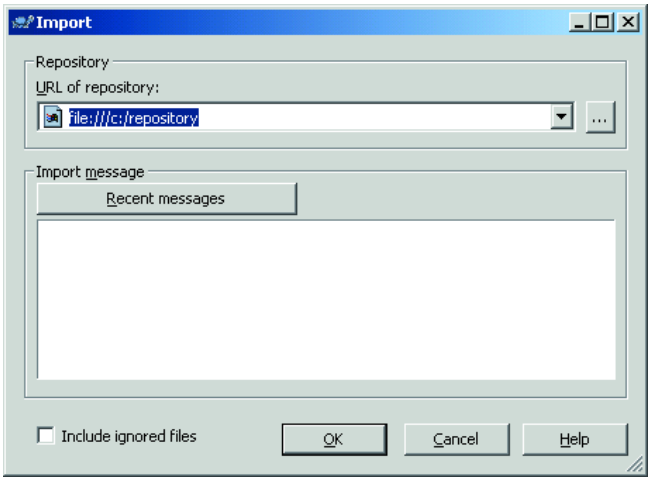
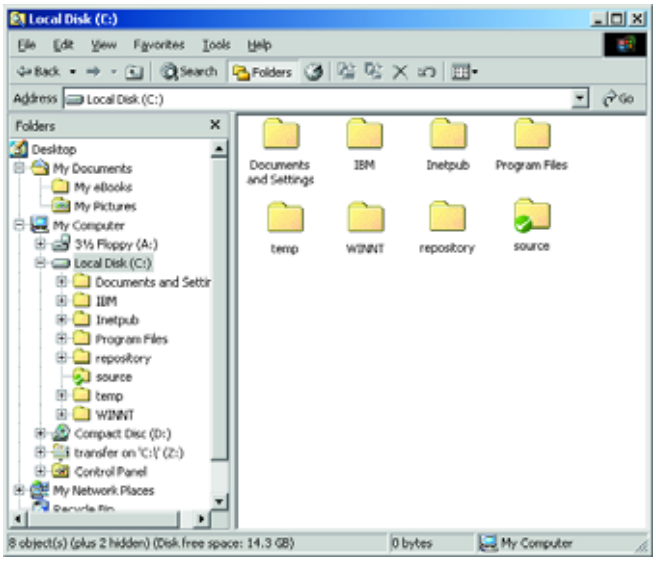


Figure 2

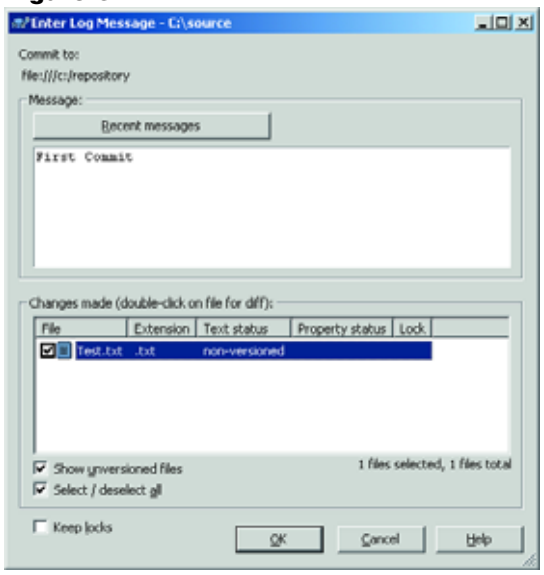


A different approach is taken by SubVersion, another open source revision control system which has grown in popularity over the last few years. SubVersion takes a more "hands off" approach that, whilst offering fewer options than CVS, is easier and more appealing, especially to smaller or in-house departments.

The basic SubVersion operations are similar to using CVS: source is added to the repository, checked out, amended, and checked back in. You can view change logs, add comments, and track revisions. Like CVS, SubVersion is designed for distributed operation and has a similar range of graphical tools, including snap-ins for popular development environments like Visual Studio 2005.

SubVersion differs from CVS in the architecture used to store revisions and, more fundamentally, in the way it

Figure 3



presents a version history. SubVersion presents its users with a regular file system organized into directories and files. Only this file system is time based.

Every set of commits builds a change history and updates the revision of the file system as a whole. You can view files as they were at any point in time, and because the whole file system is time based, you can construct point-in-time views that include all files involved in a project without having to apply your own revision tags.

Equally important, SubVersion tracks directories, file renaming, file deletion, and other operations that are not handled by CVS. It is also reputedly better at handling binary files than CVS, though this is a vehemently denied by CVS adherents.

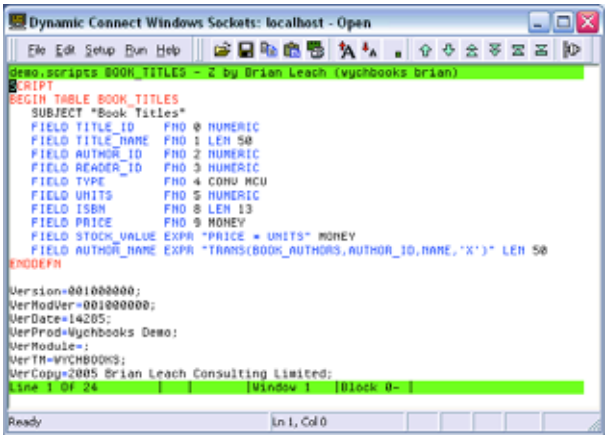
Installing SubVersion

To try out SubVersion, download and run the Windows setup package from http://subversion.tigris.org. SubVersion is released under an Apache/BSD style licence and is available for Linux, Solaris, Windows, and MacOS.

Now before going any further, download and install a copy of TortoiseSVN from http://tortoisesvn.tigris.org. This integrates SubVersion commands into your Windows explorer shell, making it remarkably simple to use. TortoiseSVN

Continues on page 39

Figure 4



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OpenQM is the only multivalue database available as both a fully supported commercial product and in open source form.

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"With 23 years in developing multi-value applications, QM/Linux is the finest platform I've used and the most cost-effective. Support is outstanding."

William G. Crowell, VP & CTO, Crowell Systems

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www.openqm.com

New Products

Datatel Launches Colleague Advancement

Software Provides Enhanced Fundraising Services for Higher Education

EDP has announced the general availability of Colleague Advancement, a new software solution for fundraising executives, business development officers, and alumni relations directors. The announcement was made this morning at the Council for Advancement Support of Education (CASE) 2007 Summit for Advancement Leaders, an annual conference taking place in Chicago, Illinois, July 8-10. Datatel will be demonstrating Colleague Advancement during the conference at the company's booth.

As a fully-integrated alumni and development solution, Colleague Advancement delivers real-time key performance indicators, executive reporting capabilities, enhanced communications tools, and a host of new features enabled through advanced technology. Colleague Advancement offers hands-on access to key prospect and donor information that enables users to focus on fundraising efforts to achieve their institutions' goals, as well as streamline processes, strengthen relationships, and deliver results.

"Colleague Advancement has helped us streamline our gift processing and donor acknowledgments, enabling us to be better stewards of the gifts entrusted to us," said Karen McWherter, director of computing services with Union University in Jackson, Tenn.

"Colleague Advancement and its integration with Colleague HR have automated our processing of payroll deductions," said Katrina Bradfield, director of development services with Union University, noting they had more than 200 payroll deductions previously processed manually every month. "Datatel's consultant was extremely knowledgeable, not only about Colleague Advancement, but also about Colleague's entire enterprise planning system and the functions in an advancement office. Our university successfully implemented the solution and we rely on it daily."

"We are pleased to deliver this new offering, based on client collaboration and feedback," said Karli Grant, Datatel's product manager for Colleague Advancement. "Datatel understands that higher education faces the constant challenges of providing accessibility, affordability, and accountability. Colleague Advancement is a prime response to those challenges, allowing colleges and universities to operate more efficiently, and in turn, better serve their constituents."

Colleague Advancement—a new product introduced to many Datatel clients in September and now available for Benefactor clients—works seamlessly with every component of Colleague, Datatel's flagship software solution exclusively designed for higher education. Colleague focuses on five critical business areas: institutional advancement, enrollment and student services, financial management, financial aid, and human resources.

Colleague Advancement's base solution system includes:

• Constituent Management – Records and tracks detailed donor, alumni, organization, and relationship information.

• Contribution Management – Efficiently processes pledges, gifts, matching gifts, recurring donations, and auto pay pledges.

• Communications Management – Creates and tracks personalized incoming and outgoing communications such as solicitations, pledge reminders, receipts, and acknowledgements.

• Campaign Management and Analysis – Builds the campaign tree infrastructure

and segmentation strategies, and allows automatic managing, tracking, and analyzing of results.

• Reporting and Data Analysis – Delivers menu-driven reports and data marts to help ask questions, get answers, and make decisions with tools that fit each institution's specific needs, intelligence strategies, and development goals.

Optional software extensions include ActiveAlumni™, Activities and Events, Data Warehousing, Major Donors and Moves Management, Membership Management, and Planned Giving.

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 www.datatel.com. ■

NEWS MAKERS

Exec-U-Mail Direct Upgrades Legacy Software

THE OWNERS OF EXEC-U-MAIL DIRECT, a direct mail and fulfillment service headquartered in Marina Del Rey, California, had known for a number of years that their R91 database was getting slower and slower and the aging C. Itoh minicomputer it was running on was becoming more and more expensive to maintain.

They had solicited several quotes for an upgrade but all were quite expensive.

Finally, they found a database that would run their legacy software and to which they could upgrade at a reasonable cost. UniVerse, from IBM, offered them a Pick software environment with its Pick-flavor accounts. And, Sysmark Information Systems, Inc., their IBM Business Partner for Universe, also provided SpoolerPlus, a Pick-like print spooler, so all their print processes would continue to run without costly modification.

Using their FileCaddy programs, TAPE.DUMP and TAPE.LOAD, Sysmark was able to convert their application accounts directly from R91 to Universe at a minimal cost. They then recompiled the R91 programs, modified a few statements to Universe syntax, and turned the converted software over to Exec-U-Mail Direct personnel for testing.

Their first and most lasting impression was the dramatic increase in speed of their software.

"Check Registers and Aging Reports that used to take hours to run now run in minutes," said Doug, the bookkeeper in charge of the Accounting Department. "And, the Customer screens with so much historical information come up in seconds now," he added.

"Everything is so much faster in the Sales Department now," said Maria, the General Manager.

Their software had become so highly customized over the years that replacing it with some other software package was never an option.

"UniVerse has allowed us to continue to use our software and move to a networked system with access to the internet and all the new technology that can help us run our business better in the future," according to Mike Franz, the Owner.

"And, SpoolerPlus enabled us to move our software over without changing any of our printing procedures and without the cost of modifying all of our print processes," he added.

All in all, the responsive support we continue to receive from Sysmark has been the key factor for the success of our upgrade, according to Maria.

For more information about IBM U2 products and SpoolerPlus, contact:

World Wide: Sysmark Information Systems, Inc.
800-SYSMARK, 800-797-6275
info@sysmarkinfo.com; www.sysmarkinfo.com
United Kingdom: Brian Leach Consulting Services Limited
info@brianleach.co.uk; www.brianleach.co.uk

New Products

ONgroup and Easy Soft France announce ONware support for Winnix

Winnix Integrator is a thin client that brings advanced emulation functions to allow Windows-type graphical interfaces and traditional applications to operate together. The Winnix bi-directional data transfer features easily allow quick definition of parameters for multivalued database extraction and loading into the workstation.

ONware provides a MultiValue development and run-time environment for Oracle, DB2, Microsoft SQL Server, and other relational database management systems. ONware allows applications written for the common MultiValue platforms such as UniVerse, UniData, D3, Power95, Reality, and more, to run natively in standard SQL compliant format on mainstream RDBMS.

Easy Soft France is a provider of ERP systems along with a catalog of additional solutions including:

Automation of the Restaurant industry with mobile hand-held terminals (PDAs) running on Pocket Winnix in Wi-Fi mode and connected in real time to the database,

Calculation of Royalties in the Music industry, Automation in the Hotel and Casino industries, Automation in the Telephone industry, Automation of Town Hall Budgeting, Visitor taxation, Graphics software design including order processing, and more.

With support for Winnix, ONware gives Easy Soft the choice to provide their solutions to their clients on a database that is the best solution for their client, be it a MultiValue platform, Oracle, DB2, or Microsoft SQL Server.

For more information please send email to Sales@ONgroup.com or call Denise Buttrey at 800.573.0300 x3330, and visit www.ONgroup.com.

IBM U2 Web Development Environment for UniData and UniVerse version 4.4

IBM U2 Web Development Environment for UniData and UniVerse version 4.4 (previously named IBM RedBack) increases performance, reduces costs, delivers a more usable design environment and enhances SB+ conversions.

Faster Performance, Reduced Cost

IBM U2 Web DE 4.4 delivers an enhanced garbage collection process. Garbage collection frees up system resources, improving performance. With U2 Web DE 4.4, garbage collection no longer uses Webshare technology. Webshares previously allocated to garbage collection are now available to service Web requests, improving the responsiveness of Web applications. Or, applications can handle more requests with fewer Webshares, thus reducing costs.

The garbage collection process may now be scheduled on a more granular and predictable basis. Garbage collection schedules can be set to run on intervals set in terms of minutes, hours, and days. Garbage collection frees up system resources

Improved Design Environment Usability

IBM U2 Web DE 4.4 provides an integrated Eclipse-based design and test environment to quickly develop robust U2 Web applications. The IBM U2 Web Designer, introduced at release 4.3, has been enhanced to include RedBack Object (RBO) design as well as RBOScope for testing and debugging. IBM U2 Web Designer continues to provide a rich GUI environment for designing new or converting SB+ assets to ASP.NET-based Web solutions.

RedBack Designer has been replaced and rewritten as an

integrated Eclipse-based component of IBM U2 Web Designer. Testing and debugging of RBOs is also included in this integrated tool via a rewritten RBO-Scope plug-in. The result is an easy-to-use integrated tool that lets developers design and test interfaces and Web applications in a single environment.

Enhanced SB+ Conversions

As of release 4.3, IBM U2 Web DE converts SB+ screens and processes to ASP.NET pages, leveraging existing business logic while quickly creating functional Web applications. IBM U2 Web DE 4.4 enhancements to SB+ conversions include:

* Improved integration with SB+ Security/Login
* Improved AJAX capabilities
* Support for auto converting SB combo boxes
* Improved support of SB conversions
* Processes SB+ work fields

Highlights

* Faster performance that costs less
* Improved garbage collection
* Integrated Eclipse-based RedBack Object designer
* Integrated Eclipse-based RBOScope
* Enhanced SB+ conversions
* Supports Tier 1 platforms
    - IBM AIX
    - Microsoft Windows
    - Sun Solaris
    - HP-UX
    - Linux

NEWS MAKERS

BlueFinity International Provides Turnkey Replacement of RedBack at PayEx Finance

PayEx Finance is an authorized credit market company under the supervision of the Swedish Financial Supervisory Authority. The company, established in 1972, is today one of the leading companies in Europe providing payment processes with offices in Visby, Stockholm, Oslo and Copenhagen.

When PayEx discovered limitations with transaction throughput rates on their PayEx Online application, they looked to the power of BlueFinity's mv.NET to integrate and access data in real-time. Now, PayEx is gaining significant growth and improved customer satisfaction from the mv.NET implementation.

The Need for Speed

At the heart of the PayEx organization is a powerful web application: PayEx Online. PayEx Online is an efficient, user-friendly Internet-based application, designed to simplify companies' ledger monitoring and customer management. It utilizes an IBM UniData database on Sun Solaris and was largely developed using IBM RedBack (now renamed U2 Web Development Environment) in Visual Basic 6 and VB.NET.

Early in 2006 PayEx was starting to suffer from throughput and performance limitations imposed by RedBack technology. Using a common data access layer for all database data access, PayEx Online utilized over 150 back-end UniBasic routines incorporating RedBack Objects, RBO-related code.

One major issue was the compatibility between the UniData and RedBack applications. "Reading records while UniData DBPause was active didn't work via RedBack," explains Bjorn Eklund, Head of Development at Payex. "Each night we had to pause the database to run backups or to perform other administrative tasks which meant stopping PayEx Online. This imposed a severe restriction on our customers."

In an attempt to improve transaction throughput rates, reduce application downtime during database backup periods and solve the DBPause restriction, PayEx undertook an extensive examination of mv.NET as an alternative to RedBack.

The mv.NET Advantage

mv.NET provides a 100% native .NET interface to all MultiValue database platforms, allowing .NET developers to access all aspects of MultiValue systems – both data and program code - from within their .NET application. Its seamless integration with Microsoft Visual Studio provides a potent rapid application development environment enabling MultiValue developers to harness the full power of both their MultiValue system and the Microsoft .NET framework.

mv.NET's Core Objects provides a wealth of end-user capabilities allowing the developer to rapidly create feature-rich, high performance applications using the powerful tools provided by Microsoft's .NET environment. Core Objects also has strong integration with Microsoft's Visual Studio.NET product, allowing the MultiValue developer to carry out virtually all aspects of application creation from within the VS.NET environment.

Continues on page 25

New Products

New Release of MITS Report Boasts Impressive New Features and Functionality

MITS, developer of Advanced Reporting and Business Intelligence software, is pleased to announce that MITS Report 1.1 is now available. This robust new release offers revolutionary usability, enhanced security, greater flexibility, and access to more detailed information. Gary Owen, MITS Vice President of Engineering and Product Development comments on the evolution of the product, stating "MITS Report 1.0 was the core expression of MITS' operational reporting concept and an opportunity to gather feedback from partners and end-users. The development process for version 1.1 was about taking that core experience and building on it to provide a truly innovative operational reporting tool."

Revolutionary Usability

MITS has added some of the most dynamic usability features available for reporting in this new release of MITS Report 1.1. Users now have the ability to move entire columns within their reports by simply dragging and dropping. This feature makes it easy for users of all skill levels to reformat reports to meet their specific needs.

Enhanced Security

With this release, MITS Report 1.1 accommodates row and column level security. More detailed security makes it possible to restrict the view of rows with particular values and columns as defined in a Report Source from Users based on their unique log-ins.

Greater Flexibility

Many of the noticeable improvements are seen in the increased flexibility of the product.

MITS Report 1.1 now allows:

* The ability to email Microsoft Excel spreadsheets generated from reports to other MITS Report Users or external email addresses on a scheduled basis.

* Report definitions to be imported and exported from MITS Report without their associated Report Source.

* Data to be filtered using additional qualifiers, such as, "Empty" and "Is Not Empty" and text filtering supports "Begins With" and "Ends With" qualifier options.

* The ability to selectively replace, add, or delete Report Source records.

* Displayed data to be filtered using hidden columns.

* MITS report to capture a new copy of a dictionary item before processing Report Source Updates when underlying expressions and headings used in a column changes during a batch or nightly update process.

More detailed information:

MITS Report 1.1 will also allow Users access to more detailed information quickly and easily by providing; report details, detailed error messages, improved detail suppression, column operations at a glance, and last update duration.

For more information, contact:

Carrie Carter, Sales and Marketing Project Manager

MITS; Seattle, WA

206-789-8313 /
888-700-6487 ■

Ladybridge Systems Launches OpenQM on a PDA

UK based Ladybridge Systems has announced availability of the OpenQM post-relational MultiValue database product on PDAs running Windows Mobile 5 or the older Windows CE.

Martin Phillips, Technical Director of Ladybridge Systems, said "By bringing the world of MultiValue databases to PDAs, OpenQM establishes a new market for personal computing applications, whether they be totally stand-alone or the mobile component of a corporate system. We have worked closely with our dealers on this development and are excited

by the new opportunities that it creates. We see it as being of great value to organizations with staff who work away from the office and may not have an immediate network connection to access corporate data."

OpenQM uses the data model common to all MultiValue database products and offers a multi-user solution on Windows and Linux as well as personal computing on the PDA. A Mac version was announced at the recent International Spectrum conference in Long Beach, California. The PDA version, demonstrated at the same conference, has recently completed a successful beta test period and is now available for general use.

Although the user interface is essentially character mode at this release, program operations allow control of the keypad display and detection of stylus taps. Combined with screen save and restore functions, it is easy to construct interfaces that appear to contain Windows drop down menus and other similar elements.

Applications are developed in QMBasic, closely compatible with other MultiValue products but including advanced features such as object oriented programming. The PDA version of OpenQM includes most of the application development tools provided on other platforms though it is likely that application development would be performed on a desktop system. By providing the tools, developers can make final adjustments to their programs on the device on which they will be run. Files on an OpenQM server can be access directly from the PDA when a suitable network connection exists.

With a memory footprint of only 300kb and about 1Mb flash memory requirement, OpenQM has very low resource usage. Application software typically resides on removable flash memory storage.

There has been much interest from potential users in the retail and service industries who have a need for portable computing power that can be synchronized with company servers when a network connection is available. A simple demonstration application has been developed that represents a system for use by a service engineer visiting clients where the day's calls are downloaded before setting out from home and job details are uploaded at the end of the day.

The product is licensed on the same terms as the server version with a free upgrade period of up to ten years and the freedom to transfer the licence to a new PDA during this period. A high degree of compatibility with other multivalue products ensures easy migration to this low cost environment.

For further information see www.openqm.com or email sales@ladybridge.com ■

BlueFinity *Continued from page 23*

A key aspect of all .NET implementations is managing the connections between the user interface and the database. mv.NET's Session Manager makes certain that those connections are handled in the most efficient and cost-effective way, ensuring that users get outstanding response from their MultiValue applications.

Proof Positive

Benchmarking test results clearly demonstrated that the average throughput with mv.NET was orders of magnitude faster than RedBack. In fact, the performance overhead per call was reduced from 60 ms to 6 ms!

Throughout the testing period, PayEx also discovered there were other significant overheads to running RedBack. "Using RedBack, we had to develop and build specific RBO-related code in order to access Unidata subroutines," Eklund explains. "But mv.NET removes that requirement and we can now use the same routines in Payex Online as in our standard Unibasic batch programs. There is no need for additional time and effort to develop and support RBO-related code. This, of course, offers us significant cost and time savings.

Last but not least, mv.NET solved the DBPause issue opening up the PayEx Online service and therefore improving customer satisfaction."

Making the Move to mv.NET

It was immediately clear that mv.NET offered the solution PayEx were looking for to take their application forward in the global marketplace, and a full migration to mv.NET was identified as being straightforward and well within acceptable timeframes and budget.

The conversion project took less than three months and included some very intensive application testing to go live right on schedule at the end of August 2006. "The go live of PayEx Online went exactly to plan and without any last minute panics," comments David Cooper, Lead Developer at BlueFinity. After the migration, data access times were consistently reduced by over 50% during periods of both light and heavy load.

Today, PayEx Online operates smoothly using mv.NET technology. Eklund comments, "BlueFinity were able to provide a complete turnkey solution giving us peace of mind from initial conception through the conversion and then to final, live implementation. We are extremely pleased that we've met our goals to offer performance and efficiency improvement solutions to our customers' existing investments."

For more information, visit www.bluefinity.com, or email sales@bluefinity.com for specific information on BlueFinity's RedBack replacement program.■

BY STEVE ALEXANDER

How to Sell Stuff: Negotiating

Most people think of negotiating more in line with a root canal or a meeting with the IRS. It need not be that way.

In the previous articles, I discussed Prospecting and Discovery. This one is about Negotiating.

Google has over 32,000,000 entries under "negotiating," and almost two million with "negotiating book," as of this writing. Amazon lists nearly 110,000 books with "negotiating" in the title, and another 158,000 or so with "negotiation" in the title. Obviously, there is plenty of information available about negotiating, so what am I going to say in a short article that isn't available somewhere else? Probably nothing. I imagine someone, somewhere, has written or said much of what I will write—but perhaps I can distill the abundance of information into something useful and valuable for you in real world negotiations that often take place in order to sell your stuff. It is my hope that it will provide some value for you.

Negotiating is the process of talking with someone, or several people, for the purpose of coming to an agreement. Most people don't put negotiating and fun in the same thought or sentence. On the contrary, most people think of negotiating more in line with a root canal or a meeting with the IRS. It need not be that way.

The same "way of being" that got you to the appointment and through discovery will serve you well in negotiating. The keys are still trust and respect. Although each negotiating process is unique, the skills you need are identical.

Negotiation Skills

Find Out What He Wants – That seems obvious, but I have seen it happen many times that one person is thinking the other wants X, while his real concern is Y, and he really doesn't care about X at all. Assuming you have trust and respect in place, you can find out what the other person wants by simply asking things like,

"What do you need on this point?"

"Is this something you need to have?"

"How can we do this?"

"Do you have any ideas how to handle this?"

"What do you want to do?"

Asking the other person what he wants creates respect.

(Hint: When he says what he wants, listen. Listen very closely, Grasshopper.)

Say What You Want – The other person needs to know what you want – and don't sugarcoat it. Lay your cards on the table—do not hold them close to your vest. It will bolster trust and respect, which is the real key to a successful negotiation anyway. You may think there are things you have no chance of getting, and you may be pleasantly surprised when your prospect says "Yes." Also, you should say why you want it. People love juicy or funny stories. For example, "I need to have a 50% deposit with the order. I don't want my commission check to bounce. <pause> OK, it's the company policy, and I don't have any say-so over it."

Be Ready to Cooperate – You probably won't get everything you would want in an ideal world. If you did, you would win and the other person would lose. That would be a bad thing. You can help the process along by preparing some alternatives you could accept prior to the negotiating session. There will be concessions you cannot give and terms you cannot accept. Other than those boundaries, it's all negotiable. Be ready to move around anywhere within the fences.

It may be useful to notice that Cooperation and Competition are two "ways of being" that are available to all normal human beings. Cooperation is the "natural way of being." Competition is not "natural." We are trained to be that way. The training for competition takes place in our schools. If you notice children playing before they enter school, they tend to play games which involve cooperation of some sort. After only a year or so of school, they play mostly competitive games.

From the time a child enters school, he is taught to compete. Children compete for grades, attention, a place in line, teachers' attention, and gold stars. They quickly learn that they must compete to get ahead in school and, so it seems, in life. The competitive spirit is systematically taught to us. It is not the original, natural way for human beings to be.

In school, competition is called by another name – "achievement." Cooperation has another name, too – "cheating."

Most people take this competitive way of being into their lives everywhere. It is undistinguished, and thus unmanageable. When they need to negotiate, they

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How to Sell Stuff: Negotiating

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negotiate using the competition way of being. There is a tendency to negotiate using the way of being they were taught in kindergarten or first grade. It doesn't work. You learned to compete when you were five or six years old. You have been doing it ever since.

Negotiation is a cooperative activity. When you're ready to be successful at negotiating, it's time to unlearn competition and re-learn cooperation.

That's really all there is to it. Ask what he wants, say what you want, and be ready to cooperate. Be honest, straightforward, authentic, and realistic. Keep your attention on trust and respect, and the issues will almost magically sort themselves out.

Barriers to Negotiation

Here's a list of some things that don't work in negotiating.

Making It a Contest – If you go in thinking it's a contest you need to win, or even that there such a thing as winning in negotiation, you will have a tough time. You'll wind up being confrontational and probably losing. If you appear even slightly argumentative, it will only upset the other person. All-in-all, no good can come of it.

Not Listening – If you don't listen, you are showing that you don't respect the other person. If you don't respect him, he will not respect you. Respect is a mutual phenomenon.

Blaming or Complaining – Negotiating is the art of working together to solve a problem or come to a mutually acceptable agreement. Blaming anyone or complaining about anything is a pointless waste of time. Afterwards, you can have a beer and complain about TV or taxes, blame the politicians, your boss, your wife, or your neighbor's dog. Don't do it during negotiation. It undermines trust and respect.

Trying to Win – If you win, somebody must lose. That will remain in the mind of the other person for a long time, and somewhere, sometime, they will get even. If we win, we soon forget it. People don't forget it when they lose. Like making negotiation a contest, no good can come of it.

Becoming Emotional – Like trying to win, no good can come of it. You don't want to behave like a robot, but if you must display emotion, try to stick with glad or sad, and avoid mad. Glad and sad are emotions that show your humanity while retaining trust and respect. Mad destroys both trust and respect. Any sort of anger or upset is therefore inappropriate.

Personalizing the Discussion

Stick to the issues. It will create trust and respect. Remember that being liked is not one of the top five reasons people buy from you. It doesn't matter whether you like each other or not. It is crucial that you trust and respect each other.

The barriers come from a competitive way of being, and are almost always associated with loss of trust and respect. Keep that in mind and the barriers will fade away in your negotiations. It could even be fun.

Next time – Closing the Sale. 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.

Caché and MultiValue: *Birds of a Feather* – Part 2

BY TONY GRAVAGNO

In the first article of this series, I described the Caché DBMS in general terms, introduced InterSystems as the company that provides Caché, and explained what various people in our market stand to gain now that Caché supports MultiValue technology. In this article I will provide more insight into the software and the company, and then shift from that high level view to describe some of the technical aspects of their MultiValue implementation.

It's possible that some new or existing Caché developers will start using MV BASIC as just another language in their box of tools.

What is Caché?

As mentioned in Part 1, Caché (pronounced Cashay') is very much like its MultiValue DBMS counterparts. However, SQL integration with Caché is much tighter than with most MultiValue platforms which add various degrees of SQL support via dictionary mappings and other methods. Caché is famous for being an object database, which means it natively supports complex data objects in a way that flat relational databases cannot. While the MultiValue data model can be considered to be somewhat object-oriented, Caché supports objects to its core, and much deeper than the item, attribute, value, sub-value structures that we enjoy. I will provide more detail about the data model with examples in an upcoming article.

Among other distinctions, Caché has been recognized as being used in 16 of the Healthcare Informatics Top 20 Healthcare IT Companies for 2006, and by all 14 of the Best Hospitals from a 2006 US News Honor Roll. Caché has received the prestigious Common Criteria certification, an international security standard recognized by 24 countries. And let this one sink in for a minute—there is a com-

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Caché and MultiValue

Continued from page 29

pany mandate that every release of Caché must be faster than its predecessor, even as new features are added.

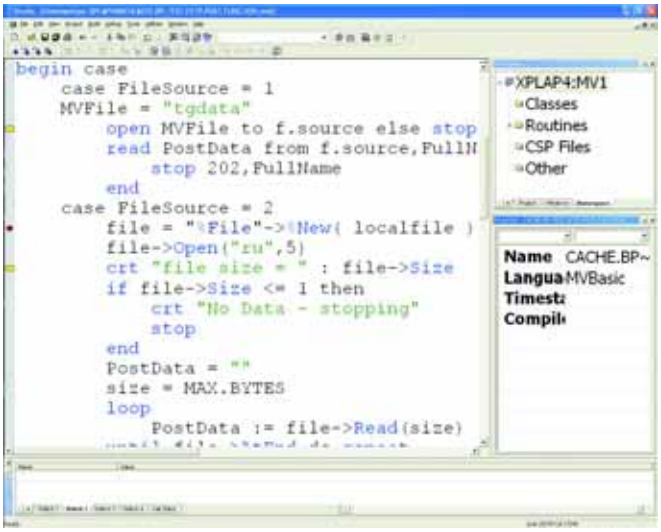
InterSystems

As mentioned in the first article, InterSystems is not offering us just another MultiValue database. Their database and other technical components are all excellent and worthy of consideration, but to a limited extent most of the current MultiValue DBMS products have similar technical capabilities which will be discussed in another article. Aside from the technical offering, I think the real value-add from InterSystems is their own business. Unlike MultiValue DBMS companies (rather, "other MultiValue DBMS companies"), they are well known in the IT industry, in governmental agencies, and among mainstream business and IT managers, and they are promoting "our" technology. One could correctly cite IBM as being well known, but in all these years that hasn't yet translated into recognition of MultiValue technology in the mainstream. Full-page ads in InformationWeek magazine now include a note that Caché now supports MultiValue development. We can expect more of these ads in the future since MultiValue is now as integral a feature as any other, and InterSystems isn't afraid to advertise it.

It may help to know that this technical and business initiative for MultiValue is supported by many people with extensive MultiValue backgrounds. I've met several of their development engineers and Sales Engineers (SE's). They're intimately familiar with MultiValue because they've been in the MultiValue industry for (as we often say) "longer than we sometimes care to admit". Their Product Manager, QA Manager, and their lead Sales representative for MV all have extensive MultiValue backgrounds.

In my next article I'll comment more on the management and culture at InterSystems. Regardless of the business these people are in, I think their organization is an excellent model for other companies, and worthy of recognition.

Figure 1



BASIC

Let's shift now to discuss a technical aspect of the environment which is critical and of interest to all. The two languages traditionally used by Caché developers are Caché Object Script (COS), and their own version of BASIC which was added for those porting applications written in Visual Basic or VB Script. Multivalue BASIC is now yet another language available to all Caché developers. It is not an add-on and not just for migrations. MV BASIC is what I call a real "first class citizen," integrated into the core product and available for use wherever code can be used, including class definitions, web pages, and web services. This is possible because all Caché languages compile down to the same object code (p-code is a term familiar to many MultiValue people). So everyone uses the same run-time engine regardless of their choice of languages.

Of course MV BASIC will be used primarily by sites migrating from MultiValue-based environments, but not exclusively. The simplicity and efficiency of the language, enjoyed by MultiValue developers for decades, is now available to all Caché developers, and it's possible if not likely that some new or existing Caché developers will start using MV BASIC as just another language in their box of tools. For these reasons, the language will not be deprecated, developers will not be asked to switch to other Caché languages later, and support for MV BASIC will not diminish after InterSystems gets some number of MultiValue migrations.

As expected, the MV BASIC implementation supports most common syntax and many applications compile and run with virtually no issues. To say it already supports absolutely all statements, functions, and other language elements would be an exaggeration, but some sites find that all of their code compiles on the first pass. Some sites are finding that code which does not compile isn't used anyway. We frequently have old programs that were tests, never used, replaced, etc. Some of these may not even compile on our source systems, let alone in a new environment, and sites are finding these relics when they attempt to compile all programs. After compilation, both local and global catalogues are supported just like any MultiValue environment with this feature.

The BASIC runtime also behaves as MultiValue developers would expect, though even here, some platform-specific code may need a second look. As an example, I'm working with Pete Schellenbach to port AccuTerm to Caché. When we used the UniVerse code base, everything compiled, but there was one run-time error. This disappeared when we removed some code that was originally added just to accommodate some unusual UniVerse behavior. After that one change, I could enable another account with AccuTerm, and then logto that account and use the WED GUI to edit and compile programs. When I used the QM code base there were no issues at all. There's other code that Pete says needs to be tweaked for every new plat-

form—I'll let you know what happens with that in the next article.

Speaking of GUI, Caché Studio (shown in Figure 1) is used for development with Caché Object Script, Caché BASIC, and MultiValue BASIC. (You can use ED for all of this too, but what fun is that?) Studio is used to edit Caché Server Pages (like Microsoft Active Server Pages), XML documents, JavaScript, Cascading Style Sheets, Web Services, and code related to the new Zen browser UI development tools. All of this is free and built-in to the default Caché environment, and MV BASIC can be used wherever code is required.

To debug a program we don't one-step through asterisk prompts in a telnet window. We run a program from a telnet window, then attach to it from Studio, then one-step in Studio in a manner very familiar to anyone who has used Microsoft Visual Studio. One will find that the runtime error messages from BASIC programs can be very cryptic until one understands exactly what they're trying to say. Debugging is indeed different at first, but quickly becomes more natural.

All in all, MultiValue developers should not have a problem working with BASIC in Caché.

Emulations

Sites running UniVerse or UniData are quite familiar with "flavors". D3 developers have $OPTIONS in code which allows code to run with GA, Ultimate, and other platform-specific syntax. QM and other products have options and switches that allow code to compile and run in a way which emulates the behavior of other MultiValue DBMS platforms.

Caché also supports emulations, 16 so far, allowing many applications to be ported into this environment with few or no changes. The most developed emulations are for UniVerse and jBASE. This should be no surprise as there are certainly a large number of UniVerse sites out there, and most of the developers working on the MultiValue enhancements at InterSystems have a strong background with jBASE. Since one of the primary emulations is for UniVerse, accounts are initialized with verbs familiar to UniVerse users but less familiar for those running a DBMS like Reality or D3. For example, there is a LISTF verb, but no LISTFILES or LIST-FILES. Verbs and file pointers are contained in a VOC, which is familiar to U2 and Prime-flavor users but largely unknown to many users on the Pick side. For Pick users (D3, AP, mvBASE, etc) there is an item in the VOC called MD, pointing recursively back to the VOC, thus allowing for statements like "SORT MD". Verbs and other MD/VOC items can be added manually, and InterSystems will process requests for enhancements to support common verbs which have not yet been implemented.

Summary

As you can see, so far this is as MultiValue as any other DBMS in our market. The process of evaluation and/or migration includes porting code, dictionaries, and data; investigating failures; eliminating what's not necessary; fixing what's easy; and reporting the remainder to InterSystems as a request for a fix or enhancement. In this respect it's the same as other MV-MV migrations. But there are added bonuses: The environment is as much relational as it is MultiValue. It's already supports data objects and development when other MultiValue environments are implementing or just thinking about the concept of object-oriented code. And once an application has been ported to Caché, it should have much more marketability to the outside world, as well as more credibility with internal management.

We like our Pick / Prime / MultiValue software for many reasons, including ease of development and maintenance, and to some extent we also enjoy a lower cost of ownership compared to many sites running other DBMS platforms. But unless this market grows and becomes better recognized for its strengths, many of us will continue to have problems advocating this software to management and new sales prospects. Now that Caché supports MultiValue applications, we can get the same business benefits as other Caché users and resellers, and still enjoy the MultiValue-specific benefits that we value so highly. I think we have a significant new opportunity here, and I hope these articles will help to convey exactly why I feel this is such a good fit for many sites that are still looking for that "right" solution.

In my next article I will spend more time explaining the Caché data model, emulations, and other technical details of interest to MultiValue developers and administrators. Thank you for your time and interest. **is**

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Business *for* Programmers - Planning

BY CHARLES BAROUCH

Part 2

Predictive Manufacturing is the art of making only that which will sell, in the right quantities, at the right time. Model Stock is one of the scrying devices used to predict.

Scotch and Water, Rye and Water, Whiskey and Water

My friend, Alex Harris, used to say "obviously, water gets you drunk." This is the big shadow that falls over Predictive Manufacturing—the perpetual fear that we are using a set of vectors which only appear to be true. Unlike most applications, Predictive Applications, like Model Stock, need constant attention from programmers. They need to be tweaked at more than just the parametric level. We have to see these applications as a constantly redeveloped-and-redeployed technology.

The basic rule of Model Stock is that simple models are almost always bad; We need multi-vectored models to avoid buying Christmas albums in January because they sold so well last month. Since the vectors are not static in number, type, or usage, we have to re-imagine Model Stock code frequently.

However, as we add more and more vectors to the model, the complexity rises, which, in turn, reduces clear provability, which in turn, makes the model progressively harder to adjust. So, at each end of the bell curve (too simple and too complex) we have failed models. The middle, controllably complex, is our goal.

Past Performance is Not a Guarantee of Future...

Much of the complexity comes from the non-linear aspects of sales. In math, progressions can be extended, simply by seeing the pattern in the part you have. Unfortunately, we are discussing a continually re-invented pattern.

When you model home computer sales in 1983, you aren't going to factor in IBM's arrival in the market, the impact of the classic Mac, or the rise of the Amiga. Model Stock must continually evolve. These are, to use a cliche, paradigm shifts.

Gas prices should have slowed sales of big vehicles. It eventually did, but much more gradually than everyone predicted. Increasing regulatory pressure should encourage the supplier base to shrink, but the big implosion hasn't happened in several key mar-

kets. These are examples of inertia, a state where things refuse to shift radically even though we all expect them to shift.

So, with radical shifts and refusals to shift, we begin to see why prediction is hard. After all, Model Stock is based on predicting sales patterns and there are a lot of people spending a lot of money to keep those patterns in flux. Marketing and sales dollars are spent to permute the buying model.The entire purpose of both advertising and sales is to change the rules on what will get bought.

This means that your model has to be part sociology, part psychology, and part concrete. The best tool is not always the best selling tool.The cheapest, the most widely known, the most durable—none of these are guarantees of improved sales.

Brand is not a predictor either. Ford had the Edsel. Microsoft had Bob. Market dominance is not a surety. Novell own the networked PC market. Lotus owned the spreadsheet market. Neither success nor failure in the past assure the results in the future.

Vectors to Consider

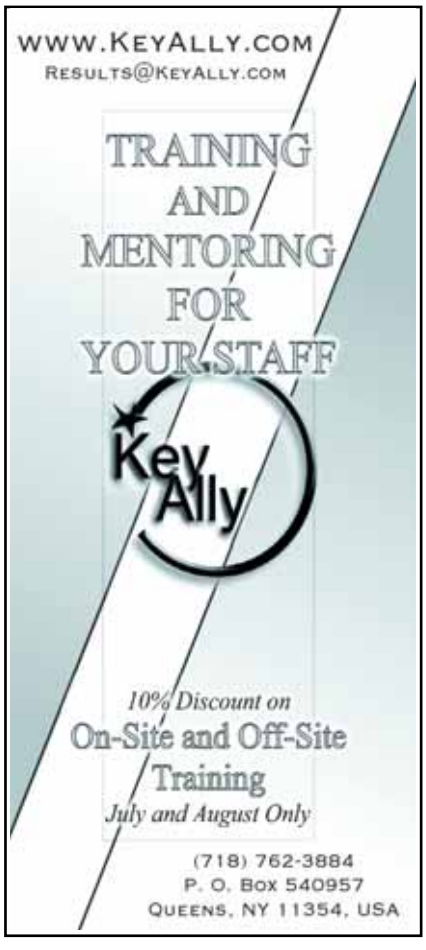
All this leads to the reasonable question: Is there anything we can rely on when predicting the future?

Marketing is a huge vector. If kids just have to have the latest cell phone, then ads which position your phone as the latest will impact sales. Model Stock should build inventory around sales, targeted ads, and other manufacturer and retailer driven processes.

Good press attention can drive sales. Good press attention, even to a competitor, can increase category value, which increases sales. Even bad press can drive sales because sometimes the only thing people get from "Xbrand Stock Plummets" is the name Xbrand.

Packaging is another key vector. If "green is the new pink" this season,

Continues on page 33



Planning

Continued from page 33

then green products may sell better. A package that says "5 Spices Blend" will sell better than one that says "Double Batter Fried" even though both descriptions apply to the product.

Google Dance: The constant changes in Google, and other search engines, algorithms can drastically change product visibility. A jump up in the ranking on Ask or Yahoo needs to be factored in to the mix.

Word of mouth is very hard to judge, but it is a key component in sales. Good buzz amongst the buyers is hard to measure but it makes its absence or presence known. A false rumor about tainted meat left McDonalds feeling a sharp decline in business back in the seventies. Knowing which way the wind blows in this area is obviously important.

Quality. Value. Service. Price.

I am not ignoring the traditional vectors in this article. However, without marketing, press, packaging, and other visibility issues, no one will know that those things exist. The old poem says:

He who has a thing to sell
And goes and whispers in a well
Is less apt to get the dollars
Than he who climbs a tree and hollers

Logistics

Just to shift gears, as if this weren't already complex enough, we have another set of factors to consider: the role of logistics in Predictive Manufacturing. We've touched on this in previous articles by talking about JIT (Just in Time) manufacturing, but logistics goes deeper. Imagine that you build an excellent product, model sales intelligently, bring it the proper attention through marketing, and JIT every aspect of manufacturing. Now imagine that the shipping company you use suffers a walk out on your busiest day.

Let that sink in. Predicting the customer, or even predicting the customer's customer, is only part of the process. We need to predict the impact of our demand on our vendors, the people who see us as customers. We need to create a trust relationship and share data with them, just as we hope our customers will share with us. Having the perfect plan ruined because the overflow space, which we thought our Public Storage Warehouse would have open, was taken up by someone else's sudden need for more space - that is beyond painful. Think of the iPhone launch, where some five hundred thousand phones were sold during the opening weekend and then imagine that your stores didn't get delivery—all those customers walking away. All that bad word of mouth spreading into the public and poisoning future sales.

"So how's your new iPhone?"

"Store never got them. I waited on line overnight for them to open and nothing. I'm not shopping there anymore."

So, logistics is the art of creating a business, not product, model of the cradle-to-grave process needed to make

money by selling our products. It has to include alternatives, some buffering for cost differentials between alternatives, and a clear plan for shifting between alternatives.

We know this instinctively in our lives. We make sure Grandma is free the week we are going on a business trip even though we've got the children staying with Fred and Marion. We need to know that there is a backup. We set up rain dates when we arrange a company picnic. We plan for failure, so that failure isn't a failure, it's a reason to shift to plan B and still meet our goals.

Most shipping companies don't call themselves shippers any more. They are logistics companies. The difference is that a shipper moves things, a logistics company moves things even in the face of the unexpected. In essence, a shipper sells you space on a truck, train, plane, boat, etc. A logistics company sells you knowledge and planning which, incidentally, gets packages shipped. It is the triumph of selling intelligence as a product.

Toys

To make our overview of logistics more complete, let's look at the planning behind a product launch. We start backwards, like all good business processes.

Our product is a toy, so December is a key month for all our planning. Everything has to focus on bringing interest, supply, and demand into play just enough before December in the consumers mind. Rolling backwards, we have to have stores ordering our toy enough ahead of demand so that we can make the product. Backwards again takes us to production schedules, which wind us backwards into the time it takes to get raw materials.

So, December probably means June with overseas manufacturing or August with Domestic. Where the raw materials come from, how long we are willing to wait between manufacture and payment, how much it costs to manufacture in each location, all of these things have to come together in our plan (and our plan B, plan C, etc.)

Partnering with a logistics company can bring their knowledge of importation delays, tariffs, and timing into our plan. Partnering with customers to build a stocking model brings a wealth of sales knowledge into play and makes our customers stake holders in the success of the toy.

Now, with planning in place for sourcing materials, manufacture, and transport to stores, we can begin to schedule the promotion of the toy. In January, we might be building ad campaigns, prepping websites, building or extending databases, and adjusting order and returns policies. We'll be doing it because we have a reasonable guess as to what the future, way off in December, holds.

Can we be wrong? Absolutely. Ask someone in 1961 about the availability of flying cars and personal jet packs in 2001, and they'd likely be wrong. Ask someone on the eve of the last moon landing to predict how long until the next one, and you'd likely get a reasonable but incorrect answer. Likewise, tell the average person in 1971 that a new kind of phone was coming which played music, has a camera, shows movies, but was lousy as a phone, and they would have told you why that was as silly as expecting people to pay for designer water. **is**

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Case Study:

BY SHANNON STOLTZ

Two Kentucky Area **Development Districts**

tell us why they still stand by MultiValue technologies.

As anyone who has ever played SimCity knows, growing a community is a complex challenge. You have to find the right mix. But according to Lenny Stoltz, Executive Director of Bluegrass Area Development District, "There's a method to the madness to grow an area affordably."

(Editor's Note: Lenny Stoltz and Shannon Stoltz, our writer, are not related.)

To help its 120 counties provide for planned growth, the state of Kentucky formed fifteen area development districts nearly forty years ago. The Area Development Districts mission is to provide the counties a means to unite to more effectively plan for growth and collaborate, plan, and implement solutions to issues that are more easily overcome jointly than individually.

"With [our counties] being so small, [they] can't afford the staff they need to administer [everything], so they turn to the ADD as an alternative," said Andy Bennett, Finance Officer at Purchase Area Development District.

Though the area development districts have state and federal statutory authority, they are not government agencies, but instead councils or partnerships of governments united for the purpose of providing for planned growth and finding solutions to local and regional issues.

Serving approximately 686,000 people, the 17 counties in the central and northeast of the state rely on the Bluegrass Area Development District for assistance. The eight counties in the southwestern corner turn to Purchase Area Development District to help administer programs that serve their combined population of approximately 193,500.

"Our role is to manage federal dollars that come into our counties. We act as a liaison for federal and local government," said Lenny Stoltz.

"No government money comes without special regulations," he explained. "Sometimes the competency level at the local level isn't adequate to assure them that all the federal regulations are met and money is spent in accordance to those regulations."

A reliable, stable accounting system is critical to fulfill the area development districts' fiscal role. "There are three systems that can't go down - the accounting system, the phones, and the postage machine," he elaborated. "The accounting system goes down, you're out of business."

"We need a fund accounting type program…something that's like job cost accounting system," explained Lenny. "We have 168 different funds – like 168 jobs in a job costing system, which means 168 balance sheets and 168 income statements."

But to ensure efficient operations, the area development districts also need to look at expenses across funds. "We need to classify grant programs, look at labor across aging funds," he explained.

"We have to be very consistent in how we treat our funding sources," said Andy Bennett who also mentions that indirect costs have to be allocated, by the accounting software, to each of the funding sources.

Initially, twenty plus years ago, both Bluegrass and Purchase Area Development Districts turned to the PICK-based Results software running on McDonnell Douglas 14/400 microprocessors.

Purchase Area Development District has chosen to stay with a modified version of Results, but in 1990 moved from the McDonnell Douglas system to RealityX running on a DG Aviion Server. Because they have had close calls in recent years with the hardware, this year Purchase Area Development District is moving to a Dual HP Proliant system running Reality V.12.

"The software is fairly versatile, so far it's handled what we needed." Said Andy. "At times, we have felt need to move on… it's not as user-friendly as some of the other [newer] software. But after 20 years, we couldn't go out and buy this type of software"

"When I consider the costs and training involved [in going to other software], I'm not eager to…," Andy elaborated. "This one does what I want it to do."

Andy credits the service agreement with Ashwood Computer Inc. as the reason Purchase ADD has been able to stretch out their system an extra four to five years. With a four-hour response time built into the service agreement contract, Purchase ADD has confidence that a reasonable priority will be placed on their support calls.

"The system has to be dependable when working with accounting and payroll," he explained. "I've got 75 people here relying on the accounting department to process their payroll; I don't want to be without support."

"You have to have your support agreements…know who to call and have some idea when they'll get there."'Ashwood is our one-stop shop… We don't have to figure out if it's hardware or software. We call … and they help figure it out. If it's hardware they dispatch someone. If it's software, someone there will dial in and usually an correct that over the modem."

Bluegrass Area Development District also looks to Ashwood Computer, Inc. for their hardware and software support. In 1997, Bluegrass swapped out their McDonnell Douglas 14/400 system for a jBASE database running on Windows.

Because Bluegrass Area Development District owns the source code to their current accounting system, they are able to customize it to meet their specific needs. Today, a small in-house team at Bluegrass handles simple software modifications. Ashwood is called for complex issues.

"We are very loyal to companies that deliver and trust vendors to take responsibility for problems", said

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Case Study:

Two Kentucky Area Development Districts

tell us why they still stand by MultiValue technologies.

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Lenny Stoltz. "I know that no matter what happens to our system I know Ashwood will assist me."

"They've had to prove themselves and they have never disappointed us. I know they will move whatever mountains they need to move, they will move those mountains. Sometimes we've been working together in the middle of the night to have the machine up and running in the morning. I don't know I can buy that kind of loyalty."

Having tried using other programmers in the past, Lenny has found that it takes "a 100 hours or so getting them up to speed, trying to figure out what the application is doing." He says that Ashwood Computer "have at least four top-notch PICK programmers. They are very efficient… they know the most efficient places to make changes."

While Andy Bennett has been tempted to move off his MultiValue software, Lenny Stoltz is steadfast in his loyalty.

"PICK is a very efficient way to store information," said Lenny Stoltz. "All flavors of PICK have a really powerful query language, which enable someone less than a programmer to ask questions and get answers."

"The system we run and PICK's efficiency allows us to consolidate into one global view. Instead of 168 Quickbooks, we have one system. … We're able to hold on to historical data, [which] give us longer looks at trends."

"Pick OS is rock solid; we have not lost one bit of data. We have never had to reconstruct our accounting records—ever." said Lenny. "It speaks to the OS in my mind. If it goes down, it holds where it was, and we're able to bring it back up."

"It's an extremely affordable platform compared to what other counties are paying. Other sister companies [area development districts] are paying $10-12K a year on maintenance agreements, I'm able to spend that to improve my system." **is**

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can attach to local or remote servers, so all of your developers can use it.

Using Tortoise

First you will need to create a repository for your source archives. Create and open a folder called c:\repository in Explorer.

Right click in the window and you will see the TortoiseSVN menus. Select TortoiseSVN -> Create Repository Here and choose the FSFS option.

Create a second folder called c:\source to hold your code. Before it can be controlled, it must be imported into the repository. Select Import from the Tortoise menu and enter the url file:///c:/repository (fig. 1).

Like CVS, importing a directory does not check it out automatically for use. To do so, right click the directory and select SVN Update. Now your directory is ready and should appear with a green tick to show it is up to date (fig. 2).

Open Notepad and save a text document into that directory. You can check in the whole directory at once by clicking SVN Commit from Tortoise (fig. 3):

Any subsequent changes to that file will display a red exclamation mark against the file and the directory so you can see exactly what has changed. Tortoise lets you perform all standard revision operations, including showing revision logs, side by side differences and retrieving versions only a click away.

It really is as simple as that!

Versioning your Applications

Now you have a working repository, how can you apply this to your MultiValue applications?

The main challenge for any source management is completeness. If you are going to use version control, you must include all the code needed to reconstruct a particular version of your software. That obviously includes Basic source, but also Procs, paragraphs, dictionary items, parameter records, installation scripts, and all other definitions. And the key to managing a complex set of items like this is to treat them all as forms of source code.

```
WSCONTROL MVSCRIPT.INI

[Default]
Page=status.htm

[Options]
ClearSelect=Yes

[SOAP]
Location=http://anhaga/Scripts/mvscript.dll/soap/
RPCLocation=http://anhaga/Scripts/mvscript.dll/rpc/soap
User=Admin
```

Figure 5

If you are building multiple tier or mixed language solutions these will need to be matched to your web pages, Windows forms, client and middleware code, and third party libraries. Not to mention documentation, usage instructions, licence agreements and other paraphernalia.

Most MultiValue platforms place Basic source in directory files which can be handled like any other source directory. Note that both CVS and SubVersion add hidden subdirectories; SubVersion is more helpful since its directory name (.svn) is treated as a hidden file and ignored by some MultiValue platforms. Your Basic source files can be checked out and treated as a single shared working copy since the database will take care of contention through item locking.

Paragraphs, sentences, and Procs should always be moved to separate files to avoid cluttering your VOC or MD and referenced using remote items or Procs. You can store these in controlled directories just like your Basic source.

Dictionaries are a more difficult candidate. These occupy a strange position in the database hierarchy: user defined dictionaries may be used for ad-hoc reporting, but dictionaries used as part of a SELECT statement for an update program are a vital part of an application. You could manage each dictionary item individually by copying them to a directory and placing that directory under version control. But that is inefficient and does not give shape to the whole dictionary.

I prefer to think of the dictionary as a file definition, similar to the SQL CREATE TABLE statement. I define my dictionary layouts using a script format parsed by a Basic program to generate dictionary items as needed. Each definition script is then stamped and version controlled, just like any other source (fig. 4).

Parameter or control items present another area of difficulty. Practically though, most parameter items (excepting counters) are read infrequently, so there is no great overhead in giving them a text rather than a regular database record format. In fact there are benefits to using legible control items – it is easier for a support engineer to ask a customer to read or change a configuration record in a text format than asking them to change value 21 of attribute 50.

One format that lends itself to easy parsing in Basic is the Windows INI file layout. This is easily recognized

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BY MELVIN SORIANO

When Your Sheet Doesn't Stink

I've been using the live data feeds into Excel for some time and found it to be a useful tool for getting data into people's hands. Moreover, the charts can be updated fairly easily, without the users getting too confused. I was wondering, though, how many people actually use it, because everywhere I show it, people invariably say,"I didn't know that Excel could do that."

My usual response is that Microsoft usually can do a lot of things. It's trying to get them to do what we want, instead of everything other than what we want, that's the puzzle. But in this instance, Microsoft pretty much does what I prefer.

For those who don't use it, pull up your properly licensed Microsoft Excel application and click on the menu item "Data". If you then select "Import External Data", you've probably almost immediately gone to "Import Data". Instead, click on "New Web Query". You'll see that it prompts you for a URL. If you have a URL that produces an interesting report, you can enter that URL here.

What you get after these few clicks is a request to import the data. It will even parse columnar data, in a typically Microsoft fashion. Excel can parse on column positions, tab or comma delimiters, and other optional parameters. So, if you can get your WebWizard or other reports out from the spool queue or hold directory, they can easily be parsed into a nice Excel document.

What also makes this approach so helpful is that the data can be manipulated like other types of data loads.

You can create charts, summaries and pivot tables. The charts can exist on Sheet 1 of the document and the data can be hidden away on Sheet 2. So, if you distribute the Excel document, people will see the graphical or summarized data right away without having to see the underlying data set.

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Even more impressive is that the URL link is live. It can be refreshed by clicking on the "exclamation point" refresh symbol. Or, if you prefer, change a parameter when loading the URL so that the link will refresh itself every few minutes, hours, or days.

The spreadsheet is ready to be shared. I think it makes for simple executive-style reports. You can e-mail it or place it in a secured, shared intranet.

A weakness is that the URL does not by itself perform any authentication. Encrypting the spreadsheet itself offers some degree of authorization, but it's not centralized as part of the data set itself. So, it's not a perfect solution, but may be close enough for most.

Have you used this approach? Do you have interesting twists on its use? I'd love to hear if you do.

But Is It Tasty?

Ambivalent. I'm ambivalent. It's occasionally handy, and especially when I'm not at my normal PC and need to use a mysterious desktop. But is it tasty enough to maintain another site?

Online bookmarks are part of that somehow trendy del.icio.us world of social networking. Instead of merely e-mailing links to others on an as-needed basis, or maintaining a web site that offers group interactivity, you may share your links easily with others in your family, social network, or work group. Social networks have all the online buzz of Web 2.0, so you see many references to collaboration, ease of use, and personalization.

In many ways, though, it's somewhat exhibitionist. Web readers are now able to let others see what sites they consider to be helpful. It's as though we get to say, "Here, taste this" or "Ewww, do you think this milk has spoiled?" If you enjoy sharing your web surfing experience with other like-minded folks, it's perhaps quite useful.

I instead find these sites more useful for folks who don't know how to forward a list of URLs or to maintain a larger, group-oriented site, such as Yahoo Groups. By incorporating gadgets that attach your browsers, these bookmarking sites allow for easy saving to the common bookmark repository.

It's tough not to like the multi-value nature of many Web 2.0 sites, though. For example, the aforementioned del.icio.us site allows you to attach as many keywords, or tags, to the bookmarked URLs. This is comparable to multivalue codes associated to a given record or value to me. It's remarkably intuitive to folks in our sphere and permits a fluid ability to associate disparate and varyingly related objects or links.

But boy, there's a lot of hype.

Call on Ajax

Is it too much to ask for? Web 2.0 technologies, real-time Ajax-related integration, and superbly dynamic HTML have created a spoiled brat in me, I think. I want it all.

See, I enjoy using my cell phone browser. It's handy, small, and readily available. The phone also keeps me from having to crack open the laptop at the drop of a hat.

But the cell phone manufacturers and software developers still haven't implemented full-blown Ajax support in these browsers. So, delighted that I might be at having all this data at my chubby little fingertips, it's still largely <gasp> Web 1.0.

The biggest sites that radically deploy Web 1.0 have come up with salves that mitigate these Ajax-less devices, but clearly the solution is to just bring cell browser development up to speed with the rest of the PC world. I doubt it's where the money is for these folks, but hey, a fellow can dream, right? **is**

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PHONE _____ FAX _____

E-MAIL _____ WEB SITE _____

SIGNATURE _____ DATE _____

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

1. What is your job function/title?

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

Continued from page 39

and fits nicely with version control, particularly if you need to check different revisions side by side (fig. 5).

In fact, with a bit of lateral thinking, all parts of a MultiValue application can be turned into source code, offering practical benefits in addition to the ability to manage these in a source code repository.

A Final Word

Version control is no substitute for developer communication and is no guarantee of code quality. It is also no substitute for a good backup policy! But it should be an essential part of the armoury of every software team.

There are some highly capable source management tools specifically designed for MultiValue platforms, and these are still recommended for dedicated software teams. But with good management and design there is nothing to stop you creating effective version control policies using standard open source tools like SubVersion and CVS. **is**

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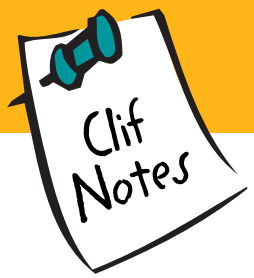
It's All About the Business

BY CLIFTON OLIVER



One of the electronic newsletters I receive is the Information Week Daily. This shows up in my inbox every morning where I can peruse it while drinking my first cup of coffee and pondering the idea that my "daily" newsletter is produced by Information "Week." Somehow, the contradictory nature of this seems to prepare me for the equally contradictory and confusing software change requests or project goal discussions I am likely to have with clients and vendors that day.

Several weeks ago, in a piece titled "SAP Isn't About Easy; It's About Regimentation," David DeJean opined that one of the main things that happens in the switch to these kinds of solutions was that the company ends up changing the way it does business to conform to the software, not the other way around. He further muses that it isn't so that the business runs better; it is driven by "B-school egghead theories about making business organizations fit together like Lego blocks, regardless of the human cost." He also asks the question that if, "...all companies do everything the same, how will any company be able to capitalize on its opportunities?" After pointing out some of the potential ramifications of this, including a potential down-side of web services, he wonders if these folks aren't, as he puts it, "...engineering the possibility of success out of business..."

You, no doubt, spot the parallel to our own frequent situation in the MultiValue space. Let's dump the solution that has helped us build a successful business and convert to something "mainstream." While I will not deny that there are valid reasons to do this in some occasions, company buyouts and consolidation, perhaps, in a large number of cases I see the decision based on some B-school bozo's desire to be seen as a forward-thinking leader who helped the company modernize, or an IS climber trying to pad their resume.

Don't misunderstand; I do not think everyone who goes to Business School is a bozo. I am all for advanced studies. I am referring to those with MBAs who swoop in and, with no knowledge of the industry, having never really worked in a position other than manglement, er, management, and having nothing to support their ideas other a head full of case studies about somebody else's business, proceed make massive changes.

"We're going to be off PICK in two years."

Have you ever noticed how they never seem to pay attention to all that advanced study they did? You would think they would do a case study of any one of a number of companies who went down that path and flushed millions of dollars, and sometimes the entire company, down the toilet. Or maybe they were never taught that studying failure is just as important as studying success.

So other than arming ourselves with cream pies and water squirting boutonnieres, what can we as information management professionals do when the bozos attack?

"Out business" them. Think like a B-schooler, not a geek. Ask business questions.

"Why are we considering this investment to replace something that works, is reliable, and has a much lower TCO?"

"Have we studied the XYZ Corporation's attempt to move off MultiValue and migrate to MegaBase? Why did that fail? How do we prevent it from happening here?"

"What are the advantages to migrating? What are the risks? How much will this migration cost, and how much do we expect it to help increase profits? How? What's the ROI? How long?"

"What would the cost be to re-implement the unique features of our business application in MegaBase?"

"Let's look at your comparative analysis of the databases and the vendors. Why are we selecting MegaBase?"

Make a list of the pros and cons of migrating off of MultiValue. If you can't put anything in the Con column, get other people to help. You're too emotionally involved. Every solution has a downside, and MultiValue is no exception. Then eliminate every Pro that talks about the technology. Nobody cares if multivalue is a more natural way of representing Real World data than relational is. (Yawn.) You must talk about the business benefits. Period.

Don't forget to emphasize the fact that you have tons of specific business logic in those thousands of lines of MultiValue Basic code. That logic supports the way your company does business. The way you do business is what makes you unique and competitive, not doing things the same way everybody else does.

It's all about the business, baby.

“To get that information just type –

```
SORT CUSTOMER.MASTER BY CUST.NAME WITH SALESMAN = “JKL’’
   CUST.NBR CUST.NAME CREDIT.LIMIT OPEN.BAL ID.SUPP
 LPTR HEADING “CUSTOMER CREDIT LIMIT REPORT ‘D’ ‘L’ ”
```

or I could just build it for you.”

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