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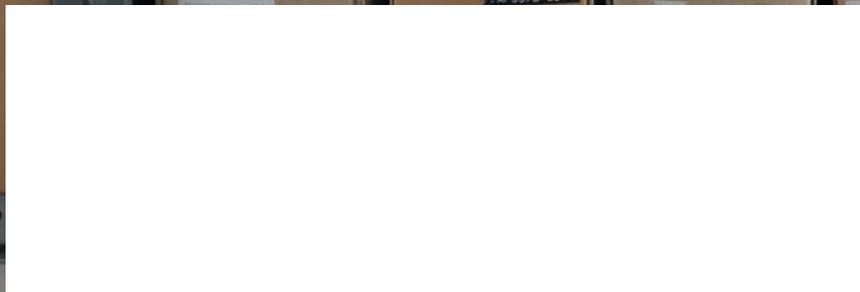
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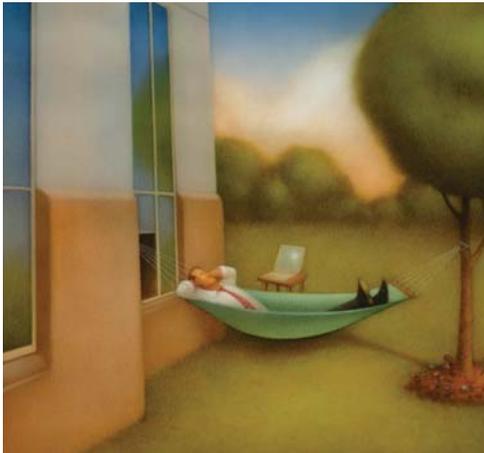
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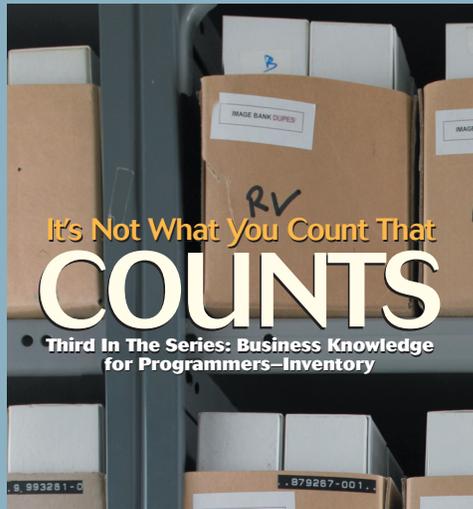
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Third In The Series: Business Knowledge
for Programmers—Inventory

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Do you think inventory is primarily about keeping track of your stock? Charles points out that it is not that simple. **BY CHARLES BAROUCH**

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18 CONVERSIONS IN OPENINSIGHT All MultiValue systems come with a large set of conversion codes for transforming data. Sometimes, however, you need one that is particular to your application. Robert at Revelation show how to do this in OpenInsight. **BY ROBERT CARTEN**

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40 INTERVIEW WITH BOB MARKOWITZ, JBASE INTERNATIONAL At the 2006 International Spectrum Conference in Long Beach, we had an opportunity to talk with Bob about jBASE and some of their product's unique features, both present and future.



What do you want? How do you want it? What's important?

We all live for feedback. It tells us that what we are doing or talking about is important. It also tells us if we are on the right track or too far ahead of things, or if we are just going down the wrong road.

This is doubly important to International Spectrum since we are dedicated to helping the MultiValue Community grow and thrive. As you've seen the e-mail newsletter (e-xtra) and the magazine, we provide you with information about the marketplace, both in press release information, as well other goings on.

Most of the information we receive is from Vendors or VARs, but we want to hear from you, the reader and end user. When I was working as a consultant, I always liked hear about project successes, completions, or new installations from my other colleagues. It gave me a larger prospective on what the community was doing and interested in. It also made me feel like I was part of a larger community than just the 100 square miles or so around me.

The MultiValue Community is larger than you may know. I have included a map of all the countries that International Spectrum Magazine and Spectrum e-Xtra newsletter is sent to. (Gray is none. The darker the brown, the higher the concentration.)

I talked some about the diversity of our community in my "From the Inside" in the March/April 2006 issue, but there are a lot of one person consultants and smaller IT departments out there that we would like to hear feedback, ideas, or just general success stories from.



Some things we would like to hear:

- ✓ New employees
- ✓ New clients
- ✓ Successful install and integration of a database or product
- ✓ Article topics or critiques
- ✓ Webinar topics
- ✓ Conference session topics

I know Clif, our Managing Editor, has been talking to companies and putting together some interviews with MultiValue "Newbies". There are many companies out there, and we can't call them all asking for "Newbie" interviews, so if you have hired someone new in the last year and don't mind us splashing it over the magazine, please let us know.

Also, with feedback in mind, we have added the "International Spectrum Forums" on the website that will allow you to comment on articles found the magazine.

You can contact either Clifton Oliver (editor@intl-spectrum.com) or myself (nathan@intl-spectrum.com) with any feedback you wish to provide.

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NEWS RELEASES/UNSOLICITED ARTICLES
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GUI & Green Screen: Getting the Best of Both Worlds is Easy

Ever catch yourself thinking fondly of the past, when the MultiValue world was all green screen and users had achievable expectations of how their systems should look and feel? Little overwhelmed or confused about how you'll move those applications in a reasonable timeframe at an acceptable cost? Character To OpenInsight (CTO for short) from Revelation Software is the answer to your dreams.

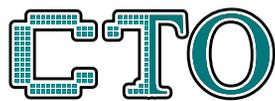
CTO is a green screen application that runs on a GUI engine, allowing you to run your existing MultiValue applications without major changes to your code or data, while letting you gradually create the GUI components

against the same data at the same time. It allows you to continue to develop in a green screen app, or to make the GUI front end, or both. Heck, you can even call green screen windows from your GUI menus.

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Browser Bling

B Y M E L S O R I A N O

Hello folks.

The blog days
of summer
are here, and
we're gonna
cover just a
few random
topics today.

BACK BUTTON

It's the 1990's all over again. Last time, Internet Explorer came out swinging and it slugged Netscape down to the mat. TKO and then some. All this in just 10 years.

Today, we have a few impressive but not-as-significant alternatives; but, let's face it — Internet Explorer is still king. Now, mind you, many of us are big fans of Firefox and Opera, but we always need to

be supportive of that monster browser IE6. It's still the standard, and we still need to run on it.

But the battles are renewing. Some new browser versions are coming, and they promise to be pretty impressive. The browser providers have had to acknowledge a tremendous difference in how browsers are used.

In 1999, browsers were used to largely exchange reasonably static information. But users and developers knew that the browsers could actually drive business processing, so browsers rapidly evolved into central user interfaces. You want GUI? Why not go directly to powerful

browser interfaces? Many in the MultiValue world, including folks like me, feel this way and believe that the comfortable usability most people have with browsers makes this an obvious design choice.

We'll soon see the Opera 9 browser, for example. It has built-in support of BitTorrent, which is a smart downloading program for popular files. Customer preferences in the new release allow you to specify for each and every site whether to allow JavaScript, cookies, or pop-ups. Text editing has been improved. Opera, like Firefox, allows you to have tabs to manage your multiple browser windows; the new release shows a thumbnail preview of each tab.

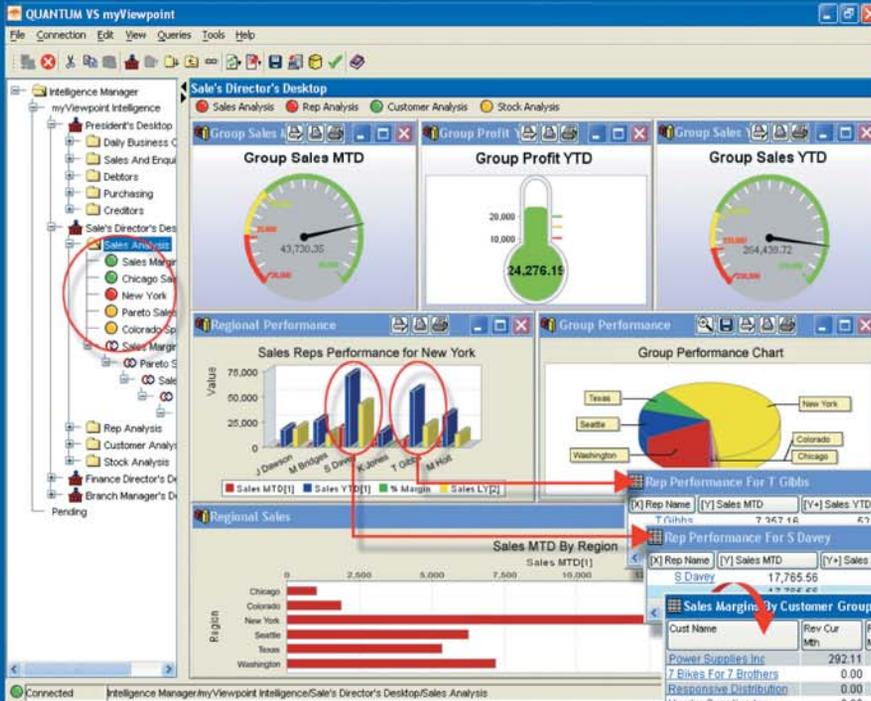
A nice new set of features that Opera offers is something called "widgets." You'll be able to run programs via Opera that allow you to run things like analog clocks, calendars, IP lookups, language translations, photo galleries, and password generators, just to name a few.

They sure know how to keep pulling me back to their web sites. If only MultiValue could market itself on the web as impressively.

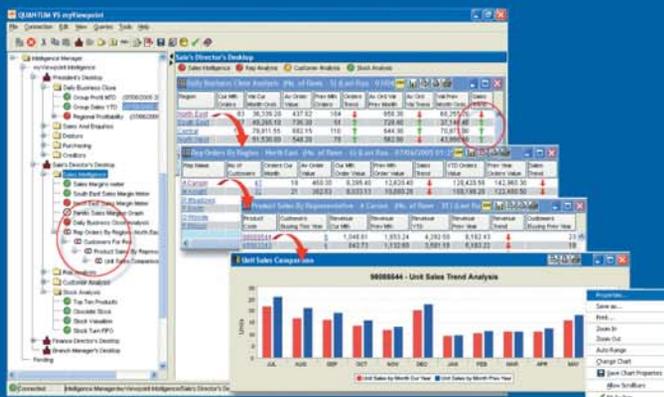
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Enabling

Ajax

for MultiValue Systems

—Part 1

by Robert Houben, FusionWare Corporation

This article is the first in a four-part series on enabling Ajax for your MultiValue system. In this installment we look at what Ajax is, why it is a good thing, and some of the choices and considerations that you should look at when evaluating how to build Ajax-based solutions for your MultiValue systems.

In subsequent installments we will look at some example code that demonstrates how to build a service layer to support Ajax Requests. We'll do this for an IIS Server using Visual Studio .NET 2005 through ASP.NET 2.0 and using the FusionWare Direct ADO.NET provider. We'll also do the same using an Apache Server and the FusionWare Direct Java Adapter. Lastly, we'll look at some issues around security and administration.

Buzzword Compliance for 2006

Undoubtedly, you've been hearing the term Ajax over the last while with increasing frequency. It seems that everyone is doing Ajax, and what's more, every vendor apparently has "done it all along." Welcome to the latest industry buzzword. It seems that the criteria for a well-hyped buzzword is that it be defined and understood in terms that are vague enough that any

vendor can "interpret" it so that their products support it.

For those of you who have been buried in your application code and haven't had a chance to come up for air long enough to get what the noise is all about, let me explain what Ajax is.

Ajax Explained

Ajax stands for Asynchronous JavaScript and XML. This term represents neither a product nor a single technology, but rather an emerging set of "best practices," defined at a very high level, that improve the user experience on a web site. The JavaScript to do this in Internet Explorer (IE) will be subtly different from the JavaScript to do this in other browsers, such as Opera and Firefox, so you can see that it is not really a "standard" at the detail level, but rather at the conceptual level.

We can all relate to the frustration of a slow web link to a web site that insists on taking two minutes to redisplay the entire page every time you click on a button or link. It seems that these sites finally redisplay the next part just when you are ready to give up on it. What's more, if the web page is larger than a single screen, and the button or link is near the bottom of the screen, there is a good chance that when it finishes redisplaying, you will have to scroll

down the page to find your original context and then pick up where you left off.

What's worse are pages with forms where you choose your country code, and after putting in a zip code and other information, the form decides that it should change the state field's label from "State" to "Province,, and while it's at it, loses the other address data you entered earlier.

I'm sure you get the point. The web, in some areas, tends to deliver a sub-optimal user experience. A good self-respecting MultiValue programmer would disdain to put their users through the paces that some web sites put their users through.

So the answer to this is to only go to the server with small, bite-sized requests for data that impact just a portion of the screen. Web browsers have long had a feature called dynamic HTML (DHTML — another acronym for you) which enables you to make changes to portions of the page without requiring a round trip to the server and a complete reload of the page. All browsers now have a mechanism to both send or receive XML over an HTTP Post protocol and to manipulate this XML. JavaScript is a standard script language supported by all browsers and provides the glue that makes all this happen in the browser.

So, this brings us to the concept of Ajax. A user can click on a link and without losing their ability to interact with the rest of the Web page (this is the Asynchronous part), the browser will use JavaScript to send a request as an XML Post to a server that sends back a response as XML. The browser then uses JavaScript to modify just those parts of the page that were affected by the operation. There! In a single sentence I've used the terms Asynchronous, JavaScript, and XML.

Limitations of Ajax

There are a few things to note here, apart from the fact that contrary to

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popular hype, Ajax will not make your coffee in the morning:

First, most web developers will find ways to make sure that the JavaScript checks the browser type and goes to different functions to support the different browsers. There is really no way out of having at least some blocks of JavaScript that are unique on a per-browser basis. Get over it – we lost that battle a long time ago!

Secondly, you may wonder whether you should use full-on web services with all the WS-* stuff¹ appended as needed (or whether they're needed or not) or Plain-Old XML (POX) over an HTTP Post. Given that we are talking about JavaScript code that you have running on a client's untrusted browser, most of the security related WS-* stuff really won't do you any good, so this

choice really depends on the amount of infrastructure you want or need. If you already have hundreds of lines of JavaScript or are willing to somehow distribute a component to all your users that allows you to build and support a full-blown SOAP transport, great. For most users, a simple HTTP Post of XML with a response of XML is a much more manageable environment, especially when dealing with an untrusted browser environment.

(Footnote 1: There are many initiatives around extending the capabilities of web services, most of which have names that start with WS-. At last count, I knew of twenty-six serious initiatives. These are driven by different vendor consortiums and are sometimes competing or even conflicting in nature, since no single body oversees them. They are commonly and collectively referred to as "WS-".)*

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Enabling Ajax for MultiValue Systems

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Of course, the biggest thing that you will note is that your MultiValue system doesn't do XML nor does it directly support HTTP, so that is where the rest of this article is going to go.

Your MultiValue Data and Logic as a Service

Ultimately, what you are looking for is a way to expose your MultiValue data and business logic so that an HTTP Post to your web server can return results as XML.

If you already have a web server, then the choices you have will be limited by that existing server. If you are running an Apache Web Server on a Linux system, then you can forget about ODBC, OLEDB and ADO.NET as options, as these are primarily Microsoft-only options. In this case you are left with JDBC or the JavaAdapter. If you are using IIS on a Windows Server, then you have the best of all worlds to choose from, but ODBC, OLEDB or ADO.NET are your best options, as they are directly supported by Microsoft's development environment.

More Choices — No Lock-in

The interesting thing about using standards is that they are supposed to give you more options and make it easier to take these options. With Ajax architecture, this becomes more of a reality for the following reasons:

Ajax really decouples your browser code from the server. HTTP Post with request/response pairs of XML will work the same to any web server. By the way, this is another reason to stick to Plain Old XML (POX) instead of SOAP and WS*, as there is still a fair number of interoperability issues in various vendor's implementations of web services. If you stick with POX, you can simply switch in a new web server, either by swapping it into the same host name or

by pointing your browser code to the new host name. It should just work!

The same thing works for your MultiValue system. If you implement to a good standard, such as the FusionWare Direct Data Access Server, on your MultiValue system, you can access your data or business logic from your choice of OLEDB, ADO.NET or Java. No changes need to be done on your MultiValue system to support a different web server. What's more, if you replace your MultiValue system, the FusionWare Direct Data Access Server supports more platforms than any other middleware option, ranging from Universe 5.x and PI Open to current releases of UniVerse, UniData, jBASE, D3, mvBase or mvEnterprise (the list goes on). You can swap this out, and your web server doesn't even have to know that anything changed. The same procedures and data will be accessible and will work the same way with the new systems as they did with the old.

Plain Old XML Wrapper

You can write a Plain Old XML wrapper for programs and subroutines on your MultiValue system by writing a simple host stored procedure. Alternatively, you can simply access the data directly.

After you have created the wrapper, you create a JSP or ASP page that you post the XML to. In this page, you extract parameters from the incoming XML and use them to pull back data or pass them as parameters to a host

stored procedure. Then you take the response, serialize it as XML, and push it back as a response.

Relational vs. Direct

The final choice you have to consider is an interesting one for MultiValue developers.

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paces that some
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users through.

When Microsoft first released the beta of ODBC 1.0 in 1991 in conjunction with Apple, Oracle, IBM, and other members of the SQL Access Group, they talked about the future vision that they had for ODBC. They pointed out that over 80% of all corporate data did not reside in a relational database.

ODBC of course did, and still does, require that all data be relational. For MultiValue users this imposes two important penalties:

First, it is mathematically impossible to infer a consistent relational view from MultiValue data without some sort of mapping layer and exercise, typically including the ability to cleanse-on-the-fly for cases where data fields have garbage in them. Given how poorly even the best documented MultiValue applications are documented, and how poorly most dictionaries represent the data, this exercise requires that someone who understands the raw data examine and oversee the mapping exercise. What's more, this person needs some understanding of SQL concepts and requirements. There is simply no way to avoid this. Middleware that tries to infer this from data or dictionaries is guaranteed to give inconsistent results. The penalty here is the effort associated with identifying, mapping, and applying data cleansing to your MultiValue data so it will correctly conform to ANSI SQL requirements.

Continues on page 12

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Enabling Ajax for MultiValue Systems

Continued from page 10

The second penalty is a performance one. Making MultiValue data look relational and properly supporting ANSI SQL on a MultiValue system involves significant and unavoidable overhead.

Microsoft saw a future where ODBC would be extended to allow non-relational data sources to participate without having to support SQL syntax. The provider would expose its own command syntax for retrieving data that supported nested results. Because you could now map a single MultiValue file as a single 'object' from a data source perspective, it made the mapping exercise much easier. The fact that SQL syntax was not required enabled this interface to be extremely fast and have minimal performance impact on the database.

This reality was first realized in OLEDB, but has been further supported by ADO.NET. FusionWare has further taken this advanced functionality, which we name our Direct technology, and exposed it for Java programmers through our Java Adapter. The FusionWare Direct Java Adapter exposes result sets as XML objects, using the W3C DOM as its standards-based interface. With any direct client, you can point to a table and issue a MultiValue SELECT, GET-LIST, or PROC command that invokes a select-list. You can also execute a host stored procedure — a MultiValue Basic program that can call into your existing subroutines and leverage your existing business logic.

Relational access through ODBC and JDBC continue to be supported for tools that expect a relational view of the data, such as some older reporting or data mining tools that don't support newer standards like ADO.NET.

Direct access is the way to go for programmatic access such as a web interface.

Summary

Ajax stands for "Asynchronous JavaScript and XML" and provides a simple and efficient mechanism to serve data to portions of a web page, resulting in a more user friendly web browsing experience. Many of our customers take an approach when building web sites of hiring a web programmer and a MultiValue programmer and teaming them together to provide a rich, fully connected web experience for their users. By implementing Ajax you can provide your customers a richer web experience. Using FusionWare technology, your MultiValue programmers can best utilize their MultiValue skills while your web programmers can utilize their standards-based development skills in a way that is easy and intuitive for them.

In our next installment, we will look at the steps and some code required to build out a web service that would leverage MultiValue data and business logic through a Microsoft IIS server using a FusionWare ADO.NET provider and ASP.NET 2.0.

FusionWare Products

FusionWare provides two families of products to support access to your MultiValue system:

FusionWare Relational Data Access Product Group

The FusionWare Relational Data Access Server provides tools to explore and map your MultiValue data. It allows you to attach data-cleansing functionality to the server, so that the data conforms to ANSI SQL rules. Our powerful mapping wizard walks you through the mapping process and does an analysis of your data and dictionaries to suggest the best mapping.

To access this server, we provide two clients:

- FusionWare Relational Driver, ODBC Edition
- FusionWare Relational Driver, JDBC Edition

FusionWare Direct Data Access Product Group

The FusionWare Direct Data Access Server gives you tools to enable direct, MultiValue access to your MultiValue data and programs. This includes the minimizing the mapping necessary to define MultiValue relationships within the data. Our direct mapping wizard analyses data and dictionaries to give you a first pass at the mapping.

Further, Windows and Java technologies can access MultiValue data through our universal FusionWare Data Access products.

- FusionWare Direct OLE DB Provider
- FusionWare Direct ADO.NET Provider
- FusionWare Direct Java Adapter
- FusionWare Direct Reporting Services Provider

FusionWare Integration Server

In addition, FusionWare provides an Enterprise Services Bus (ESB) for mid-market customers, that enables easy building of POX services, and easy, wizard-based conversion of these POX services to full-blown Web Services with WSDL definitions. This enables you to take your Ajax-enabled POX services and instantly deploy them as part of a Service Oriented Architecture (SOA).

THE CHOICE IS CLEAR

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BY CHARLES BAROUCH

Inventory *for* Programmers

(Part 3)

We're Fresh Out, Can I Sell You a Thousand Units?

The first articles in this series were about keeping track of the inventory you have. This article will focus on tracking inventory which you don't have. While that may sound odd, most businesses spend a great deal of time and money tracking inventory which does not exist.

People like to think of inventory as a concrete thing. I count three, which means I have three, and I can sell three before I run out. As a programmer/analyst, or as a business person, we can never assume that inventory is just about what we have. Here are just a few examples of how knowing what you have isn't as simple as counting what you have.

MRP/ERP

Requirement planning, the “RP” in MRP and ERP, is largely about potential capacity. If I have a cup of minced garlic, two cups minced parsley, ten pounds of ground beef, a few cups of bread crumbs, some eggs, several dashes of salt and many pinches of pepper, I theoretically have meatballs. I also theoretically have meatloaf or parts of a sloppy joe. Likewise, if I have raw material inventory, proper equipment, and trained labor, I theoretically have anything and everything which can be made from combinations of those items.

Clearly, owning hundreds of bolts of silk, a cutting table, spools of thread, and a good sewing machine means that while I have no scarves in inventory, I — functionally speaking — have a lot of scarves available to sell. Knowing what items roll up into other items is a key part of understanding inventory. If you think in

terms of on-hand only, you can't effectively run any sort of manufacturing business. That means that software for manufacturing has to reflect potential inventory.

On-Order/On-Back Order/In-Transit/Allocated/Committed

Another type of inventory that you'll miss if you think too concretely is “pipeline” inventory. Goods which are moving between your locations (in-transit), or waiting to be delivered (on-order, on-back order) aren't going to show up when you count the warehouse, but they are critical to basic business functions, like MRP, ERP, sales, inventory valuation, and countless other parts of the business of business.

The reverse is also true. You have to remember that what you see may already be promised. Just because you can count it doesn't mean that it is available to be sold.

When coding an inventory system, you have to account for the pipeline.

Third Party Sales

In this model, you own no stock, but you have access to someone else's goods. I have a customer who employs this model very successfully, allowing his resellers to have real time access to inventory and shipping information. While their business model has no inventory, they still have all the obligations of tracking outbound (sold)

When building inventory software, we have to look beyond a simple 'count and use' model.

Continues on page 16



Inventory *for* Programmers

Continued from page 16

inventory, of keeping sales histories for trend analysis, and all the other post-sales functions of a traditional inventory system.

The reverse, where you act as a fulfillment house, will be discussed in part four of this series.

Model Stock

One of the ways to manage the pipeline is to develop expected-use models. A good example is model stock. Model stock is typically built on trend analysis. For example, when I worked in fast food — in a previous life — as a co-manager, we used to track the weather as a predictor of traffic in the store. Horrible weather and perfect weather tended to keep the place quiet. In moderate weather, people stayed local and ran errands. Those were our likely customers. Summer played a role because the business shifted away from kids-and-moms-at-three to teens-on-dates and couples-with-kids-away. Taking all of this, last year sales, changes in the neighborhood, and a lot of guesswork into the mix, we bought perishable raw materials and sold finished goods. You may not think of Wendy's as a factory, but it is. Just like a garment company or an auto maker, they build raw materials into finished goods and package them for distribution to customers.

JIT

Wendy's, in fact, is a great example of what is now commonly called JIT (Just In Time) manufacturing. The grill is loaded with only the meat you'll need in the next five or so minutes. Fries can't be made days in advance; they have to be on demand or just ahead of demand. Unlike the traditional factory, you don't ship to customer and you don't have any lead time. It is a true JIT environment. Many businesses that don't think of themselves as manufacturers, are. Any system you write should consider the possibility that this sort of

not-yet-existent inventory might be key to the running of the business.

Even more JIT is the downloadable software-on-demand business model. It is a true example of has-one-has-them-all. A company with one copy of the software product has, legal arrangements permitting, an infinite supply of software for sale. This is a perfect case of being able to sell inventory you don't have - without committing fraud. In this model, a copy of the software is provided without reducing your inventory of one unit. The registration or unlock code is manufactured by a script, raising your inventory of unlock codes from zero to one and then selling that one immediately. This is far from traditional inventory, but, like traditional inventory, you have product, you have sales, you have a need to track and confirm that product was successfully sent, and it has a cash value.

Putting it All Together

To provide a practical example, let's buy some soup. I look in the pantry and see that we are out of Cream of Broccoli Soup, a favorite of my wife's. So, I go to the store to buy soup. Here's what I don't know:

MRP: If we go to my Mom's on Tuesday, the chicken soup, which I saw plenty of at home, is to be used as an ingredient in the food we are bringing. Despite seeing plenty of it, we are potentially about to be completely out of chicken soup.

On Order: My mother-in-law just went to the store and bought three cans of Cream of Broccoli for us, but it's still at her house. She had wanted to buy four, but they only had three left, so she has a raincheck (back order) coupon.

Allocated: The reason we need the soup my mother-in-law bought is that my wife promised to send it to my sister for a dinner party she's having. Since my wife found out that we are

out of the correct soup after promising, she ordered (called her mom who was at the store) and pre-allocated the soup to my sister's need.

Third Party sales: Our neighbor has a can that my wife can use to make up for the forth can she promised my sister but can't supply, due to the back order situation at my mother-in-law's.

Model Stock: My wife is cutting back on cream soups and other high fat foods, so the demand has dropped. We actually only need zero cans for ourselves. If not for my sister's dinner party, we shouldn't have reordered at all. I'm buying soup based on an outdated view of our needs. This is bad requirement planning on my part. My model is out of sync with demand.

JIT: Since we have a good recipe for Cream of Broccoli, and the ingredients are already in the house, I could have cooked up a batch instead of going to the store at all. This would have been a better use of my time, since the store is out of Cream of Broccoli - my mother-in-law already has the last three cans.

Of course, the best use of my time would have been to call my wife and find out that I should be buying chicken soup, since we'll be out of that Monday night. She would have told me that the Cream of Broccoli situation was already under control.

So, when building inventory software, we have to look beyond a simple 'count and use' model. As silly as my example might seem, businesses spend money and time needlessly in exactly the ways cited above, every day. Good tracking and controls, coupled with good work habits, are the key to good inventory management. **IS**



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Conversions in OpenInsight

— BY ROBERT CARTEN —
Revelation Software

OVERVIEW

Effective data validation is a common strong point among MultiValue vendors. The ability to specify validation and conversion rules in the dictionary and have these rules applied wherever data enters or leaves an application is an important tool for the task of maintaining data integrity. Typically, a product will supply a set of data validation and conversion primitives which application developers use singly or in combination to obtain the control they need. OpenInsight, Revelation Technologies flagship MultiValue product, allows developers to develop and use their own validation and conversion routines. We call such a routine a User Defined Conversion, or UDC. User defined conversions let developers attach sophisticated and dynamic validation behaviors to database columns. A UDC can be used independent of a dic-

tionary, too. This article will describe how to create and employ user defined conversions and supply some examples. The examples assume some knowledge of the MultiValue scripting languages. My objective is to leave you understanding what user defined conversions are, how they work, and when to use them.

User defined conversions are like a Domain or User Defined type in SQL because they provide a declarative syntax for data constraints. By specifying a UDC, the developer declares data

FIGURE 1

```

System Editor - [SYSPROC$USER_DEFINED_CONVERSION]
File Edit View Search Utilities Options Window Help

subroutine user_defined_conversion(conv, ans, branch, return_data)

Equ valid$ To 1
Equ invalid$ To 2

Begin Case
  Case conv = 'ICONV'
    external_value = ans
    * .... validate external data against the rules ...
    * .... set validation_status To VALID$ Or INVALID$ ...
    If validation_status = VALID$ then
      * ... convert data to internal value
      return_data = internal_value
    End else
      return_data = ""
    end

  Case conv = 'OCONV'
    validation_status = VALID$
    internal_value = ans
    * .... convert to external format ....
    return_data = external_value

End Case

status() = validation_status

return

Status
Line 2 out of 20
Col 1
Size 629
Compilation Successful! 20 JUN 2006 02:05:35

```

integrity rules in the data dictionary and clearly documents that the rules support a business need. OpenInsight user defined conversions are different from SQL Domains because the UDC also carries the logic for input and output conversion. A UDC may be implemented with simple data conversion primitives or by complex logic. With a UDC you can perform some scrubbing of the input to eliminate simple mistakes. Trimming out spaces and punctuation from phone numbers is common. Validating input codes while displaying long descriptions is another common usage. Sometimes you want to simply format numbers without changing the underlying value. For example, a TIME_PERIOD_FORMAT which converts dates to week, month, quarter, or year can be useful for reporting.

User Defined Conversions are written like any other program using the

OpenInsight System Editor. All UDC programs are subroutines with four parameters. These parameters are explained below. OpenInsight will load the first three parameters. The UDC returns the converted value in the fourth parameter and sets the system status flag to indicate whether the data meets the rules. Figure 1 shows the general structure of a UDC program.

Employing a User defined Conversion

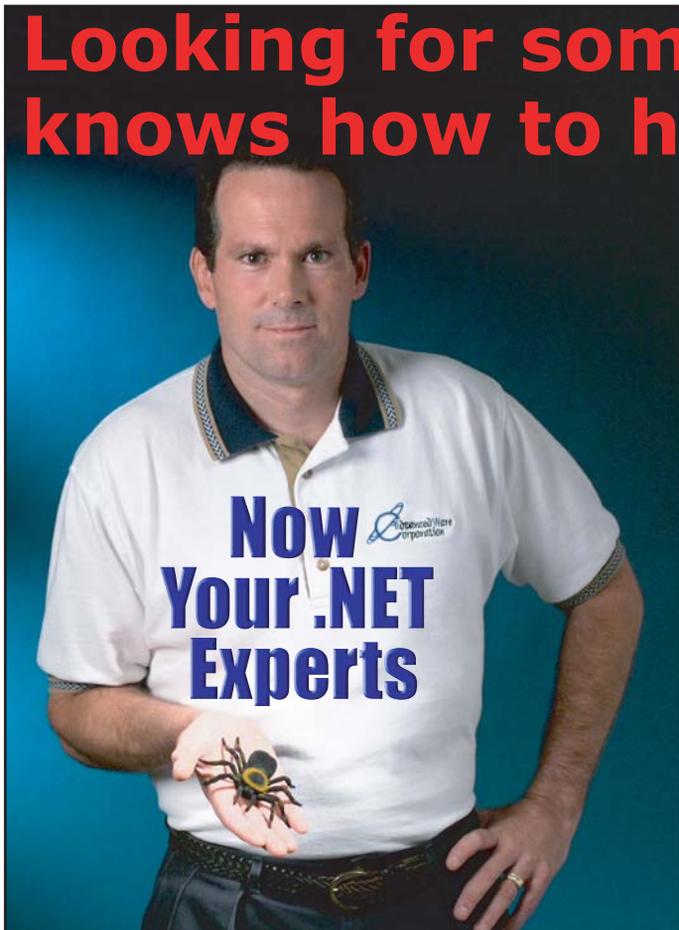
User defined conversions are employed anywhere a system conversion can be used. In other words, they can be called from a program in an OCONV or FMT statement, added to a dictionary item, or specified in the OpenInsight Form designer tool. OpenInsight syntax rules require that you use square brackets to indicate a

Continues on page 20

Explanation of UDC parameters

Code	(in)	Set by OpenInsight. Always ICONV or OCONV
Ans	(in)	The value to be converted or validated
Branch	(in)	Used to provide additional information to the conversion routine
Return_Data	(out)	Set by UDC. Contains the converted value

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Conversions *in* OpenInsight

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user defined conversion. OpenInsight ships with some example user defined conversion programs. One program is named ZIP_FORMAT. It will validate entered numbers against US and Canadian Postal Code formats. Figure 2 is a screenshot showing the start of the program. Note, I modified the program that shipped with OpenInsight. My version will test the value of Branch to determine whether to display a message.

FIGURE 2

```
Subroutine ZIP_FORMAT(CONV, ANS, BRANCH, RETURN_DATA)
*
* ZIP_FORMAT is an example of a developer's custom prompt formatting
* routine using the square brackets call.
*
* It should be placed in square brackets, like this:
*
*           [ZIP_FORMAT]
*
* To run in batch mode, without displaying messages, Set branch to NOMS
*           [ZIP_FORMAT,NOMSG]
*
* This subroutine should be used as the first and only "Input Validation"
* a window prompt. Placed in "Output Format", it properly formats any
* reasonable string of numbers and characters into a consistent US Zip or
* Canadian Postal Code Format.
*
* 20 Jun 2006   rjc   Modified for Spectrum Article
$Insert Msq Equates
```

CODE where you can see the [ZIP_FORMAT] entries.

OpenInsight allows a developer to call a custom routine in a program, too.

An OpenInsight user defined conversion can perform three operations: it can validate that data in external format can be converted into internal format, it can actually convert the data to internal format, and it can convert data from internal format to external format. OpenInsight supplies three functions

to perform these three operations: VALIDATE, ICONV, and OCONV. VALIDATE is a subroutine which accepts the data in external format and then performs the validation without returning the converted data. ICONV is a function which will both

The OpenInsight table builder lets you specify a user defined conversion as either the input validation, output conversion, or both. When you specify a UDC in the dictionary, then all system tools will respect and use those conversions. Figure 3 shows the table builder Data Column Attributes window for a prompt named POSTAL_

FIGURE 3

perform the validation and return the converted data. OCONV is a function which will accept data in internal format and return the corresponding external format. Note that VALIDATE and ICONV expect the developer to test the STATUS() function to determine whether conversion succeeded. STATUS() can return different values,

but in this case we're only concerned with TRUE (1) or FALSE (0).

Figure 4 shows a sample program which imports data to a zips file. The program reads data from a text file and only stores zip codes which have a valid format.

FIGURE 4

```
System Editor - [SYSPROC$IMPORT_ZIPS]
File Edit View Search Utilities Options Window Help
Subroutine Import_Zips(dosfile)
* Sample program to use UDC
* Import a tab delimited file whose first column holds zip codes
* Note use of Branch To suppress messages, Status() To test For success
$Insert Logical
Equ crlf$ To \000A\
Equ tabs$ To \09\
Equ Valid$ To 1

OSRead import_data From 'c:\imports\zip_list.txt' Else import_data = ''
Swap crlf$ With @fm In import_Data
bad_vals = ''
pos = 1
loop
  rec = import_Data[pos, @fm] ; pos = col2()+1
Until rec = ''
  val = rec(1,tabs)
  zip = iconv(val, '[ZIP_FORMAT,NONMSG]')
  If Status() # valid$ then
    bad_vals<-1> = val
  End else
    call Send_Dyn('Imported ' : Oconv(zip, '[ZIP_FORMAT]') )
    call Write_Row('ZIP_CODES', zip, TimeDate(), true$)
  End
Repeat
call Write_Row('SYSLISTS', 'TEST_ZIP_FORMAT', bad_vals, true$)
Return ''

Completion Successful 20 JUN 2006 13:59:50
Status
Line 22 out of 27
Col 63
Size 781
```

Writing Your Own User Defined Conversion

I recently worked on a window in a jail management system to schedule transport of inmates to their court dates. Inmates are transported on either a Monday, Wednesday, or Friday. Some inmates do not have a scheduled court date, and the bailiff will call when it is time for them to appear. The correc-

tions officers using the system needed to enter data quickly. They wanted to simply enter the name of the day. In some cases they needed to enter a date several weeks in the future, but they wanted to be able to enter MON for Monday, WED for Wednesday, or FRI for Friday. I created a Court_Date_Format to accept those characters, or actual dates for any Monday, Wednesday,

becomes "Will Call". I specified "[COURT_DATE_FORMAT]" in the dictionary for both the input validation (ICONV) and output conversion (OCONV). I based the program on the generic program shown in Figure 1, so you only need to see the Iconv and Oconv fragments to understand how it works.

Figure 5 shows how the Oconv section works. Figure 6a shows how I make a list of valid day names; Figure 6b shows how I use that list to validate the input value.

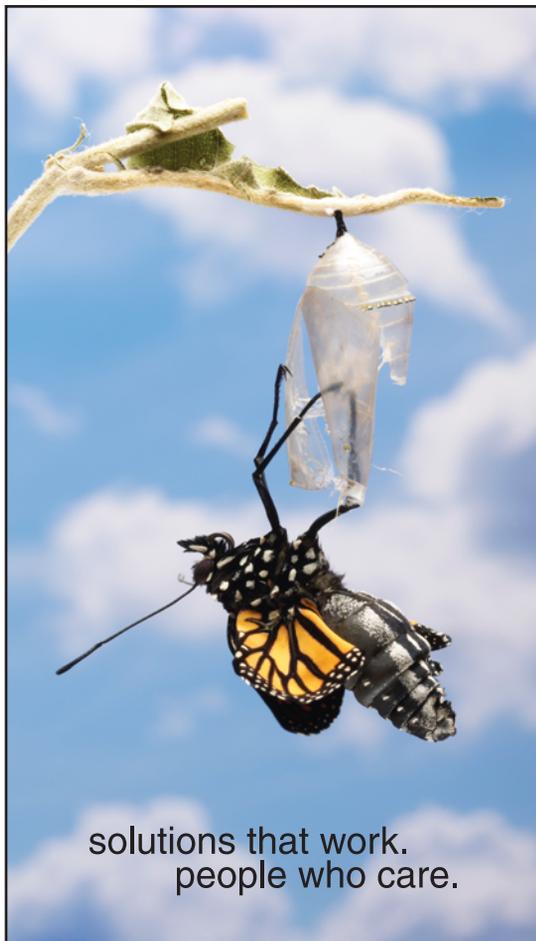
Continues on page 22

Friday, or the letters "WC" for will call.

Data is stored internally as the standard serial date; WC becomes 99999. This format lets the system calculate the days until appearance. On output, dates are converted normally, except that 'WC'

FIGURE 5

```
if conv = 'OCONV' then
  status() = valid$
  If ans = will_call_Date$ then
    return_data = "Will Call"
  end else
    return_data = Oconv(ans, 'D4/')
  end
end else
```



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Conversions in OpenInsight

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FIGURE 6A

```
System Editor - [SYSPROCS\COURT_DATE_FORMAT (Changed)]
* Iconv
* Value can be a date, e.g 06/06/2006
* Value can be WC for Will Call
* Branch = asterisk delimited list of day names . default to MON*WED*
convert @lower.case to @upper.case in ans
all_day_names = "SUN*MON*TUE*WED*THU*FRI*SAT*"
convert "*" to @vm in all_day_names
* Court days Can be passed via Branch, default to Mon, Wed, Fri
court_day_names = Branch
if court_day_names # "" then
  convert "*" to @vm in court_day_names
end else
  court_day_names = default_court_days$
end
col = ""
court_day_flags = ""
loop
  remove day_name from court_day_names at col setting mark
while day_name
  locate day_name in all_day_names setting day_name_pos then
    court_day_flags<1,day_name_pos> = 1
  end
  repeat
```

FIGURE 6B

```
System Editor - [SYSPROCS\COURT_DATE_FORMAT (Changed)]
if ans = 'WC' then
  is_court_Day = true$
  internal_date = will_call_Date$
end else
  is_court_Day = false$
  today = date()
  internal_date = Iconv(ans, 'D')
  if internal_date >= today then
    internal_day_num = mod(internal_date, 7)+1
    is_court_day = court_day_flags<1,internal_day_num>
  end else
    day_name = ans[1,3]
    locate day_name in all_day_names setting day_num then
      is_court_day = court_day_flags<1,day_num>
      if is_court_day then
        today_day_num = mod(today, 7)
        offset = day_num - today_day_num - 1
        if offset < 0 then
          offset += 7 ; * today past the requested day,
        end
        internal_date = today + offset
      end
    end
  end
end
```

By specifying a UDC, the developer declares data integrity rules in the data dictionary and clearly documents that the rules support a business need.

FIGURE 7

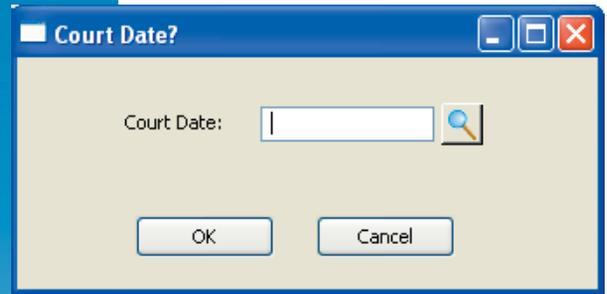
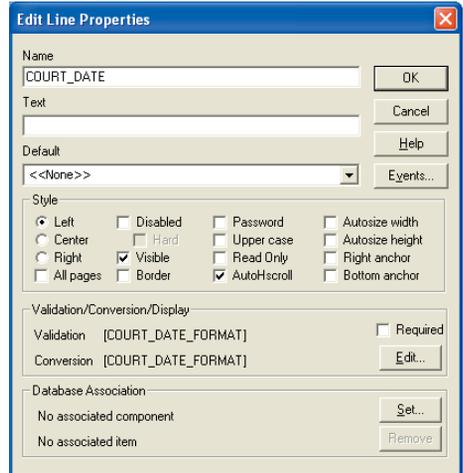


FIGURE 8



Using the Court Date Format

My clients needed to run a report showing who was scheduled for any court date.

I created a window to collect that information. Figure 7 shows the result.

Naturally, I needed to add my UDC to the Court_Date prompt. Since this form is not databound, there is no dictionary, so I used the property sheet on the

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FIGURE 9

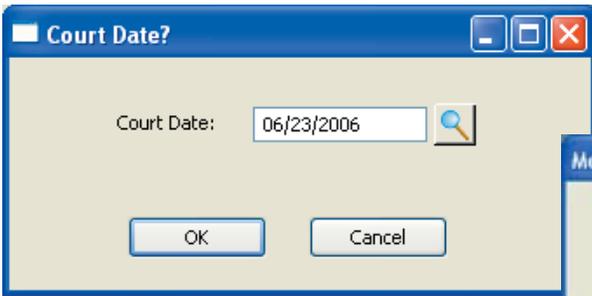


FIGURE 10



FIGURE 11



asks you to replace one large window with three small windows plus a connection to a web service. The COURT_DATE_FORMAT example shows that a

UDC can implement very dynamic rules. I can think of many other examples, include enforcing spending authority on a per user basis, changing the date format based on the windows language setting, showing or masking data (like a password) based on the user, validating parts which belong in an assembly, cities within zip code, validating zip codes and phone numbers using a web service, spelling out amounts for check printing, and more. I hope OpenInsight's UDC feature will be as useful for you as it has been for me. **IS**

OpenInsight Form Designer to add the input and output conversions as shown in figure 8.

Now, when the user enters an acceptable code, such as FRI, the system accepts it as seen in figure 9, and then converts it to the output as seen in figure 10.

Should the user attempt to enter some data that does not pass the validation criteria, they are presented with the error seen in figure 11.

As the screen shots show, if you enter a day name then the program finds the next day with that name. You can also test with actual dates which land on a valid day and you will see that the system accepts them too.

Conclusion

The dictionary is the heart of an OpenInsight application. Data entry forms (both web and thick client based), reports, data imports, and exports all use the validation and conversion rule built into the User Defined Conversion. The logic in the dictionary follows the data wherever it goes. A UDC allows you to encapsulate complex business constraints and bind them to the dictionary. Once safely bound to a dictionary, your business logic will not be lost when your client

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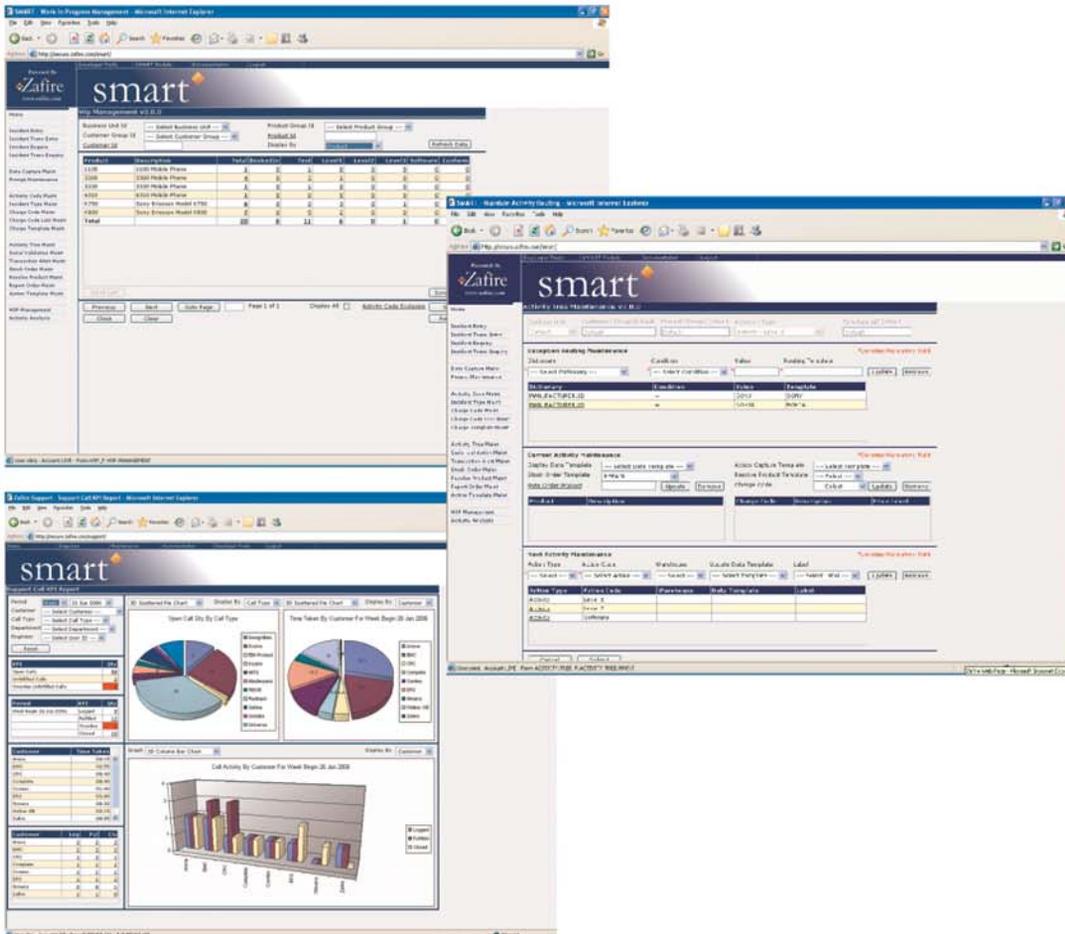


Zafire is a market leader in aftermarket service management software. After having achieved success with our Inspire product for the last six years, it was time to update the look and feel to our product. We were encouraged to look at the DesignBais product and have never looked back since. With the DesignBais product we have been able to totally rewrite our original package, from the ground up, in less than twelve months, enabling us to take full advantage of the features and benefits of DesignBais.

Furthermore, we were able to develop our smart™ application utilizing our existing resources and after only one week of training from DesignBais.

We now believe that we can deliver the best in class solution for aftermarket services, which has enabled us to secure business from one of the UK's leading mobile telephone repairers. Our new package smart™ has secured the future for Zafire in its quest to become the software vendor of choice for the "aftermarket services" industry.

The results speak for themselves.



www.designbais.com

DesignBais announces Version 4.1



DesignBais International

today announced the

imminent release of

Version 4.1 of the popular

DesignBais product.

“This release is more signifi-

cant than any release since

version 1.” explains David

McLean of DesignBais.

“We were not prepared to

just sit back and rest on the

success of version 3.3,

which is a very good release.

We wanted to make another

major step forward.”

Version 4.1 does have an

impressive array of new fea-

tures. The following summa-

rizes just a few examples.

Entity-based Security Modeling

An entity is defined as “Something that exists as a particular and discrete unit.” In a multi-table database these entities are defined and are repeated throughout many tables. An example may be Account Manager. The Account Manager entity is initially defined in the Account Manager table (file). The identifier (record id, key) for the Account Manager may appear in other tables like Customer and Orders.

DesignBais now allows for the definition of the instance of these entity relationships. This then allows for the controlling of access at the entity level by an end-user administrator. Example: Only allow the end-user “Jack” to have access to Account-Managers belonging to the Easter Division. This restriction then automatically restricts the user “Jack” to clients, orders, invoices and all transactions that can be entity-linked back to Account Managers. This provides an extremely simple but very powerful method of controlling access.

This entity modeling can be added to an existing application with minimal effort. The entity-based security modeling also automatically controls selection processes and reporting.

Lock-down Security Modeling

Lock-down security provides the end-user administrator the ability to restrict access to

functions or fields on a form for users or user groups. There is no technical intervention required.

The result is that your clients can control who has access to fields and functions. This can also be controlled by conditional parameters.

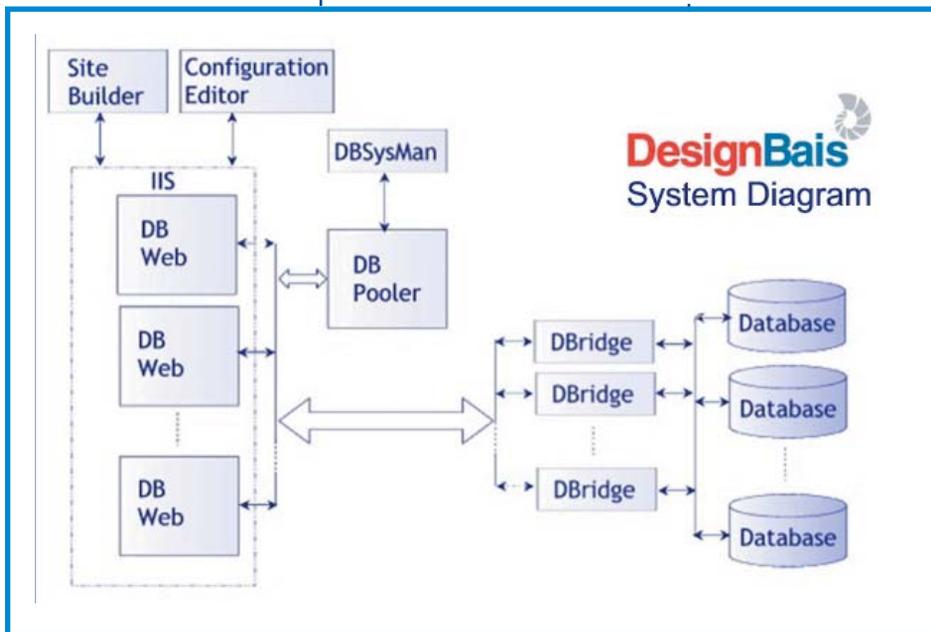
Let’s say I (as an end-user administrator) do not want to allow “Joe” (my order clerk) to be able to file an order if the client’s outstanding credit balance is over \$20,000. With lockdown modeling, I can simply click on the Submit button, add Joe to the exclusion list, click on the credit balance field and add > 20,000 to the condition and it’s done. No developer involvement at all. Multiple condition instances including field compares are also included.

Lock-down places both functional-based and field-based security modeling in the hands of the end-user administrator.

Code-block Definitions

In both the Forms and Report Designers, code-block definitions can be used on any event. Code-blocks provide a very simple programming interface between the controls on a form or report and the programming language.

Example: An Order Entry form contains the fields ORDER.AMOUNT and TAX.AMOUNT



A third field is a derived field named TOTAL.AMOUNT. Within a code block attached to the derived field, the syntax, TOTAL.AMOUNT = ORDER.AMOUNT + TAX.AMOUNT can be used. The names of the fields can be directly referenced in the programming logic. DesignBais will pre-compile the code and ensure that the form variable assignments are mapped to the correct database fields and session records.

Code-blocks provides for the simple definition of reusable of commonly used business functions regardless of the form or report.

This results in significant savings in the development process. This will also make conversion easier.

Code blocks can be automatically generated from most existing SB+ expressions.

DesignBais Web Component

There have been a number of major changes in the DesignBais Web Component since version 3.3. Below is a brief summary.

- Multiple DesignBais webs (DBWebs) on multiple web servers (IIS).
- A DBWeb can be connected to multiple databases. Those databases can be of different types (Universe, D3 etc..) and can be hosted on different machines and operating systems.
- The new DesignBais System Manager (DBSysMan) is used to manage all DBWebs and their connections to databases from a single central location.
- IIS can be started and stopped without requiring a restart of the DesignBais system.
- IIS6 is no longer required to be configured to run in IIS5 Isolation mode.

- The DesignBais service can be configured to start automatically when the system is rebooted.
- startdb.asp, stopdb.asp pages are no longer needed. DesignBais can be started or stopped using the System Manager (DBSysMan). Also, you don't need administrator privileges to stop or start the service.
- configeditor.asp is no longer needed. If needed, DBWebs can be configured using the new Configuration Editor (ConfigEditor).
- This version provides better control on active connections. It is now possible to restart connections without restarting the service. You can also increase the number of connections without a service restart.
- System errors are reported to the administrator via email and Windows net messages.

- Statistics are provided on connections, accounts, and overall system.
- A mechanism is provided for easier configuration of authentication modes.

Fault tolerant applications browser

The browser (when running a DesignBais application) is now tolerant of faults in communications or loss of a server. Everything, with the exception of a client power failure, is handled. The result is that there is no failure at the client-side. When a fault occurs, the end-user will be notified via a dialog message that the server cannot process a request or the server cannot be contacted. The user then has a retry option. When the fault is rectified, the end-user clicks on the "yes" button on the retry dialog and simply continues processing. They do not lose their work.

This provides huge benefits for supporting large user bases over a wide areas and many communications providers. It will make ASP style operations significantly easier.

"We are totally committed to the MultiValue marketplace," McLean adds. "We have a number of clients now that are actively selling DesignBais based applications. These applications are world-class, best of breed examples of what can be done with the MultiValue database and the right tools." ■

New Products

BlueFinity Incorporates Ajax Features into mv.NET



BlueFinity International, a member of the Mpower1 family of companies, has implemented Ajax features within its flagship product, mv.NET. This latest integration with Ajax gives MultiValue developers access to a wide range of Web development techniques for improving the look, feel and operation of Web-based applications. "Ajax gives developers a framework for significantly enhancing the usability and interactivity of Web applications," explains David Cooper, Lead Developer at BlueFinity.

"We have always aimed, with mv.NET, at providing much more than straight database connectivity for MultiValue developers," he continues. "When Ajax-based techniques started to emerge within the Web developer community, we immediately recognized the potential for dramatically improving Web applications."

Ajax, shorthand for Asynchronous JavaScript and XML, is a Web development technique for increasing the interactivity of Web applications. The aim behind Ajax is to make Web applications feel more responsive by

exchanging small amounts of data with the server – behind the scenes – so that the entire Web page does not have to be reloaded each time the user makes changes or selections. This also increases the speed of the Web page.

"We estimate that, in 12 to 18 months time, the majority of Web applications will incorporate Ajax to some degree. This is key to Web applications taking the next step forward in their evolution," Cooper explains. Web application developers are the largest community of mv.NET users. "We don't see this changing very much over the next couple of years," he adds. "The incorporation of Ajax into mv.NET is a very natural progression for us."

The integration of Ajax techniques into mv.NET utilizes Microsoft's "Atlas" component set in order to provide the developer with all the benefits of browser independent Ajax without any extra coding. The net result is the ability for developers to create Web applications offering a user experience very similar to traditional desktop applications.

"It is the concept of Ajax being seamlessly woven into the fabric of the data binding

framework that makes our use of Ajax such a compelling feature for Web developers," Cooper remarks. "We take care of all the Ajax management – the developer simply has to set one property of our data binding manager to "true" in order to activate a whole layer of automatic Ajax integration."

Beta releases of mv.NET with Ajax integration are available now. For more information, email ajax@bluefinity.com.

About BlueFinity International

Founded in 2002, BlueFinity International offers its two flagship products – mv.NET and RSDC – to the global MultiValue community. mv.NET allows the full benefits of the .NET service oriented architecture technology to be realized by users of established MultiValue applications; RSDC enables MultiValue developers to utilize the very latest Microsoft Reporting Services technology. For more information, visit www.bluefinity.com. ■

ONware Awarded Microsoft SQL Server 2005 "Front Runner" Status



SQL Server 2005 is an important release for Microsoft. This next-generation data management and analysis software delivers increased scalability, availability, and security to enterprise data and analytical applications while making them easier to create, deploy, and manage.

ONgroup recently sent ONware off to Microsoft's testing facilities for certification and are please to announce that we passed with flying colors. This accreditation provides ONgroup with the resources we need to deliver state of the art technology to our customers. We can now proudly display the Front Runner stamp to let our customers know that they can confidently use SQL Server 2005 with ONware within the same timeframe as Microsoft's release to the public.

"Microsoft has always been committed to the success of our broad ISV partner community and will continue to rely heavily on that community to drive innovative solutions to market," said Pradeep Rathinam, general manager of U.S. ISV Strategy in the U.S. Partner Group at Microsoft. "The Front Runner program was designed to provide our partners with the best development environment possible and give them the technical and marketing tools they need to be successful over the long term."

Microsoft wanted to ensure that ISVs have access to a full host of benefits to enable them to bring best-of-breed solutions to market more quickly and effectively. Giving ISVs the resources they need to

fast-track the development of these applications enables customers to start taking advantage of the increased scalability, availability and security of the application built on top of SQL Server 2005 almost immediately, increasing their company's productivity.

MultiValue developers are using ONware to move their applications to SQL Server where they can continue developing and maintaining applications with MultiValue tools, use relational tools, or combine the two.

Sites, such as New York State, that have gone live re-hosting their MultiValue applications with ONware, report improved performance as well as other benefits such as web integration and the .NET framework.

"VARs with MultiValue application packages are able to compete successfully in a vast marketplace now that their applications are SQL-enabled", comments Tim Spells, President of ONgroup.

"Providing a MultiValue-enabled relational database breathes new life into MultiValue applications and creates opportunities in the general IT marketplace."

ONgroup specializes in helping organizations with MultiValue technology, such as U2 and D3, migrate to or integrate with standard relational technology, such as Microsoft SQL Server, Oracle, and DB2.

ONgroup, headquartered in Atlanta, has offices in LA, New Orleans, London, and Sydney.

For information regarding MultiValue and SQL Server or visit www.ONgroup.com ■

New Products

IBM SystemBuilder™ Version 5.4



IBM SystemBuilder™

Version 5.4 – available

May 31, 2006 – delivers

enhanced functionality,

improved security, provides

enhanced installation,

incorporates IBM brand-

ing changes, and delivers

packaging changes.

Enhanced functionality

IBM SystemBuilder V5.4 includes IBM U2 SB+ for UniData and UniVerse (SB+) and IBM U2 SBClient for UniData and UniVerse (SBClient). Version 5.4 of SystemBuilder lets you take advantage of a large number of user requested enhancements.

The enhancements include support for the conversion of SB+ input and output processes and screens to Web pages and directory structures for use with IBM U2 Web Devel-

opment Environment for UniData and UniVerse (formerly IBM RedBack®). This enables these processes that have been converted to Web pages to be deployed in a browser environment over the Internet or an Intranet. Application logic and programming resources can be leveraged in a new environment with this capability.

The SB+ Report Writer has been enhanced with the capability to generate PDF reports. This delivers on a more common and accessible report format for viewing and archiving.

We are also delivering a Personal Edition of SB+. Starting at Release 5.4, a Personal Edition is available as a free, downloadable program for use with the Personal Editions of the U2 data servers. There are no maintenance offerings for the Personal Edition. This edition is designed for single-user personal development and training as well as sales demos. It is not for remarketing or use in production environments.

Improved security

Not only is your data secure, but so is the future of your application. SB 5.4 has a number of important security

enhancements. Secure Sockets Layer (SSL) is a cryptographic protocol which provides secure communications on the Internet. SSL provides endpoint authentication and communications privacy for your U2 SB+ applications.

Two changes are enabled for password verification and use in SB 5.4. The first is the ability to bypass the SB.LOGIN procedure. This will simplify password administration and reduce the number of passwords end users are required to remember. Additionally, SB 5.4 delivers the ability to require a password change at the next login. This provides enhanced security for user applications.

As compliance requirements become more important and auditors become more aware of application flow, auditing changes in your application becomes a higher concern. The Sarbanes-Oxley (SOX) Act requires audit tracking for all financially related changes. With SB 5.4, audit log changes are now tracked to comply with SOX to facilitate tracking these changes.

Enhanced installation

SB 5.4 delivers enhanced installation routines. Included in these changes is a silent

install capability. Additionally, end users will now be able to read and accept the IBM license terms in one of thirteen languages electronically at install time. This simplifies the installation of SystemBuilder and ensures compliance with licensing terms across geographies and languages.

IBM branding and licensing changes

In response to user requests, SB 5.4 delivers a 60 day trial period. This will extend the time available for testing and verification of the program and end user application before the license must be electronically licensed.

SB 5.4 also delivers IBM branded logos and splash screens. Documentation for SystemBuilder has been updated dramatically with this release.

Packaging changes

IBM U2 SB+ for UniData and UniVerse has two editions, a Personal Edition, and a single production version. The Developer Editions have been removed from this offering, resulting in a lower total cost of ownership for IBM SystemBuilder end users. The requirement for at least one Developer license has been removed, and the resulting package is priced at the equivalent of the original Runtime license. This also affects the bundle offerings.

IBM Web Services Development Tool for UniData and UniVerse Completes Successful Beta Program

The introduction of the U2 Web Services Development Tool (U2WSD) brings standards-based Service Oriented Architecture (SOA) to U2 applications. With its simple to use, intuitive graphical interface, developers and administrator can quickly turn their queries and subroutines into high-performance web services. U2WSD incorporates the latest open source technologies and standards to enable the creation of Web Service Description Language (WSDL) files that can be published by any tool of choice. Drag-and-drop creation of multiple SOAP servers and Web Services is possible within minutes. Through the use of U2 Connection Pooling, a separately licensed feature for UniData and UniVerse, U2WSD promises scalability and performance with minimal development effort. The beta program began on March 1, 2006 and ended on June 15, 2006, with many customers participating in the program. U2 received very positive feedback from participants through interactive discussions and email. Through the use of a new IBM web site for Early Program Releases, participants were able to quickly acquire the software and accept the beta license agreement online. One participant told U2 Product Management during a conference call, "We are very impressed with the usability of the IBM Web Services Developer Tool." The U2 Web Services Development Tool will be bundled with UniVerse 10.2, due to be generally available August 31, 2006, and will be included with UniData 7.1 in a subsequent release of the data server and its Clients CD. It will be available for the Windows and Linux operating systems running on Intel-based hardware. ■

Highlights

Functionality

- Supports the conversion of SB processes to be used on the Web with IBM U2 Web Development Environment for UniData and UniVerse V4.3
- Report writer output to PDF
- Delivers a Personal Edition

Security

- Supports SSL
- Provides an automated login capability to bypass SB.LOGIN
- Creates an option to force password change at the next login
- Delivers audit log SB+ security changes to meet Sarbanes-Oxley (SOX) requirements

Installation

- Supports silent installation
- Enables Software Electronic License acceptance

IBM Branding and Licensing Changes

- 60 day trial period
- New IBM branded screens and icons
- Updated documentation

Packaging

- Removes SB Developer Editions

Reality OS By Northgate Chosen By Patient First As Backbone Of Its Open System Critical Performance Project



Northgate Information Solutions, a major provider of software and managed services, today announced the successful implementation of Reality by Richmond, VA-based Patient First, a group of primary and urgent care medical clinics beginning in January 2006. Patient First is Virginia's largest primary care provider, and has clinics in the state of Maryland.

Requiring minimal conversion, the new eight-year IT project perpetuates a long-standing relationship between Northgate and Patient First. Reality's integrated development environments offer Patient First investment protection for its existing applications, as well as integration with new systems and databases necessary in their critical needs and unique computer management methodology, in their 20 Medical centers.

The implementation included a detailed conversion plan with regular phased testing over 12 months. Offering Patient First an efficient, scalable, and resilient multi-dimensional database and operating environment across multiple platforms, Reality enables a

"virtual machine" concept, and simple extensions that provide quick and easy application tune-ups.

Reality is Northgate's MultiValue data management system delivering maximum mission-critical performance for a single user or many thousands. Both a MultiValue and an enhanced relational database, Reality allows users to maximize the use of existing technologies while ensuring that their customers' needs are met, now and in the future. With a pedigree of extensive and continuous product innovations and enhancements stretching over three decades, Reality provides an impressive array of powerful new features.

"With their commitment and long-established development of Reality, Northgate provided the comfort level that Patient

First was seeking," said Dennis Hitchcock, Vice President Patient First. "They are also our one-call contact for hardware, operating system, and database support," Hitchcock concluded.

"We are very pleased with this extended long-term agreement with Patient First," said John Seaman, Northgate spokesperson. "As a long-standing MultiValue Reality user, Patient First has made an important investment in Reality to help them manage their sophisticated technology needs, which will serve them for many years," Seaman concluded.

About Northgate

Northgate Information Solutions is a major supplier of software applications and outsourcing solutions to the public services, human resources

About Patient First

Founded in 1981, Patient First offers quality medical care in twenty Patient First centers in Virginia and Baltimore, MD. Through innovative operating systems and practices, Patient First provides specialized critical patient services such as emergency walk-in clinics and total paperless environment. These innovations, in medical centers in Virginia and Baltimore, MD, enable primary and urgent care services for insurance and managed-care plans. For more information call 800-447-8588 or visit www.patientfirst.com.

and corporate markets. Founded in 1969, the company has over 3200 employees in 42 offices across the world. Northgate's focus is on fully understanding application-specific processes, enabling organizations to increase their business process efficiency. Equally, Northgate manages customers' key systems, providing a broad range of outsourced solutions – available at client sites or hosted at its own secure

To find out more about Reality, call Toll Free: 866-473-2588
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IBM U2 Web Development Environment for UniData and UniVerse version 4.3

IBM U2 Web Development Environment for UniData and UniVerse version 4.3 (U2 Web DE 4.3) – available May 31, 2006 – delivers easier Web development, provides simpler installation, and reduces cost.

- Easier web development
- Simpler installation
- Reduces cost
- Highlights

Easier Web Development

IBM U2 Web DE 4.3 now includes U2 Web Designer, a

graphical tool that quickly and easily allows you to create Web applications that leverage your U2 information assets. U2 Web Designer provides drag and drop page design that links in your U2 processes and data and generates Active Server Pages that can be deployed as is or further refined with style sheets and custom coding. U2 Web Designer automatically converts IBM U2 SB+ GUI screen definitions, input and output processes for Web presentation.

Simpler Installation

The newest technology simplifies and automates installation and license acceptance of U2 Web DE while showing the latest IBM user interface.

Reduces Cost

RedBack Designer is now bundled with IBM U2 Web DE 4.3 along with the new U2 Web Designer tool. Creating RedBack Objects to access U2 business processes and data assets for graphical Web development is included as part of the base package.

Highlights

- Renamed from IBM RedBack
- Converts SB screens and processes to be used on the Web
- Provides simpler installation
- Bundles RedBack Designer and U2 Web Designer
- Supports Tier 1 platforms
 - IBM AIX
 - Microsoft Windows
 - Sun Solaris
 - HP-UX
 - Linux

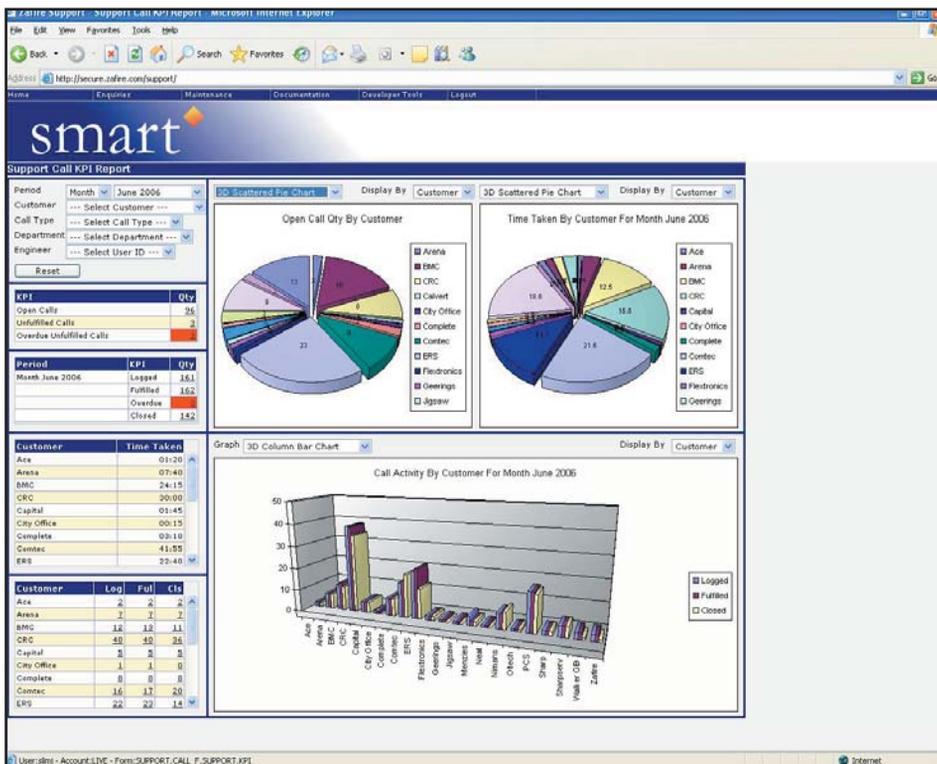
4 GL Briefing — DesignB

BY CHARLES BAROUCH

In this issue, we are talking with David Mclean, President of DesignBais, about their product.

SSPECTRUM: Where did the idea to do DesignBais come from?

David: The BAIS part of DesignBais refers to a software development house named BA Insurance Systems. BA Insurance Systems services the Insurance industry in the Asia Pacific region. While analyzing the future development projects for the company, we realized that it would be extremely difficult to market our application in the future if it was not browser-based. We first went down the conventional ASP path and we experienced a significant loss of productivity and quality. We discovered that what was acceptable in terms of many browser applications was not acceptable to us. We expected extremely responsive service times, we expected flicker free applications, we expected a commercial-grade interface — The results fell way short of these expectations. That was the real drive for the development of DesignBais — we wanted a truly commercial grade application environment for the browser. So, many man-years later, we had a product for developing our insurance application.



ais

SPECTRUM: So, DesignBais came from a real world business need. That tells me why it worked well for you. What makes it a good tool for my project? How does DesignBais work as a general 4GL?

David: If you are a software house with a green-screen application, and you have about five hundred screens in your application (what I consider a mid-sized application), how do you convert your application for the browser with your existing staff? That was the challenge we had at BA Insurance Systems. Most of our staff didn't know web development or VB or anything other than MultiValue Basic. So we had to hire outside staff to do ASP development. We had a change of focus in the business intelligence of the company, in so far as the newly hired ASP developers didn't know our business, and our existing developers weren't in control. So we ended up with business logic in different areas. The whole thing got too hard too quickly and the end result was nowhere near good enough.

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The thing is, it is easy to create a simple web page, but you cannot use that as a gauge for a commercial-grade application.

There is a huge difference between a page for personal use and a commercial grade application. A huge leap in functionality. A user processing a hundred orders a day has a dif-

ferent expectation and needs to be treated differently than someone entering one hotel reservation on a travel site. They are both web applications but when you book the hotel room at home, you are much more inclined to accept what is presented. You can't give that interface to a commercial grade user. This is why

Continues on page 36

4 GL Briefing — DesignBais

Continued from page 35

Ajax has become such a hot topic. DesignBais has always used Ajax methodology.

We believe DesignBais is perfectly suited to a software house that has an existing application that requires porting to a browser interface. They can use their existing staff and can reuse a large portion of their existing business logic. They will deliver a commercial-grade web based application, but will have delivered it utilizing their existing experienced people and in a fraction of the time and cost.

SPECTRUM: I know this applies to BAIS. Does it apply to your other clients as well?

David: One of our clients spent eighteen months, and hundreds of thousands of dollars, to get 15% of the way through their development, using conventional techniques. From the time they started over with DesignBais to the time they deployed their first site was five months. That's a significant difference in development performance and cost.

SPECTRUM: What's the learning curve? You talk about keeping the same staff and being productive. How do I go from MultiValue programmer with no Object or Web experience to DesignBais developer?

Every site that has committed to developing DesignBais applications has been successful.

David: You are productive in a week. You are up to what you expect from your own productivity level within a month. Of course, it depends on the individual. We've had companies that have taken the product for evaluation, spent two or three hours on the phone or seen a web demo. I won't hear from them for weeks. Then they call and say, "We have to install this at our first client site." I'm thinking, "Hang on a minute, you haven't been trained," but they assure me that it

was all very intuitive and that they just went forward and developed their application.

These people have done extremely well. They've created extraordinary applications. I gave one of our early adopters, Zaphire, a four or five hour training session to the President and one of the chief techs. Six weeks later, Jonathan Slim, the President of Zaphire, rings me back and says "We are doing our first install next week, what do we do?" It took me by surprise, but is becoming much more typical.

We do provide in-house training. I've run dozens of courses where I've had students for up to two weeks, though more typically one week. In that time, we will convert a portion of

their application. What I tend to do is get them convert their applications' hardest forms. This means that at the end of the training course, they have completed the hardest part of the application. That gives them a real world example and the confidence they need to move through the rest of the application. It also gives them something worthwhile, which they can use to further promote the concept within their own organization.

SPECTRUM: You've mentioned the productivity that people have reaped from trying the evaluation version. Where can they get it and what can't they do in the evaluation version?

David: www.DesignBais.com. There's a trial version link on the site. It's restricted to a single user and works for sixty days. There are no functional limitations.

SPECTRUM: How long has DesignBais been available?

David: We did our first presentation at Spectrum in Sydney, Australia late in 2003. That was version one and we are just about to release version four.

SPECTRUM: What's the story behind the elaborate Spectrum presentations?

David: It's important to show people that you back your own product. It is important to show people that you are willing to put in the extra effort to show them why you are excited about your product. I've sat through many technical presentations over the years. Some of them are very good. Some are very bland. We want to impart as much knowledge as we can in the shortest peri-

od of time. We tend to try to go into presentations with very focused materials. Some of the video presentations we've done at Spectrum have had three hundred hours of work, you have to be committed to your product to do that.

This market is very hard to sell to because we are technicians who have done everything ourselves for a very long time.

I've had a number of people look at DesignBais and say, "I know, I can do that myself," and then they come back and say, "I've just wasted twelve months and I wish I hadn't." We've been through it ourselves and understand just how hard it is to produce a commercial-grade browser-based application. We try to focus our marketing material with that message.

SPECTRUM: What are the three most compelling features of DesignBais?

David: Number one is the success of the people that have implemented DesignBais. Every site that has committed to developing DesignBais applications has been successful.

Number two is its resilience. It is a version four product (as of the end of July 2006). We have learned along the way. Our software serves large numbers of users in a web environment.

Number three is the glossary. In terms of the many man-years of the DesignBais development, it is one of the smallest, but in my mind, most important chunks. We have a customer that developed their application in English. They had a call from somebody in Mexico that asked, "I believe your product will suit us, but,

can it run in Spanish?" The answer was of course, "Yes". Our customer then sent their English DesignBais glossary entries to a Spanish interpreter. When they received it back, they re-loaded it into DesignBais and their application was suddenly in Spanish. We have a another customer that recently sold their application to a large travel agency in Hong Kong. Their application was developed in English, but using the same techniques now have a Chinese version of the product. That's very powerful with Asia opening up as an exciting new market for Multi-Value. As a software developer, I want to be sure that I can reuse every cent of development when entering these new markets.

SPECTRUM: Which MultiValue databases do you support?

David: I guess that's point four, portability. We are, as of version four, on OpenInsight, jBase, QM, Universe, UniData, Onware, and D3. DesignBais works on on multiple platforms, you can choose the Multi-Value vendor who best suits you. You are not bound to the methods of just one vendor. Design on D3 and use Onware to deploy on Oracle. We have two Oracle prospects that should be running very shortly. is

C H A R L E S B A R O U C H
is the **CTO for Key Ally, Inc. and Mount Olympus Systems, Inc. He is also President of the U2UG and a regular Spectrum Magazine contributor.**

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BY JON A. KRISTOFFERSON

Virtual Machines

I have been contemplating writing an article on OpenQM for some time now. The problem I had was how to get you to follow along. I thought that asking you to find an old PC, install Linux, download OpenQM, compile OpenQM, and setup users and a demo account would take many nights and weekends. I'm not sure that anyone would go through that!

While at a client site recently, I was surprised and impressed that they had come up with a novel solution to having a Linux system for each of their developers. They were using a product from VMware. VMware allows you to run Linux in a "virtual machine" on your Windows PC. There are two basic parts to the VMware products. There is the development portion and the "player" portion. The player portion of VMware is free! I like free. The virtual machine development portion of VMware is chargeable, but is very reasonable. There are several different products that you can use for development.

To get the ball rolling, you will need to download and install the VMware Player. You can get the VMware player off the Internet at

www.vmware.com/products/player/

Follow the directions on the website.

Once you have the VMware Player installed, you will need a Virtual Machine. A virtual machine is a file(s)

created by the development VMware products. I have taken a Gentoo Linux (<http://www.gentoo.org/>) virtual machine (thanks Jay!) and added OpenQM to it. I've also added some user logins and OpenQM demo accounts. You can download the virtual machine at

www.jonkristofferson.com/

and look for the "Gentoo — OpenQM" download. It is HUGE! It is over 500 MB. Sorry about that... Download the virtual machine and unzip the file. I'd put it in the "My Virtual Machines" directory that VMware created for you. It should be in your "My Documents" directory.

Now point the VMware player at the virtual machine and crank'er up! You should see a Linux boot screen. You will have to become familiar with switching between the virtual machine and your PC. It took me some time, but I'm old and set in my ways...

Once you have Linux booted, you should be at a 'login:' prompt. There are three login ID's that you will need to know.

LOGIN ID	Password
root	gentoo
qmusr	sumocomputer
qmadm	ladybridge

If you login as 'qmusr' or 'qmadm', you will be in an OpenQM account. If you login as 'root', then you will be at the root prompt of Gentoo Linux.

Now, having endured the painful download of the virtual machine, you should have Linux and OpenQM on your windows PC ready for learning about OpenQM!

OpenQM

OpenQM is the open source version of the QM MultiValue database from Ladybridge Systems Limited. OpenQM has its roots in the Prime Information flavor of PICK. The product compares well with other products like Universe, UniData and jBASE. It supports many of the same advanced features like sockets, transaction processing, triggers, and indexes. So for brevity, we will only explore the unique features of OpenQM.

Link Dictionary Records

It would take a new implementation of PICK to help smooth out some of the rough edges, and that's just what Ladybridge Systems did when they created OpenQM. The "L" type dictionary record is the first of its kind. It defines the link between two files. With the "L" type record OpenQM eliminates the need for multiple I-Descriptors with the "TRANS" function.

To access a field in a linked file you would simply use the notation LINK_ID%FIELD_ID, where LINK_ID is the name of the L-type record in the queried file and FIELD_ID is the dictionary name of the field in the linked file. It also makes self-documenting of the dictionary easier. You know where all of the file relationships are!

PAN and SCROLL

Holy Cow! This is worth the time it took to download that HUGE file. Have you ever scrolled past a part of a query, just to have to re-execute the query again to see what you missed? How about scrolling past a dictionary item you want to look at. Well, never again. With SCROLL on the command like you can page forward and backward through your query.

And have you ever had a query go from a columnar to a vertical format query,

when a columnar report is what you wanted? Now you can use the PAN keyword. It keeps your queries in a columnar format and allows you to PAN right and left across the columns. Is that cool or what? How about SCROLL and PAN together? Try it.

BASIC CSV capabilities

OpenQM provides a wealth of functionality with Comma Separated Value (CSV) files. OpenQM has BASIC syntax for reading/writing CSV files, functions to manipulate CSV values, and Query language elements to create CSV output. With all of this capability, creating and exchanging CSV files is a snap. CSV files make it easy to deliver data to user's desktop as Excel spreadsheets or other desktop productivity tools.

I use SAMBA on Unix/Linux system to put this data directly on a user's desktop with a minimum of fuss. Users can just click on their desktop and get the data that they want, when they want it, without requiring them to login and access additional applications. The desktop productivity tools are tough to beat. I've just started using Excel Pivot tables.

PCL Capabilities

OpenQM provides additional functionality for HP's Printer Control Language (PCL). If you output reports to PCL Laser printers, OpenQM has some cool functionality for you to check out.

There is a Query language keyword BOXED that will put your report into a PCL box on a laser printer. There is also a set of BASIC subroutines that allow you to create PCL forms and reports that will dazzle your users.

Application Development

OpenQM has many features to assist with application development. There is a !SCREEN subroutine to automate the process of building green screen applications. The SCRIB verb helps to build the data structures used by the !SCREEN subroutine.

There is a command to create an INSERT file from an OpenQM dictionary. This can be used to develop more portable and easier to debug applications.

If you want a full-blown Application Generator, check out PerSay. It is also open source and available for OpenQM.

For those of you who want a more modern interface, there is Coyote, the open source OpenQM web server. That's right an HTML web server written in OpenQM Basic. Developing web pages for Coyote is like writing Basic programs. It certainly lowers the learning curve for those MultiValue Basic programmers.

Quick Look

To take a quick look at OpenQM, first login as 'qmusr' with a password of 'sumocomputer'. Once in, you should be at a colon TCL prompt. From here you can kick the tires on OpenQM. You may want to first try looking at the VOC file.

:SORT VOC

You may want to look at the dictionary of the VOC file. Try the SCROLL keyword.

:LIST DICT VOC SCROLL

The 'qmusr' account has the demo files installed. Download the documentation from the OpenQM website and check out the on-line help from the Windows Help file. Or you can look at the OpenQM tutorial guide and check out all of the features and capabilities of OpenQM. The documentation is excellent!

Conclusion

Well, if everything went well for you, you now have Gentoo Linux and OpenQM on your desktop and can take some time to check it out. I hope you find OpenQM as full featured as I did.

Caveats

VMware and the virtual machine require a reasonably fast processor (+1 Ghz), a bare minimum of 256Mb of memory and at least 10 Gb of free disk space. You will also need a recent version of Windows like Windows XP or Windows

2000 Professional. If you have DOS, Windows 95, Windows 98 or Windows ME you may be out of luck.

This was not an article on VMware, but here is some additional information I've left out of the article. VMware allows various operating systems to run on other operating systems. Linux on Windows is what we are using in this article, but there are others like Windows running on Linux, etc.

Acknowledgements

Others did much of the very difficult technical work. Thanks to "Jay" for the Gentoo virtual machine. Thanks to "Blaine" for introducing me to the VMware concepts. Thanks to Martin Phillips of Ladybridge for placing his product OpenQM into Open Source. I'd like to offer a special thanks to the hundreds of developers who work tirelessly on Gentoo Linux. is

RESOURCES

Gentoo Linux

<http://www.gentoo.org/>

OpenQM

<http://www.ladybridge.com/>

<http://www.openqm.com/>

<http://www.openqm.org/>

VMware

<http://www.vmware.com/>

Coyote

<http://dougdumitru.openqm.com/coyote.htm>

PerSay

<http://www.performantsystems.com/persay1.2/PerSay.1.2.release.html>



JON A. KRISTOFFERSON has 30 years experience in the computer business. Currently he is working in an Enhanced 911 Call Center outside of Chicago, IL. He also works as the Chief Technical

Officer for Sumo Computer (<http://www.sumocomputer.com>) which specializes in selling configured Kuro Box/HG system with Gentoo Linux.

Mr. Kristofferson enjoys giving talks on MultiValue Database issues, Linux, and Open Source software as well as technology trends. His background includes: Electronic technician; Electrical Engineer; Systems Analyst; Principal Consultant and Executive Manger.

INTERVIEW WITH Bob Markow jBASE Inter

During the International Spectrum Conference last April, we had the opportunity to talk with Bob Markowitz, Regional Sales Manager at jBASE International, Inc.

SPECTRUM: *Thank you for taking the time to sit down and talk with us. How about starting by giving us a brief recap of the jBASE product and where you see it fitting in the MultiValue market.*

BOB: I've been working with the jBASE product for about four years now and I believe it is, without a doubt, the most advanced and technologically rich of the MultiValue

products. For example, within the last few months we have introduced a product we call DREM, our Data at Rest Encryption Module. DREM, as its name suggests, can actually work with the data at rest. There is no change to application programs. There is no change to dictionaries. There is no change to utilities in order to have a fully auditable product for the market. Even if you don't have source code, it works. It allows for groups of people to look at data and for groups of people to look at individual items. It also allows people to look at individual fields within the records. And nobody in the marketplace today has that available. Nobody except for jBASE! Because of the openness of the jBASE product, we were able to do that. It's a purchasable product. And for those people that say, "I'm really worried about file saves because when I do a file save, I send it to Texas and Chicago, what if my stuff suddenly disappears? I'm worried that people can read my tape." jBASE will include full

itz national



encryption for file saves, file restores and transaction logging. That means that transaction logging will be fully encrypted; data going across the web is safe as

long as it's using our Transaction Journaling. It is those kinds of things — investment in our products, the openness of our products, the ability of jBASE to talk to multiple databases, besides just talking to a MultiValue database — that make jBASE unique. jBASE can talk to almost any other database.

SPECTRUM: *That is your JEDI module.*

BOB: That is JEDI. And interestingly enough, the JEDI is what we use to create the encryption routines. And it's 128 bit encryption for the DREM.

“We have just introduced to the marketplace within the last few months a product we call DREM, which is Data at Rest Encryption Module.”

It will be different for the standard file save and backup, we use code that has been in jBASE for years called “Encrypt” and “Decrypt”. It's a BASIC statement that does Encryption and Decryption and we use the code behind it for the transaction journaling and for the backups and restores, it is not the same as the DREM.

jBASE is taking things into the future where other people haven't. jBASE as a company is also investing in the future with our sister companies, BlueFinity International and SC Systems. jBASE is owned by Mpower1, a

UK-based organization. Mpower1 is probably one of the very few companies that are funding new products for the MultiValue marketplace. For instance, from our BlueFinity group, we have the .NET integration and reporting services products. From the SC Systems group, we have an IDE product for new application development called OSMOSiS. It caters for classic character mode but also has very advanced Windows GUI functionality, too. Another major strength of OSMOSiS is that it can be used for System Builder and SB+ replacement projects. IBM keeps hinting at new SB/SBClient functionality for their U2 users, but OSMOSiS GUI is already delivering today. Also let's not forget all the D3 users trapped on very old versions of SB. A migration to OSMOSiS on D3 offers a great way forward while retaining all the investments made in the database.

SPECTRUM: *You have pretty much answered the next question, which was how is your offering different from the other implementations? Is there anything else you would like to add?*

BOB: We are an open system. In essence, when jBASE BASIC is compiled, you end up with native C code. You are running native on the box, you're not living in a virtual environment. We have lots of connectivity to the outside world. Besides the .NET stuff we have ODBC, OleDb, XML, etc. We have developed a product called JRCS, jBASE Remote

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INTERVIEW WITH
Bob Markowitz
jBASE International

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**“It’s no longer, “what’s your database,”
because people are finally coming
to the realization within the corporate
world that the thing that solves the
problem isn’t the database.”**

Connectivity Services, which allows for people to write in Visual Basic and to talk to our MultiValue database, the jBASE database. We have lots of stuff that the other guys don’t have. For instance, we are the only thread-safe MultiValue offering in the marketplace, for people who are doing Java work and for people who are doing .NET work. We even allow it within our BASIC code; you can actually have full thread safety, and nobody else has that.

SPECTRUM: *Are you able to share with us examples of success stories of customers who have either ported their applications to jBASE or new MultiValue customers? What have their experiences been like?*

BOB: I can tell you that a significant portion of the jBASE new license business comes from our VARs. So the success is actually from our VARs. Because our VARs are the ones that

are selling our product, embedding it in their applications. They are the ones helping us with our growth. This was another growth year for us.

SPECTRUM: *Am I correct that you have just announced a new release? What changes and enhancements are in it?*

BOB: The new release is 4.1.5, which is where the thread safety is. It is currently in beta with five distinct and different kinds of companies because we don’t know who’s going to find what problems, and who uses what code from us. So we have distribution companies that are doing it, we have companies that use large indexes that are using it, we have banks that are using it, we have a company that is a web-based company that is using it. Now, what’s in it? Well, I mentioned thread safety. We have full internationalization, UTF-8. We have added the DREM, we have added 2GB+ files, which we didn’t have until 4.1.5. We have added a ton of stuff.

Release 4.1 is a performance enhancement over earlier releases of jBASE. And one of the reasons is thread safety. You have multiple threads running and you’re doing more things at one time. We’ve totally re-written some of the code. For example our English processor, we call it JQL, was written from scratch. We have a benchmark from one of our new resellers where things used to take a minute and forty-three seconds takes eight seconds now. That kind of performance enhancement is delivered in the new release.

SPECTRUM: *Are you at liberty to share with us anything about what’s in the works? What comes next?*

BOB: jBASE International is the exclusive Distributor in perpetuity for jBASE. We heavily influence the direction and activities of the development area. Development has already started the development of a 64 bit implementation of jBASE. No dates, no promises, but there are actually bodies working on it. Today jBASE runs in 32 bit emulation on 64 bit machines. Also, we have announced with 4.1.5 some new platforms, Opteron and Itanium, one Sun, one HP.

SPECTRUM: *Where do you see the MultiValue market going?*

BOB: I don't see MultiValue disappearing. What I see is the resellers of product are embedding MultiValue, and they're not telling anybody what it is, because that's not the important thing anymore. The important thing is showing your GUI screen, the important thing is showing your report. It's no longer, "what's your database," because people are finally coming to the realization within the corporate world that the thing that solves the problem isn't the database. The thing that solves the problem is the application. And the applications within the MultiValue marketplace are without a doubt the most feature-rich products around.

SPECTRUM: *What is jBASE doing to either lead or affect market direction?*

BOB: We're continuously striving to introduce new features ahead of the game. Especially today with our .NET products. jBASE is funding the development of these new products for MultiValue, the .NET stuff, the IDEs from OSMOSiS. jBASE has always been

ahead of the curve; sometimes a little too ahead of the curve! The original architects said, "We're PICK, but boy, are we going to be different PICK." And that's an innovation.

SPECTRUM: *What is your message this year?*

BOB: Our message this year is again that we are growing, that we are an open system. We offer tons of stuff to the marketplace. We talk to multiple databases - relational and others, we have .NET connectivity, we leverage the feature set of Microsoft Reporting Services with our Reporting Services Data Connector product. If you want to create brand new applications you can do it with .NET or, if you are MultiValue oriented, do it with Osmosis. We are very easy to do business with and we deliver the best support to our end user customers and Resellers.

SPECTRUM: *Finally, what do you think of the changes that are taking place at Spectrum?*

BOB: I think change is always good. I've known Gus and Monica since Spectrum 1. I've been to every one except probably two or three. I think that there needed to be a new way to look at the marketplace and to try to bring people back in. I hope that Nathan talks to all the large and small VARs. Make new arrangement with all the VARs to let their customers know that there actually is a group that they can talk to, that can help them with what they're doing.

SPECTRUM: *Thank you very much for your time.*

BOB: And thank you. IS



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Browser Bling

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These programs are tools that run in conjunction with the browser and make the browser seem more like the operating desktop. So much for waiting for the new version of Windows. I'm quite curious to see the assortment of widgets that will be available.

Mozilla's Firefox 2 will be building on its success in making inroads in corporate environments. It will be addressing the problem of managing the outrageous amounts of information available on the Internet. Firefox developers intend to deliver a browser that helps users manage and organize these online information channels. Moreover, the summer beta version (officially, a September release) will also include anti-phishing features, along with tools that will restore web pages

and web state in case the browser crashes or requires a restart. Yet another example of the browser as operating system, this restore to crash point is a feature that I can't wait to see.

And, if that isn't cool enough, Mozilla's Firefox 3 is due next year. It will allow users to run online web-based applications even when there is no live Internet connection at the time. Now this is something that ought to be interesting.

Then, of course, comes Microsoft's Internet Explorer 7. IE6 has dominated for years, but it's also been the focal point of today's hacking nightmares. One version of IE7 that will be released next year will feature parental controls, advanced security options, and a "protected mode" (similar to the

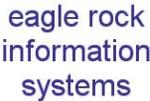
operating system "Safe Mode") so hackers cannot directly gain access to the PC even if the browser is attacked. Most versions of IE7 that will be released later this year will block or warn about scam sites and will make it clear that some e-commerce sites have particularly strong digital certificates.

Recognizing that the browser is evolving into a preferred interface for diverse applications such as mapping, word processing, email, and even spreadsheets, IE7 has been worked up to support and advance these developments. Then there's the catch-up. Like its competitors, Microsoft will support customizable search engines and tabbed browser windows. IE7, like Opera, will support preview tabs.

For those who are majorly into MySpace, there is even a new browser out there — Flock. It's a version of the Firefox browser, and it simplifies file and photo uploads and site change notifications. Not exactly the stuff of e-

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	Part Number: 68794	Update	Delete		
	Description: Ruggedized PicoDot: Convergent Laser				
2	PD49VP6LLP W/30'	\$345.00	1	\$345.00	NO
	Part Number: 68528	Update	Delete		
	Description: Ruggedized PicoDot: Polarized Retro Laser				
3		\$0.00		\$0.00	YES

Commerce drama, but when it comes to mass consumerism, it could make a dent in Microsoft's market share.

FILE OPEN GOOGLE

Have you been invited to view a Google spreadsheet? It's nothing fancy like what you get with Microsoft's Excel or OpenOffice's Calc. It doesn't have fancy charts, macros, or other advanced integration commands. But it does allow you to use a simple spreadsheet program run directly from a browser. The files can be saved on Google's file servers and then shared with other Google users, so it's fairly easy to maintain one copy of a simple database. For those folks who still think that any database other than MultiValue is essentially a spreadsheet, this might provide a straightforward way to maintain data outside of our systems.

I'm pretty sure that this is yet another way for Google to get its users to invite other people to sign on to the Google world. By getting us to do the invitations, it's basically convincing us to do its sales job for them. I've really been persuaded by their Google groups solution. You can post messages that can be read on the bulletin board or be forwarded to you either immediately or on a daily digest basis. It's basically a listserv service that they maintain; no need to use your own resources to house or administer it. Unlike Yahoo or other subscriber solutions, you don't have to create another email identity to use the list. Instead, it can send mail to your existing email account just like any other listserv service.

Except, it's got Google's search engine attached to it, allowing for powerful and fast searching of past messages.

CLEANING UP

Last check — anyone and everyone seems to be jumping onto the Ajax bandwagon. Just this week alone it seems that companies from Oracle to Sun announced new Ajax tools. If you

haven't read up on Ajax, you should take a look at the previous Spectrum issues and catch up; it'll be a bigger part of future software application solutions, I guarantee it.

GETTING MY KICKS

Tar Heels versus the Beavers in the College World Series? Impressive, but this summer, the biggest web server hits are without a doubt the ones banging on anything to do with the soccer world's World Cup. I have to admit, the sporting and gambling worlds really know how to put together impressive web sites. They sure know how to keep pulling me back to their web sites. If only MultiValue could market itself on the web as impressively. IS



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and visited at www.eriscorp.com.

You can always call him directly

at ERIS's Pasadena, Calif.,

offices: (626) 535-9658.



Continued from page 46

Bill Gates is leaving Microsoft, or at least the daily operations.

Excuse me? Wait just a minute, Mr. Borg. Who are we supposed to vilify now? We count on you. You were always there for us. We knew who to hate. You are our Icon of Evil Incarnate. And now you are going to concentrate on the Bill & Melinda Gates Foundation? This namby-pamby organization concentrates on bringing health to the underprivileged, working for cures for trivial childhood diseases like malaria and AIDS, and the like. What kind of Evil Legacy is that? At least we still have our Evil Rich people to hate. People like that evil capitalist Warren Buffett who never pays his fair share of taxes.

What?! He just gave \$US31 Billion to charity? To the Gates? But that's not right. He's supposed to marry a bimbo so that she and his kids can fight over the money in order to enrich the attorneys. It's bad enough that he bypassed the government taking their 75% cut to fund bureaucratic incompetence and midnight basketball. What if all this money actually finds a cure for a major world health threat? That will be another change we will have to deal with. What's a few million kid's lives if it overshadows the Great Web Brower War? Let's get our priorities straight.

At least we don't have to worry about reacting to a major computer manufacturer open sourcing their operating system.

Huh? Sun did what??

Damn...

I think I'm going to avoid standing next to mountains for the next couple of years. IS

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1. What is your job function/title?

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

2. Is your company a (check one):

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

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

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

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

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

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

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

IS 7/06



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Load button on the front panel, read the first 80 column card and start the program counter at column one. We invented operating systems. Not enough. We needed foreground/background partitions. Then there was virtual memory systems. And on and on. After a whole thirty to thirty-five years, we are running multiple systems in one processing rack (partitioning). Virtualization is the new Big Thing. I use Apple Mac OS X as my notebook O/S of choice and run Virtual PC for the Windows stuff. Then I load a MultiValue database system into that, or DataStage. I do this in a notebook with a 12 inch screen. I can lift this thing easier than I can lift my Chicago Manual of Style book. Try doing that on an original Ultimate or ADDS box. See how things have changed?

Change is all around us, even in the seasons. Spring comes, flowers and trees bloom. Summer comes, heat comes, flowers and grass turn ugly and dark. Fall comes, leaves turn wonderful colors, then comes frost, and the leaves throw themselves to the ground. Winter comes, wiccans bloom, politicians take to the campaign trail and turn ugly and dark.

So you would think that we would all be used to change by now, wouldn't you? We live it in our professional lives; we live it in our personal lives. Just look at my, I mean, at your waist line. Constant change.

But there are some things that are just not supposed to change, period. Some things are sacred. They are meant to be touchstones that help us ground ourselves, something by which to define ourselves. They form a large part of our information industry weltanschauung. (<http://unabridged.merriam-webster.com/>) And one of these has been toppled the last few weeks.

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Things Are Changin'

BY CLIFTON OLIVER



I am so confused. There are some things that are just not meant to change. Mountains, for example.

I was living in Seattle when Mount St. Helens erupted in 1980. That was a real psychological adjustment, let me tell you. As a native of southern California, I was used to earthquakes. Ground opens up, buildings and bridges fall down, but the mountains are still there afterwards. Mountains are something you can count on being stable. Or so I thought. After all, I've never see any significant change in a mountain. Sure, the summer wildfires would sometimes change the external appearance, and the earthquakes would cause some of the boulders to come loose and roll downhill. The mountains, however, were basically unchanging.

The same was true of Mount St. Helens, at least for one hundred and twenty-three years. Then one day, BOOM! Now you see the mountain, now you don't. The mountain (at least a large part of it) disappears in a major burst of geologic flatulence. It just ain't right. It kind of reminds me of the disappearance of Prime Computer.

Granted, the idea of everything always changing is nothing new. Around 500 BCE Siddhartha Gautama, later known as Buddha, was trekking around the Indian subcontinent talking about impermanence and how so much of our suffering was caused by clinging to things and insisting they not

change. It was a good philosophy, practical, easy to understand. A lot of people took to it, and as these things tend to go, they clung to it, insisted on applying it in areas its creator had not intended (sounds like some end-users), and wrote incomprehensible books about what Gautama really meant (consultants). Buddha was not the only one thinking about how things always change.

Around the same time, over in Ephesus in Asia Minor, the Greek philosopher Heraclitus was going on about perpetual flux and transformation and how you couldn't step in the

same river twice. Of course, if he was bathing after one of his episodes of burying himself in a dung pile to try to cure his dropsy, you wouldn't want to step in the river even once, at least not if you were downstream of him. But still, he had a great impact of the thinking of the time by fixating on change.

We are used to change in our part of the Information Management industry, of course. After all, our MultiValue databases have been the victim of change and have been on the scrap heap since the mid 1970s. Okay. Some things change slower than others. I know of one company whose MultiValue system has been under replace-

ment in two to three years for over twelve years now (or is it fourteen?).

Sarcasm aside, however, you must admit that even we go through a lot of change — GUI, web-based, object-oriented, open source, .NET, Ajax, web services, SOA. Just look at the last year or two of International Spectrum Magazine and notice how many "main stream" technologies the current MultiValue programmer is called upon to learn, work with, and support. For example, one of my associates is an odd duck. But in addition to being an odd duck, he is also unusual in that he is both a MultiValue expert and an Oracle administrator and consultant. And he is not even conflicted. Well, at least not about his work.

Do you really want to contemplate change? Look at our system hardware. For under \$US900 you can buy, at a retail outlet no less, a 2+GHz PC with 512MB memory, at least 40GB of disk, etc. My first Microdata (serial #39, if I recall correctly) had 24K of memory and a whopping 15MB of disk. I once translated memory and clock speed and figured out that I was carrying several rooms full of my original IBM 1401 computer around in my pocket in the form of my Palm Pilot.

If the hardware changes are not enough to make you feel just a bit on the edge, look at the software side of things. It's not enough to press the

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