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## 6 2013 MultiValue Industry End-of-Year Recap

The year 2013 continued to provide us with changing technologies and changing market demands. But the economic landscape seemed to improve somewhat. The demand for mobile access to data continued to increase. We asked some of our MultiValue partners to share with us some of their accomplishments from this last year and what to look for in the next.

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On October 16th, 2013, TigerLogic Corp announced the sale of its MultiValue-based databases software to Rocket Software. The purchase of the MultiValue product line from Tigerlogic Corp generated a series of questions in the community. We had a Q&A with Susie Siegesmund (Vice President and General Manager at Rocket Software) about the purchase that International Spectrum wanted to share with the MultiValue Community.

### 10 Business Tech: The Offensive

We all know what it feels like when we are the target of untrue statements, misrepresentations, uninformed opinions, back-stabbing politics, and attacks on our competence. If you don't, you've been lucky. Get out of IT and into a safer career, something like jungle warfare mercenary. For those of us for whom it is too late, the author offers some advice on dealing with the devils. **BY CHARLES BAROUCH**

### 16 Automated Testing Part 5: Dependencies

The previous article looked at techniques for refactoring legacy code to expose individual functional pieces for unit testing. Although unit tests for individual routines is fairly straightforward, putting them all together and testing the whole can be challenging. The fifth article in this series examines some of the problems and techniques for handling these issues. **BY BRIAN LEACH**

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# From the Inside



Happy Holidays to all!

It's the end of the year, time to relax, enjoy family, give gifts, and time to start planning for the year 2014.

Now that 2014 is just around the corner, it time for me to start talking about what is coming up. International Spectrum 2014 will be in Phoenix on April 7th-10th, 2014. That is less than five months away.

Have you taken a look at the conference details yet? If not, please do. You'll find a few program changes. This year we created tracks of talks that take users and developers from "Start-to-Finish" in how to implement or use some of the new technologies.

Here is how it works. In the past, we've had a lot of different sessions, covering a lot of different topics. It was up to our attendees to decide what would work best for them and what they needed to learn.

The "Start-to-Finish" topics will help attendees focus on one topic, like Desktop Development or Mobile Development, and take them from the planning stages, through developing the user interfaces, and on to how to actually connect the interfaces to the database. We will even work with attendees on how to develop the database side of things as well.

That is not all. Once you have gone through the difference steps needed to build your solutions from Start-to-Finish, we are providing you time and access to experienced developer to help you put all that you learned to use.

We have our "Professional Networking" passes as well. I have always been a big fan of professional networking and have always found talking with other attendees just as valuable as the materials that speakers provide.

With that in mind, we will be offering many opportunities to talk with your fellow attendees, both at the conference and after the conference.

Since we know there is a lot of material presented at the conference, and attendees don't always get a chance to see all of it, we will be providing access to recordings of the sessions and access to session downloads. This allow conference attendees to review material for sessions they attended, or just review the sessions they missed.

As in previous years, we will be providing the "Group/Company Pass". The "Group Pass" allows up to 5 people from the same organization to attend the conference for an average of \$400 a person. Since the "Group Pass" gives you access to the full week, you can have company employees attend a few days, and then send another group of people for another few days. This way you don't have your whole IT department gone, and you still get the advantage of educating as many as you can.

There will be a webinar on Jan 24th that will talk more about what is going on at the conference this year and provide you some information to help you discuss the advantages and reasons for joining us at the conference.

To find out more on the 2014 Conference, go to the following URL:

<http://www.intl-spectrum.com/conference/>



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# INTERNATIONAL Spectrum

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Learn more about the MultiValue Symbol and see what MultiValue Technologies and MultiValue Communities exist to help you support and manage your business and systems. To find out more visit

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# 2013

## MultiValue Industry

# End of Year Recap

### Entrinsik

**Q:** *What new features or services did Entrinsik introduce in 2013?*

In 2013 Entrinsik released Informer version 4.4. This newest version includes a new set of visualizations for Informer Dashboards as well as a host of new features including the ability to share reports and Meta tables among organizations using similar databases. We continue to invest heavily in research and development in order to respond to the dynamic reporting and data analysis needs of the market.

Entrinsik launched Enrole 1.0 in November 2013. This next generation evolutionary software for organizations that produce seminars, training sessions, and continuing education is completely redesigned utilizing the latest web-based technology, built ultimately for ease of use.

**Q:** *What was the greatest or most exciting thing that happened to your company or product in 2013?*

Entrinsik hosted another successful Informer User Conference (ICON) this year in Myrtle Beach, SC. Our team welcomed keynote speaker Mark Pick of Pick Cloud, Inc. and special presenter Bill Harrison of Epicom. The conference was well attended by Informer customers and Partners and included breakout sessions with members of the Informer product development team, panel discussions on best practices and methodologies, and customer-led use cases demonstrating how Informer is successfully being deployed by customers. Read this recap of ICON on our blog at <http://www.entrinsik.com/blog/2013/10/reflections-from-icon-2013/>.

Towards the end of June, Entrinsik moved into expanded new office space in Raleigh, NC. Our company has been expanding steadily and the need for more space had been apparent for some time. Along with additional office spaces for current employees and plenty of room for growth, the product development team was outfitted with a communal open-area workspace more suited for high level collaboration.

**Q:** *What would you like Spectrum readers to watch for in 2014?* The Entrinsik product development team will be heads down working hard on two key development efforts:

1. Informer 5.0 which will be a significant upgrade to the user interface and overall functionality of Informer.
2. Expansion of the new Enrole software. Emphasis for the complete redesign has been placed on ease of use, integration with third party software, and web-based portals including a dynamic shopping cart, instructor and client portals, and a barcode scanner check-in kiosk.

### Kore Technologies

**Q:** *What new features or services did Kore Technologies introduce in 2013?*

Kourier Integrator Release 4 was introduced, providing many new features and enhancements:

1. Increased Performance — boosted overall performance by as much as 20% — 30%.
2. Multi-Source Capability — Seamlessly integrate and consolidate information from external data sources (e.g., MySQL, Oracle, SQL Server, Access, and text files.) into a SQL data warehouse.
3. Improved RESTful Web Services — A simpler and more powerful user interface for building RESTful Web Ser-



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vices, includes support for Dynamic Named Parameters with integrated testing and URL generation.

4. Microsoft SQL Server 2012 — Native support for Microsoft SQL Server 2012 and Integration Services (SSIS) provides increased performance.
5. For our KommerceServer eCommerce Suite, we introduced a new lower cost of entry program that allows companies to reduce their startup costs for a fully integrated eCommerce webStoreFront and webPortal solution.

KommercerServer saw several key enhancements as well:

1. Dealer Locator System — integrated with Google Maps to find and provide directions to the nearest dealer for specific products.
2. User-selectable product catalog views — configurable by product class allow the user to determine which layout is most appropriate for their products.
3. New RMA module — provides entry, processing, notification and credit card payment for RMAs.

**Q: *What was the greatest or most exciting thing that happened to your company or product in 2013?***

Kore Technologies is very excited about our relocation to new corporate offices, which are bigger and better. We are now located in the heart of San Diego's "Golden Triangle" technology district. The new facilities provide nicer amenities with room to grow while giving us a very professional environment. All of these changes have created an atmosphere that enhances our team collaboration, enabling us to focus on developing new and improved products while providing a higher level of service to our growing list of clients.

Also, Kore Technologies is honored to have been selected for inclusion in the list of the Top 100 most important companies in data today. This list salutes this year's top companies in data and enterprise information management tackling Big Data. Kore Technologies has a long track record of helping companies build enterprise data

warehouses and business intelligence systems from their UniData / UniVerse (U2) databases and other data sources using Kourier Integrator and SQL Accelerator.

**Q: *What would you like Spectrum readers to watch for in 2014?***

Spectrum readers can look for Kore to continue improving our Kourier Integrator and KommerceServer product suites.

For Kourier Integrator, look for enhancements that add functionality and ease-of-use features that improve the product's overall Enterprise Application Integration (EAI) capabilities for integrating various ERP applications to popular third-party products (e.g., CRM, Sales Force automation, scheduling systems, etc.). On the Extract, Transform, Load (ETL) side, look for Kourier Integrator to continue extending its architecture to support additional data sources, while continuing to improve the product's ease of use and performance.

For KommercerServer, watch for enhancements that provide additional support for distribution companies with Business-to-Business (B2B) features that supplement ERP back office capabilities online (e.g., quotes, bids, RMAs). As more and more companies look to extend beyond B2B and into more Business-to-Consumer (B2C) online sales, KommerceServer will be there with features sought by today's modern buyer. Look for features that make the online buying experience faster and easier while enhancing the integration to the back office ERP systems.

**Ladybridge Systems Ltd.**

**Q: *What new features or services did Ladybridge Systems Ltd. introduce in 2013?***

Our OpenQM database continues to grow both in terms of product functionality and its user base. We believe that it remains the MultiValue product with the lowest total cost of ownership and it has proved to be highly stable and scalable up to large user populations.

Development effort this year has mostly been directed to a large number of small enhancements requested by our users

rather than introduction of major new features. A few of the more noteworthy of these are:

- IPv6 networking protocol availability. This includes direct network connection to QM, incoming and outgoing socket connections from application software, QMClient connections and internal processes such as data replication and QMNet. Provision of IPv6 ensures that QM is ready for the anticipated move to this technology over the next few years.
- Addition of an External Call Interface to allow QM applications to call external library functions in a secure manner that preserves the integrity of the managed code environment in which applications run. These might be standard library functions or special functions written by the application developer that need capabilities not available in QMBasic.
- Extension of the Virtual File System to provide per-user security features similar to those adopted by the QMNet network file access subsystem. Other extensions to the VFS make it easier for application developers to open connections to external data stores, improving the ability for QM to be part of a mixed product server network.
- Introduction of exception handling similar in concept to that found in many other programming languages. Combined with several enhancements to QM's object orientated programming capabilities, this makes the environment more familiar to developers coming from other systems and allows new applications to adopt a more contemporary style.
- Exposure of the internal sorting system for use within applications, thus often eliminating the need for use of executed select operations that can degrade application performance.
- Several connectivity enhancements including significant extensions to the QMClient Java API and the ability to use QMClient on iOS or Android de-

*Continues on page 15*

# Rocket Software's Purchase of TigerLogic's D3

On October 16th, 2013, TigerLogic Corp announced the sale of its MultiValue-based databases software to Rocket Software. The purchase of the MultiValue product line from TigerLogic Corp generated a series of questions in the community.

We had a Q&A with Susie Siegesmund (Vice President and General Manager at Rocket Software) about the purchase that International Spectrum wanted to share with the MultiValue Community:

**SPECTRUM:** *What products did Rocket Software purchase from TigerLogic Corp?*

**SUSIE:** The products purchased from TigerLogic Corp are D3, mvBase, mvEnterprise and the connectivity products such as OpenDB, MVS Toolkit, .NET and JAVA API's, etc. In short, all of the MultiValue business of TigerLogic Corp.

**SPECTRUM:** *Is the TigerLogic XDMS going to be included in the purchase?*

**SUSIE:** No. That product remains with TigerLogic Corp.

**SPECTRUM:** *Are any of the Rapid Application Development tools such as Omnii included?*

**SUSIE:** No — these products remain with TigerLogic Corp, as they are part of their future strategic product offerings.



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*The products purchased from TigerLogic Corp are D3, mvBase, mvEnterprise and the connectivity products such as OpenDB, MVS Toolkit, .NET and JAVA API's, etc.*

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**SPECTRUM:** *Is D3/mvBase/mvEnterprise going to be placed under the Rocket U2 heading, or will it be a separate division?*

**SUSIE:** The Rocket D3 product family will be a separate product family, managed by me as Rocket Vice President and General Manager, with its own P&L. It will not become part of the Rocket U2 business.

**SPECTRUM:** *What will Rocket software call this new division?*

**SUSIE:** The new division will be called Rocket D3, which will include all the products included in the purchase.

**SPECTRUM:** *What personnel can we expect to move from TigerLogic Corp to Rocket D3 division?*

**SUSIE:** The team that has developed, supported and sold these products is joining Rocket to continue in these roles. John Bramley will be the Business Area Executive for the D3 Lab, and Janet Cioffi-Kennedy will be the Business Area Executive for the D3 Channel.

**SPECTRUM:** *What will the management structure look like?*

**SUSIE:** I will also head this new business unit. John Bramley and Janet Cioffi-Kennedy will report directly to me.

Customers and partners will continue to have the same relationship they currently have with sales, development, and support teams.

**SPECTRUM:** *Has there been a long term plan for combining tools for cross database access? For example, UniObjects, U2 Web DE, BDT, Flashconnect, etc.*

**SUSIE:** There has been no long-term plan, as the acquisition is just completed. We will be doing a technical deep-dive to determine what Rocket products can be integrated with the D3 databases, including CorVu, Aldon, NetCure as well as the U2 Tools products.

**SPECTRUM:** *What is the short term plans for the D3 product line?*

**SUSIE:** We intend to grow this business. To accomplish this we will bring new features to the D3 databases in order to enable our partners and end user customers to meet their future technology needs. We will focus in areas of the greatest need. From the few conversations I've had to date with D3 customers, we will likely focus on business intelligence and mobile access in the short term.

**SPECTRUM:** *Will the development, support, and engineering departments stay in Irvine, or will the personnel be consolidated in Denver?*

**SUSIE:** The Rocket D3 team will remain in Irvine, California.



**SPECTRUM:** *What do you see as the advantages of this purchase?*

**SUSIE:** Rocket has grown the U2 Business since acquiring it four years ago. We intend to grow the D3 business. We have domain expertise in MultiValue technology and can offer other enterprise technologies to this customer base. With a stronger position in this market, Rocket will promote MultiValue technology and seek to encourage its use by new developers.

**SPECTRUM:** *Who started the dialog for the D3 purchase?*

**SUSIE:** TigerLogic Corp decided to divest their MultiValue business and, as a publicly traded company, sold it on the open market. There were other bidders besides Rocket Software interested in acquiring this business.

**SPECTRUM:** *What is the expected timeline for the consolidation of people and assets? When do you think the merging of personnel, offices, etc would be complete?*

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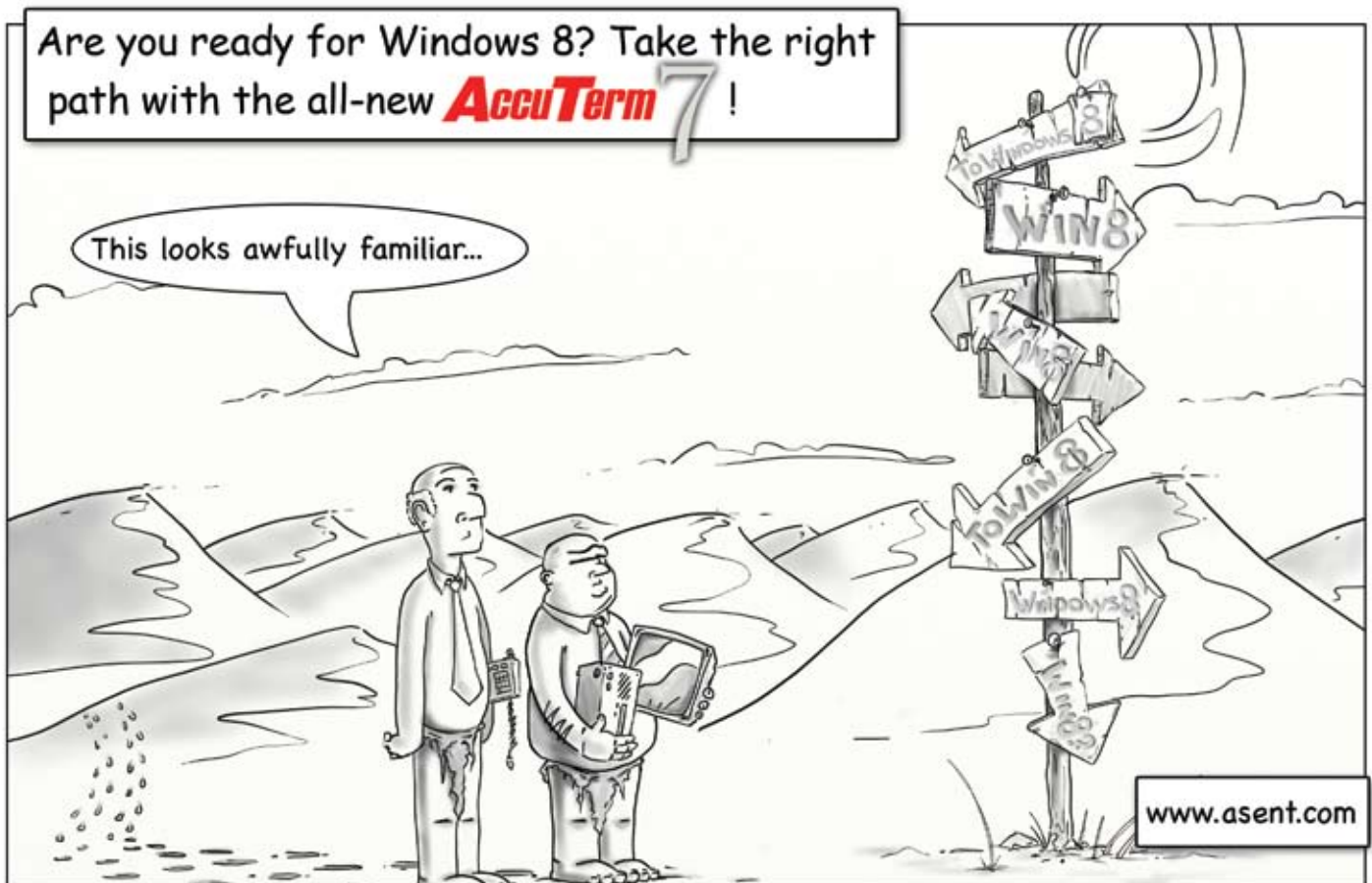
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**SUSIE:** November 18, 2013 was day one for our new Rocket employees. We have already provided them with new computers, new phones, and email addresses, and staged a Rocketized website as an interim to moving this content into the main [rocketsoftware.com](http://rocketsoftware.com). The transition of all the employees joining the Rocket D3 division has taken place prior to November 18th.

**SPECTRUM:** *Is there is anything else you would like to include?*

Susie: Rocket Software acquires businesses with characteristics we know well and works to grow them, investing in new product features in order to deliver outstanding results for our customers, partners, and employees. I am looking forward to working with my new Rocket D3 team and with all the loyal D3 customers to achieve this goal. **IS**

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# The Offensive

BY CHARLES BAROUCH

*Scheduling delays have made me postpone the second part of my Glass article. When you do a piece on how you developed a new bit of software, it helps if you actually get the time to finish developing the software. Live and learn.*

Rage feels good, in the moment. We've all been in that spot, right? Someone does something wildly offensive, or off-handedly creates a ton of work with a careless act, and we find ourselves gleefully wondering if a jury would forgive us for doing what we so much want to do. I think that IT work offers us more than our share of these situations.

Lately, I've been reaping the benefits of not giving in to the impulse. Anyone who knows me knows it isn't my Pollyanna nature making me restrain myself. My reasons come from real experiences in the business and technology sectors. Read along and see if you don't have some similar stories.

### Unreasoning Anger

I had a boss, several years back, who left the company on little notice. His replacement — let's call him Sniper — just seemed to dislike me. It came out in small ways at first. My project list seemed to be growing a bit faster than usual. Some meetings suddenly didn't include me. Certain people

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*One guy seemed to specialize in publicly complaining to me about me. Because I didn't take the bait, other people on the team found themselves defending me.*

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were hired without my involvement, even though I traditionally did all of the department's tech interviews. Nothing big, at first, just unsettling.

It gradually grew into a job-threatening level of pain. I wasn't being heard on topics where I had years of experience. My actions were undergoing new scrutiny even though I'd given him no cause. I wracked my brain trying to figure out what I had done to set him off.

After I left the company — not for that reason — I got called by Sniper to do a quick consulting project. You could have knocked me over with a feather after I got that call.

As I'm finishing up, he waves me into his office and closes the door. Turns out, he liked me when we first met. However, there was a person who felt threatened by our getting along. So, Scaredy Cat started whispering lies to Sniper about me. Once I was gone, the Scaredy Cat dropped the act, and suddenly the light dawned. It was too late to spare me the pain I went through, but at least we cleared the air and parted as friends.

Years later, I had the same sort situation in a different company. Oddly, the new Sniper — not a boss, but a coworker this time — had the same real first name as the original. Having already experienced this once, I recognized the situation rather quickly. I finally managed to help the new Sniper steer clear of his Whisperer.

Result: I had someone watching my back on a recent project instead of having a Sniper behind me. Second bonus: When the new Whisperer saw us working together and realized nothing bad came of it, Whisperer stopped having an issue with me.

### You Know What Your Problem Is...

I just finished a project with a very big team. One guy seemed to specialize in publicly complaining to me about *me*. Because I didn't take the bait, other people on the team found themselves defending me. It turned into a wonderful bonding exercise. The funny thing is, so long as it didn't hurt morale, I wasn't offended. His jabs made me examine my actions. I did things more consciously because he became my personal Jiminy Cricket. Like in the previous example, I got a learning opportunity, instead of the five minutes of pleasure that rage might have provided.

And, to be fair, some of his points were valid. I genuinely think I'm better for the experience. Best of all, now that it's over, I've caught him saying nice things about me in public. Besides, I got even with him



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— he's the only example who didn't rate a nickname in this article.

### Hindenburg

To give you the other side of the coin, I recently had someone help me for the wrong reasons. I'm doing this project and I get a volunteer — let's call him Happy — who starts putting in time with us. Happy is just that: a guy who is always smiling. Easy to work with; just plain friendly. As we neared the deadline and it was clear we were going to finish on time and on budget, Happy tells me why he's been helping and why he's been smiling.

It seems, when he heard the scope and scale of the project, he decided that it was going to end, I quote, "blow up like the Hindenburg." Happy just wanted a front row seat for the fireworks. He started out smiling in anticipation of the train wreck. He finished up with a smile because he had accidentally attached himself to a successful project. I don't know how to break it to him, but his help was a small part of why it didn't fail.

I'll leave you to draw your own lessons from that.

### Is That an Apple? No, a Lemon

I bought a bad PC. It has happened to many of us. We buy a lot of equipment and sometimes things that should not have passed QA end up on a store shelf. So far, I have spent over fifty hours on the phone with tech support.

Did I finally lose my cool when they asked me to do the same steps which crashed my computer the last time? Did I yell at the guy who started the call with, "I assure you I can help you," and ended it with, "You can speak to my supervisor but it won't do you any good?"

Let's just say... nobody's perfect. **IS**



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## The Linux Foundation Integrates Entrinsik Informer for End-to-End Marketing and Business Development Analytics

Entrinsik, Inc. ([www.entrinsik.com](http://www.entrinsik.com)), developer of Informer agile reporting and business intelligence (BI) software, announced the completion of a new case study featuring The Linux Foundation's recent implementation of Informer reporting and BI software. The Linux Foundation is a nonprofit consortium dedicated to fostering the growth of Linux and collaborative software development.

The Linux Foundation was using SugarCRM Professional's out-of-the-box reporting module, but realized that the user interface was under-performing based on their needs. They were not able to generate complex reports and visualizations and needed more advanced reporting, data analysis, and dashboarding capabilities. The Foundation chose to implement Informer at the recommendation of their mutual business partner, Epicom Corporation.

Epicom helps companies like The Linux Foundation deploy,

customize, and integrate state-of-the-art CRM systems and has partnered with Entrinsik to provide organizations with the ability to perform multidimensional reporting and advanced data analysis in order to better track, understand and manage their SugarCRM data with Informer.

"Informer's foundation is rock solid," said Mike Woster, COO & Vice President, Business Development, at The Linux Foundation. "The underlying technology of Informer is very robust, allowing the mash-up of multiple data sources as well as the generation of any number of complicated reports that involve multiple unions and joins."

Informer integrates with all licensed versions of SugarCRM and Sugar Community Edition; data in Sugar is pushed into Informer in real-time. Informer's intuitive, web-based interface is easy to navigate, enabling users to create and customize their own reports and dashboards.

The integration of SugarCRM with Informer gives The Linux Foundation instant visibility into their marketing and business development metrics from multiple perspectives. They can now more effectively interact with and analyze data to uncover critical insights and make data-driven decisions to drive foundation operations.

Read the full case study at [www2.entrinsik.com/Informer-LinuxFoundation](http://www2.entrinsik.com/Informer-LinuxFoundation)

### About Entrinsik

Entrinsik Informer is an innovative, award-winning agile reporting and business intelligence solution used by tens of thou-

sands around the world. To get started on a free trial visit <http://www2.entrinsik.com/informer-sugarcrm>. For additional details or a personalized DEMO, contact Sales at [sales@entrinsik.com](mailto:sales@entrinsik.com) or call 888-703-0016.

For more information about Epicom Corporation, visit [www.epicom.com](http://www.epicom.com), email [info@epicom.com](mailto:info@epicom.com) or call (512) 481-9000. ■



## PICK Cloud, Inc. and Ladybridge Systems, LTD. Announce MultiValue DBaaS For \$15 Per Seat Per Month

Pick Cloud, Inc. and Ladybridge Systems Ltd. are proud to announce the first true MultiValue Database as a Service (DBaaS). You can now purchase a fully managed hosted OpenQM license starting at as low as \$15 per seat, per month. With it, you get a fully functioning copy of OpenQM, AccuTerm 7 and more — all in a worry free, hosted environment. No more purchasing hardware! The benefits of DBaaS are paramount in today's increasingly cloud based business landscape.

"Pick Cloud, Inc. and Ladybridge Systems are delivering a true MultiValue DBaaS. To date that hasn't been a reality. It is now.

Developers, VARs and end users alike can benefit from a low cost alternative to costly per seat database license pricing, while at the same time taking advantage of a worry free environment says Mark Pick, CEO and founder of Pick Cloud, Inc. Now they can focus on their business, not their IT."

"We are proud to partner with Mark and his company, says Martin Phillips, Technical Director of Ladybridge Systems, Ltd. His dad was a MultiValue pioneer and Mark is following in his footsteps. At Ladybridge our motto is taking MultiValue where it has never been before, and we believe with this offering we are."

For more information please contact [info@mypickcloud.com](mailto:info@mypickcloud.com) or call 949-415-7778 or go to the Pick Cloud, Inc. website at [www.mypickcloud.com](http://www.mypickcloud.com).

### About Pick Cloud, Inc.

Pick Cloud Inc., located in Newport Beach, CA and founded by Mark Pick (son of Dick Pick), provides a cost effective, worry free, secure, environment while at the same time preserving and rejuvenating MultiValue applications through smarter processes and more efficient technology. More information about Pick Cloud, Inc.'s products and services can be found at [www.mypickcloud.com](http://www.mypickcloud.com).

### About Ladybridge Systems, Ltd.

Ladybridge Systems was founded in 1992 by former Prime Computer personnel and is headquartered in Hardingstone, Northampton, England. To date, Ladybridge Systems provides

training, consultancy, development, and maintenance services to MultiValue databases in the UK and worldwide. Ladybridge Systems remains a small privately owned company, offering a personal level of service to clients around the world. Working with a team of associates with specialist skills they are able to offer the resources of a large company while still maintaining the direct, friendly approach of a small business. This also allows Ladybridge Systems to operate with very low overhead and offer high-value services to organizations at much lower charges. ■



## **Synergetic Data Systems, Inc. (SDSI) Announces a New Feature of the UnForm Image Manager**

Synergetic Data Systems, Inc. (SDSI) announces a new feature of the UnForm Image Manager (scanning and indexing tool). Using OCR (Optical Character Recognition) the Image Manager can now preform "Extraction of Line Item Detail" from documents such as Accounts Payable invoices. The invoices are scanned using the UnForm Image Manager which processes the documents. The Image Manager can be trained to recognize "Fields or Zones" on incoming Accounts Payable

invoices. The Data is extracted and passed as an EDI file which then can be sent to your Line of Business (LOB) application or Enterprise Resource Planning (ERP) application. This allows you to accurately post details to your application's Accounts Payable Register.

Using, the UnForm Image Manager to extract the data, the processing of these documents becomes less time consuming and the data posted is more accurate. UnForm Document Management Solution adds value to your application and saves you both time and money. ■



## **TigerLogic Announces Definitive Agreement to Divest Its D3 MVDBMS Business for Approximately \$22 Million to Rocket Software**

TigerLogic Corporation, announced the signing of a definitive agreement to divest its Multidimensional Database Management Systems ("MDMS" or "D3") business to Rocket Software, Inc. ("Rocket Software") for gross proceeds of approximately \$22 million in cash. The sale is expected to close within the

fourth calendar quarter of 2013, and is subject to satisfaction of customary closing conditions.

"TigerLogic has evolved rapidly over the last 12 months, and has taken actions designed to capture the fast-growing demand for cloud platforms enabling mobile and social solutions. The sale of the MDMS business is a further step toward our focus on extending the growth and reach of the Postano and Omnis platforms," said Richard Koe, President and CEO of TigerLogic. "The closing of this transaction will allow TigerLogic to concentrate on initiatives that support our vision of enabling brands and companies to integrate curated mobile and social solutions across multiple digital environments. Moreover, the divestiture of the MDMS assets will provide additional resources to support stronger sales growth and further development of our social and mobile businesses."

"This is a logical next step for our business and a strategic decision that should enable the D3 business to flourish as well," continued Koe. "TigerLogic selected Rocket Software because of its knowledge of the MDMS space, and its deep commitment to support our D3 partners and customers. Rocket Software is known for its strong operational expertise, particularly in corporate divestitures that require seamless transfers of significant business operations, which is an imperative for our D3 partners and customers. To that end, we also announce today that John Bramley, TigerLogic's Vice President, Operations, agreed to join Rocket Software, effective upon the closing, as the business ex-

ecutive responsible for managing the development and evolution of D3."

"This is a good and not surprising move for TigerLogic, as it allows them to concentrate their energy and resources on the core, strategic components of their business in order to drive further innovation and growth," said Scott Smith, General Partner, Viant Group, Investment Advisor to TigerLogic in this transaction. ■



## **INGESCO Sistemas Informáticos Migrates Distribution System Application to the OpenQM MultiValue Database**

INGESCO Sistemas Informáticos based in Asturias, Spain have migrated a distribution system application to the OpenQM multivalue database. Previously running on D3, this application covers all business tasks (accounting, logistics, business management, etc.) and is used by 120 users in 25 centres of Saint-Gobain Saniplast S.L.. The entire application resides on a single Windows 2008 server

*Continues on page 14*

# FROM THE PRESS ROOM

*Continued from page 13*

and utilises PHP to support Web applications for PDAs.

The application is stable and there has been a better overall response. The client is developing new .NET applications to improve the user interface. The QMClient API is helpful in this.

The main reason for migration was the stability of QM and price. QM has reduced the cost of adding new users.

Other benefits reported by INGESCO:

- VERY GOOD documentation and EXCELLENT technical support.
- Ease of backup using third

party tools.

- Reboot and shutdown is quick and easy.
- Communication between two QM systems is easy with QMNet.
- Ability to generate reports in CSV or XML.
- Very simple and easy upgrade.

## **About Ladybridge Systems and OpenQM ([www.openqm.com](http://www.openqm.com))**

Formed in 1992, Ladybridge Systems are best known as the developers of the OpenQM MultiValue database product but also provide training, consultancy and development services for the other multivalued systems.

OpenQM was launched in 2001 after several years of development as an embedded database for use in bespoke applications. Available for platforms ranging from single user devices through to large corporate servers, OpenQM has the lowest total cost of ownership in the multivalued market. A high degree of compatibility with other multivalued products simplifies migration and offers a way to reduce costs.

## **About INGESCO ([www.ingesco.es](http://www.ingesco.es))**

Formed in 1993, INGESCO Sistemas Informáticos develops and supports multivalued software applications for providing comprehensive business management solutions to meet the

needs of each client. INGESCO is based in Asturias, Spain and is specialized in multivalued environments. It has a group of professionals with extensive experience in these environments.

## **About Saint-Gobain Saniplast ([www.saniplast.es](http://www.saniplast.es))**

Formed in 1981, Saint-Gobain Saniplast is a service company specialising in the distribution of materials for Civil Works and Building supplying all sectors of civil engineering through a comprehensive network of 25 marketing and distribution centres throughout Spain. Saniplast is the first company in Spain to distribution of materials for pipes and Civil Works. ■

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## 2013 MULTIVALUE INDUSTRY END OF YEAR RECAP

Continued from page 7

vices to allow native applications to access data on a QM server.

### **Q: What would you like Spectrum readers to watch for in 2014?**

Looking forward to 2014, we expect key developments to include several web related components including an integrated web server for incoming web services applications, an equivalent outgoing web services connector with advanced support for multi-dimensional data objects, and a number of new connectivity enhancements.

We are also expecting to see QM launched in a Software as a Service role early in 2014 or maybe even late in 2013. This exciting venture has the prospect of opening up a major new market in which new or established applications can be provided in a secure, low cost and flexible manner.

### **Precision Solutions**

#### **Q: What new features or services did Precision Solutions introduce in 2013?**

In 2013 we rolled out version 7 of our Red Leaf web portal for Epicor Prelude. This release made some big leaps in functionality for the product, with some big enhancements for both the desktop and mobile platforms.

#### **Q: What was the greatest or most exciting thing that happened to your company or product in 2013?**

In addition to nearly doubling our office space, we launched a new training center for Red Leaf that we hope to leverage a great deal next year. Red Leaf continues to be a big hit, and we're constantly growing the platform and finding new ways to expand the technology.

#### **Q: What would you like Spectrum readers to watch for in 2014?**

More mobile! Our customers have been dreaming up all sorts of cool things they want to do with the mobile platform, and

we'll be exploring a number of those ideas in the coming year, like warehouse operations using phones, tablets, and other pervasive devices.

### **Revelation Software**

#### **Q: What new features or services did Revelation Software introduce in 2013?**

In June of this year we released OpenInsight Development Suite 9.4 which included dramatic improvements to our OEngineServer as well as OpenInsight for Web (O4W) version 1.5.

The Revelation Software OEngineServer is a java application designed to listen for requests from various client applications; start up, manage, and terminate the database engines for OpenInsight (OEngines); and route requests and responses from the clients to the OEngines. OI 9.4 has increased OEngineServer stability and has also added support for UTF8 mode.

OpenInsight for Web (O4W) is a web development toolkit designed for multivalued developers. This toolkit can be utilized on a variety of databases including OpenInsight, Universe, Unidata, D3, mvBase, QM, SQL, MySQL.

#### **Q: What was the greatest or most exciting thing that happened to your company or product in 2013?**

In April 2013 Revelation Software hosted our Users' Conference in Nashville, Tennessee. Attendees from around the globe congregated to share ideas and knowledge about our software. Overall, it was a very enjoyable, easy going, fun learning experience.

In September we launched our new web site written using Joomla and our O4W software.

#### **Q: What would you like Spectrum readers to watch for in 2014?**

Development continues on OpenInsight version 10.0 which will include a 32-bit and 64-bit implementation of the product. OI 10.0 will include the following new components: an embedded web server, a WYSIWYG O4W Form Designer, a browser-based Management Console, im-

provements to indexing and a new desktop Form Designer. We are planning to release OI 10.0 in Q4 2014.

### **SJ+ Systems Associates**

#### **Q: What new features or services did SJ+ Systems Associates introduce in 2013?**

SJ+ Systems Associates is excited to have spent some of 2013 working with Design Bais — the very smart people and the very smart product.

PRC is an IT Governance/Source control/Life cycle management solution that has been available on MultiValue databases for many years. Now PRC can be used to manage Design Bais development itself and this also opens up many other development environments for PRC use, as well. Of course, PRC is still a powerful solution for those who are using Rocket U2 tools such as SB+, SB/XA and BDT, plus a number of 3rd party editing tools.

PRC is a complete life-cycle management tool. This means that it will automatically track changes made to software and data files (as designated), keeping backups of all types that are easily viewed and managed. Rollout (deployment) and rollback to test and live environments is a simple one-button activity. PRC also provides test plan management — allowing test steps to be iterated and noted, saved, and reused. PRC also has its own request/issue management or can be readily integrated with other outside tools for help desk/problem reporting. PRC will support compliance with the security initiative and provide the necessary IT controls for any governance strategy including those imposed by regulations such as Sarbanes-Oxley and PCI DSS.

#### **Q: What would you like Spectrum readers to watch for in 2014?**

The coming year will see PRC continue to mature and expand as well as accommodate any new regulatory requirements that come along. **IS**

# Automated Testing

## Part 5 – Dependencies

BY BRIAN LEACH

In the previous article we looked at techniques for refactoring legacy code to expose individual functional pieces for unit testing. By supplying predictable test data in a correctly configured and controlled environment, your tests can prove that the code of such routines continues to operate as expected.

Whilst it is easy enough to test the inputs and outputs of individual routines, the challenge comes when you need to test routines that have dependencies on external factors. These factors might include other routines that get called along the way; data fed into or selected by the code; external data feeds; spooler output and user interfaces. Each of these provides a barrier to straightforward unit testing. Handling dependencies can be the most time consuming part of writing unit tests.

### Faking It

Central to the concept of unit testing is the need to isolate the code under test, so that you know exactly what is being tested and why. In an object oriented world that is challenging enough, but on a MultiValue application composed of many interlocking legacy subroutines that can be a lot tougher to achieve. How do you test a routine that calls on other subroutines to perform important tasks — subroutines that may not yet have their own bodies of tests and whose own effects and dependencies you may not have the time to fully understand?

When faced with calls to dependent routines, the classic approach is to fake it using mocks, stubs, or other similar doubles. A fake is a routine or object that stands in place of the true routine that would normally be called by the code under test, and that can be used to produce predictable output (stub) or to verify the behaviour of the call (mock). For a good discussion of the difference between mocks, stubs, and similar artifacts visit [www.martinowler.com](http://www.martinowler.com). As with all such resources a level of translation is required to apply the standard academic model to MultiValued applications.

Let us take a simple example. Imagine that you are testing a routine that places an order. As part of the process this may call another routine that performs a credit check on the customer, and may return one of three values: the customer has sufficient credit, the customer is on hold, or additional approval may be required before their order can be fully accepted. As a developer, you want to test that your order submission will work correctly in all three situations.

One option might be to create and utilize three different customers, each of which fulfils one of those criteria. That makes a naive sense in simple cases, but as well as the fact that the data required to force that decision may be complex and require a great deal of setting up, it also introduces another dependency. Should the rules involved also vary over time this will render your test invalid, and whilst this would show up in regression tests, it localizes the error to the wrong area of responsibility. The credit check and any data required to implement that should be the sole concern of the credit check routine and not the responsibility of the order submission test.

A key part of unit testing is to be clear about just what is being tested. The order submission calls a credit check routine to return a value, but should not itself care how that value is calculated. The job of the order submission is simply to respond to that value. This is what is meant by functional isolation in terms of unit testing.

So rather than worry about setting up all the necessary data to force the credit check to return the required value, a more practical solution would be to fake the credit check subroutine for the duration of the order submission tests. The fake subroutine sits in place of the real credit check and will present exactly the same arguments, but will return a specific value to the order submission when called under test conditions. The internal logic might even be as simple as:

```
Begin Case
  Case CustomerId = FIRST_TEST_CUSTOMER
    Result = CREDIT_OK
  Case CustomerId = SECOND_TEST_CUSTOMER
    Result = CREDIT_ONHOLD
  Case CustomerId = THIRD_TEST_CUSTOMER
```



Digital Version  
On-Line

Scan Me!



```
Result = CREDIT_AUTH  
End Case
```

You can then call the order submission passing each of these customer numbers, knowing what the routine will return. You could similarly drive the output from a file or named common block stacked with required responses from the unit test itself.

In object oriented languages, fake objects can be accessed through inheritance or interfaces. In the MultiValue world we can simulate the difference in calls by using indirect calls (CALL @name) or by overlaying the catalog pointers. Keeping a FAKE.BP file from which you can temporarily catalog a replacement routine is often the simpler solution, though you may need to be careful about how the database caches called subroutine code. You also need to ensure that tests involving fakes are suitably isolated to prevent the possibility of two developers running tests at the same time in the same account each setting up a different temporary fake for the same routine. It is one of many strong arguments in support of each developer testing in a separate account.

Not all fakes need to return data. Let us imagine that later in the process your order submission routine sends a confirmation to the customer by calling a general purpose email subroutine. Do you need to test the email functionality here? Clearly not. Once again that is not the responsibility of the code under test. What does matter, however, is that fact that the email routine gets called and that valid arguments are passed in. Mocking routines verify the interaction of the calls themselves by capturing and validating input and the number of calls made.

```
mock.Setup(x => x.DoSomething(It.IsAny<integer>()))  
    → .Returns((int i) => i * 10);  
  
mock.Verify(foo => foo.Execute("stuff"), Times.  
    → AtLeastOnce());
```

In the mvTest world the calls are still procedural and so the validation can be part of the script. Even so, a mock is presented as an object whose lifetime extends beyond the call allowing you to assert facts about the call:

```
Assert "Email routine was called", myEmailMock.  
    → wasCalled()  
  
AssertIs "Valid email was passed", "me@my.com",  
    → myEmailMock.GetArg(1)
```

## Data Dependencies

In a modular application or one that has been refactored to embrace single responsibility principles, using fakes can go a long way to reducing the amount of time required to identify and set up test data for your application. For other data schemas it is usual to fake out all database interactions, but with MultiValue application inevitably you will need to test the interaction with the file system.

In unit testing the data with which we work must be both predictable and reproducible. That can be difficult to achieve on development systems where any kinds of rubbish may be left behind by previous tests or generations of the system, or where data may be broken as the result of unfinished or erroneous development work.

Periodically refreshing your development systems with sanitized copies of the live data is a simple solution but from a unit testing perspective it is not the answer. If you have many developers working on different tasks, some of these may be dependent on future data changes that are still being coded by other teams. If your production data is volatile, you may find that you simply didn't have certain types of data in your database at a particular refresh point so vital test situations might get missed. And depending on where you are in the business cycle, the point at which the data refresh takes place may not be the right point for a team testing period end, specific end-of-day or intra-day operations. Having one team run an end-of-day batch may even wipe out the very data required by another team!

So here is the hard fact — whilst snapshots may be fine for user acceptance testing, you cannot depend on existing test data for unit or CI tests. A unit test should create and tear down the data it needs. That is tough work and probably the most time consuming part of any test strategy — but ultimately if you want control over your testing all the way through the process it will be unavoidable. It can also expose risks if the test data does not match your live data. Unit testing alone is never a replacement for user acceptance testing.

If you can avoid using direct-by-path access methods to your data, the process of creating and populating test files can mirror that of your subroutine fakes. This typically involves creating and tearing down temporary test files and replacing the file pointers in the MD or VOC in the same way as the catalog pointers for subroutine fakes. These do not necessarily need to be the same size as the live files and if you need to populate these, the method needs to be as convenient and reproducible as possible. Using UI scripting to run data entry screens, calling refactored routines with test data from spreadsheets or external sources to build the data may be an unavoidable solution for complex data but again creates dependencies for the tests and therefore discouraged.

mvTest manages file fakes using a profile manager to specify the new build requirements that can be attached to a single test or to a batch (fig. 1). For each of these it creates a new file of the appropriate file type under a unique name and then creates the VOC or MD pointer under the real file name through which to access it. This is a safety feature and makes sure that there are no old pointers left lying around in the account that might be pointing at shared (or even live) data. Dictionaries are populated from the

*Continues on page 18*

## AUTOMATED TESTING PART 5: DEPENDENCIES

Continued from page 17

live files, any secondary indices are created until the end of the test when temporary files are removed and original file pointers restored. Do remember if you adopt a similar scheme for your own testing that some databases will not delete files that are open in named common so you need to consider closing files that would normally

remain open for the duration of the application.

### Separating Concerns

What about other dependencies — those on devices, spooler, data flows, or user interfaces? Again you can leverage the same concepts of isolating just what it is that you need to test. Let's go back to the order submission and suppose that it produces a document for the invoice. How do you go about testing that in your unit tests?

If you are producing the document as plain text or PCL directly from the database spooler, you could capture and read the resulting file and interrogate it just like any other content. Writing comparison routines that strip out time-dependent or data-dependent values from text based reports is something I have done for systems migrations in the past, if sometimes complex to define. But if you are using a high end document engine like mvPDF, that is a different matter. The document may be protected, encrypted, certainly compressed and possibly have digital signatures and other assets that make parsing it not straight forward. What we are looking at is the need to apply the principle known as separation of concerns.

From the testing perspective we can consider that a document is composed of two things — the data and the presentation. For the presentation you may need visual confirmation at the user acceptance testing stage — a good technique for CI testing is to simply print masters on acetate and overlay the newly created documents for quick checking.

For the purpose of automated unit testing, the focus instead rests on the information that will be rendered. Hopefully your legacy application does not contain lots of programs stating “print 20 spaces, then this value.” If so, they are ripe for refactoring anyway. At the very least you should be supplying data to a print template so that elements such as positioning and styling are separated from the production of the data to fill it. It does not need to be as sophisticated as an mvPDF report or merge form, but just a set of instructions to state where different data should go and how it should repeat. Then the inevitable user changes are much easier to accommodate. If even that is not possible, you can still split the print production into a separate routine and feed it the data to render, so that you can then fake the production routine for your unit tests. In all these cases, what you need to test is the content and not the presentation of the output. What is more important, that the invoice lines up? Or that it shows the right figures?

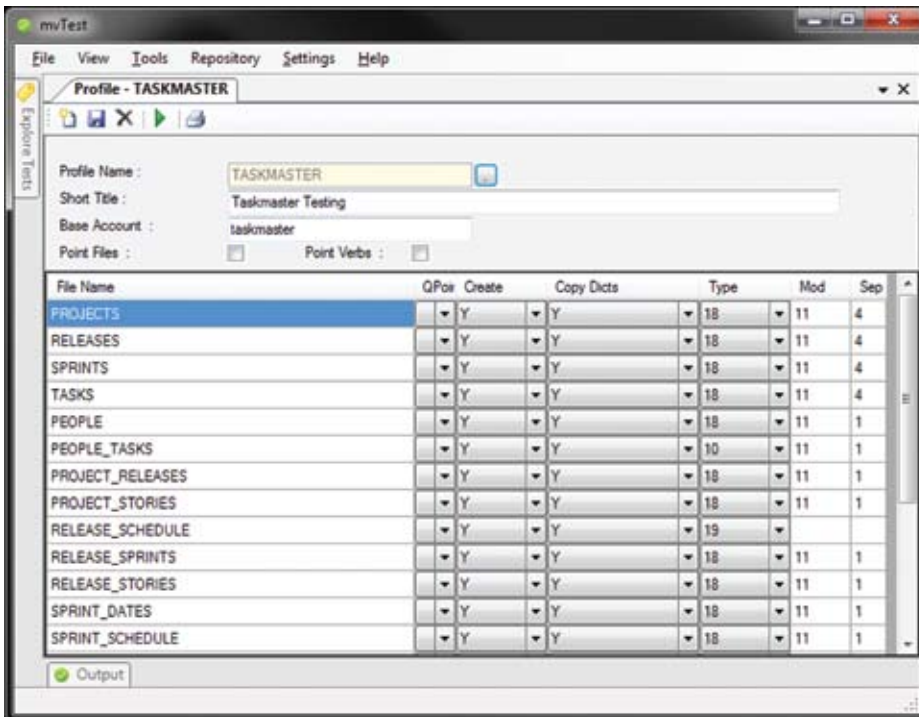


Fig. 1 mvTest Profile

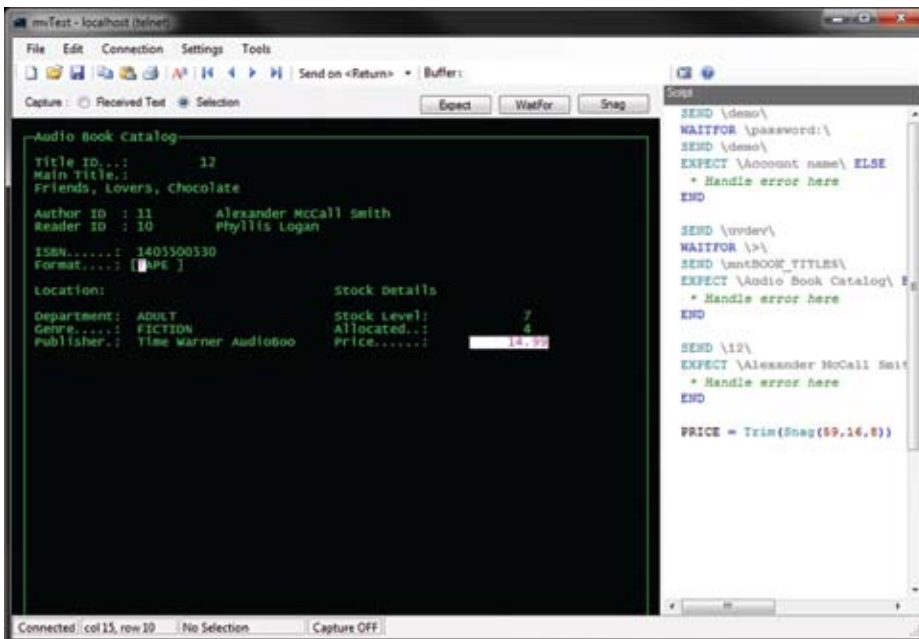


Fig. 2 UI Script Recorder

The same is true of data flows. Do your routines under test care where the data originated if it can be passed in the same format and volumes? Feeding in test data from a spreadsheet or CSV file is no different than feeding it from a hand held scanner or message queue but is quicker to repeat and requires far less setup. That does not mean that you can avoid separately testing those interfaces also, probably in the acceptance phases, but the rules around code isolation mean that you do not need to run them for all the data combinations demanded by your unit tests. Consider encapsulating and faking socket operations, remote database calls, or anything else that brings data in or out of your area of immediate concern.

### UI Dependencies

User Interface dependencies are probably the most complex pieces to untangle from a legacy application. As with printing, the best long term option is the separate these out so that your business code is segregated from the user interface, and presented to a screen driver or common routines for input, navigation and display of data. These routines can be augmented by standard validations — testing for data format, ranges, lists of values, file relations and like. Hand coding screen activity has always been a waste of time.

If you are running with GUI or web interfaces then by definition you have already split out the presentation logic, and should use the appropriate platform tools like Selenium, Jasmine, or WatIn to test the UI separately from the MultiValue logic behind it. Testing through the UI is always limiting as you are bound to miss unassigned variable messages and other errors swallowed by the middleware and working at that remove makes it more difficult to isolate issues when found. It is always better to test the logic first and then develop the UI over the top of the verified code.

For a legacy system where it may be simply unaffordable to refactor the code in this way, or may take considerable time to achieve, the simplest UI tests may be no more than a series of DATA statements or, for the brave, a PROC that can stack the values to fill the various input statements to

drive an application. There are limitations on this approach, not least the fact that low level key-based input routines may not work with DATA stacked input, handling function keys is difficult and these tests are difficult to maintain. If you have a common input subroutine in place of INPUT statements in your code, that gives you an option to read inputs from a script but that of course will not work for any system generated messages (Press any key to continue, for example). Test routines that rely on the DATA stack also rarely handle exceptions well — you can drive an entry screen to simulate order entry, but what happens when the system reports that the item is now out of stock?

A better option is to invest in or code up a test scripting product that can drive a TELNET or SSH connection and simulate terminal activity and one that can adapt to handle exceptions. This avoids the limitations of DATA stacked input by fully simulating the user, and it can also offer the benefits of being able to read the screen, much as a user would, to validate what is displayed.

mvTest has built in support for TELNET, SSH and TELNET/SSL operations that run as a second connection beside the main test connection (fig. 2). These scripts can send input and function keys, can examine the content of the screen or output stream, can wait for and branch on specific messages appearing and can gather input from external sources to drive tests through the terminal connection. At the same time, the main connection can perform database-level checks to make sure that what is entered on screen finds its way into the database or to set up the preconditions before running a UI test: all written as part of the same script so that it is easy to see both sides of the operation. Other telnet scripting products are available but lack the deep reach into the database. **IS**

**BRIAN LEACH is an independent Multi-Value consultant and tool developer living in the UK. He is a founder member of the Rocket Software User Group and former president of the U2UG. Find out more at <http://www.brianleach.co.uk>.**

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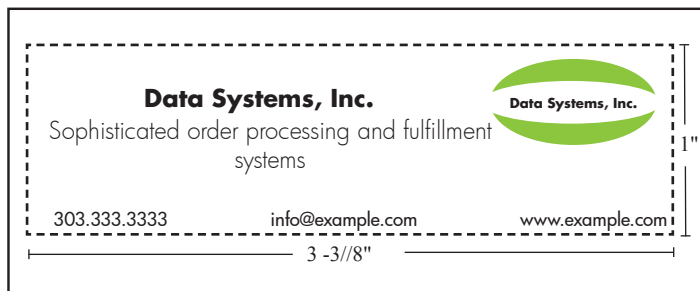
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For more information contact Nathan at: [nathan@intl-spectrum.com](mailto:nathan@intl-spectrum.com)

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## CLIF NOTES: IT'S BEGINNING TO LOOK A LOT LIKE CRATCHIT

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were actually talking about, to the bright and sunny Southwest of my native San Diego, where a number of times the day after Christmas was celebrated with a party on the beach. And all points in between. There is a big cultural difference between the Pacific Northwest and the rural South. Yet wherever I've gone, I hear the same complaints about the holidays. So it got me to wondering about common factors. Then it dawned on me.

Work. Among the people that I associate with the most, are the people I work with. And the people I work with the closest are in the same industry I am – information processing. I think most of our readers fall into that category. Many of you support 24/7 operations and have had the experience of being away from your families on holidays to do system upgrades or conversions, those being the only times the business can be down. But that's not what I am

referring to. I'm referring to the modern attitude towards work itself. First, most people seem to think that any time away from the office is inviting a career catastrophe. "If I'm not there 60 hours a week, they won't think I'm dedicated, and they will pass me over for promotion (raise, employee retention after a merger, whatever). And with the rise of mobile computing and access to "data everywhere," the syndrome continues to get worse.

It's easy to blame the employers and claim that it is their inhumane demands and expectations that cause people to do this. In some cases, perhaps. But the holidays are not the only time you see this behavior. What about all the people who come to work sick, running fevers, coughing and sneezing, and leaking from every opening in their head? I haven't seen an employee handbook yet that said that you are expected to come in and put 50% of the office out sick by playing Typhoid Mary and spreading your illness around. Yet people do it all the time. On their own. Their choice.

Also, the nature of the workforce has changed. There isn't anybody at home every day to bake pies, do holiday shopping, wrap gifts, etc. yet we carry within us the expectations (supported by the media bombardment in many cases) that this is all Required Activity in order to enjoy the holiday and make it a "success." In other words, even if we have a balanced attitude towards work, we simply don't have the time to achieve the picture we still carry in our head. And that is not going to change. Norman Rockwell belongs in the museum, not in our day planner.

So my suggestion is, ignore the media. Lighten up on the "stuff." Focus on people. And most important, give yourself a break. Take your time off work. Don't check email. Enjoy the people in your life. And if you currently don't have that, look for ways to help someone else. But don't choose to sit huddled in an office in self-imposed exile.

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# It's Beginning To Look a Lot Like Cratchit

BY CLIFTON OLIVER

I used to enjoy the holidays. I have very pleasant memories of time off from the routine, preparations and excitement, tasty things you only get once a year such as homemade divinity, fudge, and sugar cookies, and delightful times spent with family and friends. I think that the United States holiday of Thanksgiving might even have been more dear to my heart than Christmas. Of course, the major component of that holiday is food, so for me that is probably not surprising. Smells of pies baking the night before, fresh cranberry relish (not that canned goop), and a golden roast turkey coming out of the oven looking like something out of a Norman Rockwell picture.

Of course, Christmas was also delightful. For that holiday the preparations and build up almost better than the holiday itself. All of the decorations, lights, shopping for family, friends, and maybe even that friend that you were hoping would become family. And the music. Wow. Bach, Handel, Mozart – absolutely delightful. Of course, we seem to de-evolved to "music" such as "Rocking around the Christmas Tree" and "Grandma Got Run Over by a Reindeer." But it was still a time of magic.

And then, I grew up and got a job.

Where did the magic go? I know that I am not alone in wondering about this.

I think that many, if not most, of you have had thoughts along the same lines as the holiday season approaches. Reports of depression during the months of November and December seem to be on the rise. (On a related side note, however, the "common knowledge" that more suicides happen during the holiday season is, in fact, not true.) The most commonly reported stress factors in cases of holiday depression requiring intervention or treatment are loneliness and a sense of lack of family. Makes sense. At this time of year, we are constantly bombarded by the media whose portrayal of the holidays typically shows people together, laughing, having a good time, and generally being joyful. If you are single, recently moved to a new city, haven't made any friends yet, it just seems natural that this constant barrage of "happy happy" media messaging would get to you and make you feel like an outsider. But what about those of us who do not fall into that category, have friends and family locally, established holiday traditions, and seem to have all of the prerequisites for enjoying these festivities? Why do we still tend to look at the holidays with trepidation and many times feelings of, "Oh no. Here we go again."

A lot of people point to changes in our social fabric as the culprit. You frequently hear comments about how materialistic everything has become, how

rude and self-centered people in general are, and how it seems like every year the parking spaces keep getting smaller. And it does seem like a lot of people are just looking for an excuse to bite your head off. Several people have told me that because of the extreme to which the political correctness pendulum has swung, they're afraid to say anything to somebody that even refers to the season. If you slip and say "Merry Christmas" to a stranger, you don't know if they are going to smile and return the greeting, spit on you, cuss you out, or physically attack you. Some folks tell me that just to be on the safe side they have given up holiday greetings entirely. So at first glance, it might seem to be obvious that "they" have ruined the holiday season for everybody.

Well, I suppose that to a certain extent, that's true. However, I'm always a bit suspicious about explanations that focus on people and events outside of ourselves to explain the feelings we are having within ourselves. We will come back to that in a moment. So while I do not deny any of these observations, I have to wonder about them. As a result of my consulting practice, I have had the privilege of experiencing the holiday season in a number of regions of this country, from the frozen beauty of the Northeast, where I learned what many of the verses of those traditional Christmas songs

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