TORONTO USERS GROUP for Midrange Systems
March 2004: Vol. 19 No. 4

TUG eServer magazine™

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Updates on TUG's 11th annual
Technical Education Conference (TEC)
April 20-21

March 24
Meeting of Members
Guest Speakers
5:00pm:
Bill Smiley & Wes Helms
7:00pm:
Phil Coulthard & George Farr
See Agenda, Page 10

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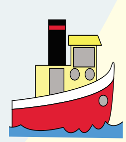

TORONTO USERS GROUP
for Midrange Systems

TUG *eServer* magazine

is a regular publication of the Toronto Users Group *for Midrange Systems* (TUG), and is distributed to members and industry associates six times per year. It contains updates on activities of the group, as well as articles from members and non-members, which are of general interest to the "eServer community."

Manuscripts should be submitted to the Editor via email. (See address below.)

TUG is a not-for-profit organization that promotes knowledge of the iSeries, pSeries, AS/400, RS/6000, and other midrange technologies. Questions about the users group, and subscription enquiries, should be directed to our Association Manager, Wende E. Boddy, at the TUG office, **36 Toronto Street, Suite 850, Toronto, Ontario, Canada M5C 2C5**. Phone: 905-607-2546 Toll Free: 1-888-607-2546 Fax: 905-607-2547 Email: admin@tug.ca

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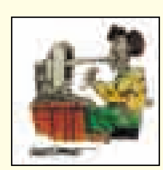

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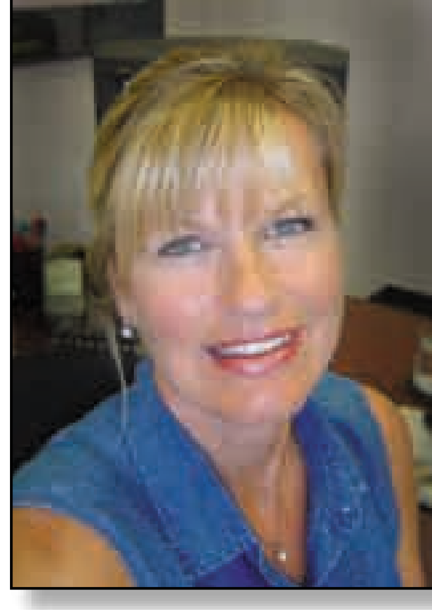
Friday, April 9, 2004

President's Corner

By Eveline Gaede,
President, Toronto Users Group for Midrange Systems



Eveline Gaede

For this month's President's Corner, I have decided to write about something I know absolutely nothing about – Sarbanes-Oxley. (Some may argue that this is no different than any other month). So why would I want to talk about that particular topic? Because the 5:00pm session at our March MoM deals with this topic and if you are like I was, you may be asking yourself, **"What the heck is Sarbanes-Oxley and how does it affect me?** It sounds like a very strong, very caffeinated coffee that's going to keep me awake all night." Well, Sarbanes-Oxley (also called "SOX" and "SARBOX") is not a coffee, but it could very likely end up keeping you up all night.

Last MoM

At the January MoM, Paul Conti talked about Change Management and how important it is for IT Managers to "Control Risk". Controlling risk applies not only to change management, but also to so many things in our day-to-day life. Paul used an example of missing an off-ramp on the 401, slamming on your brakes and then backing up to get on the ramp. By doing this, you risk the possibility of causing a 10 car pileup and perhaps your own life for a gain of about 5 or 10 minutes. "Controlling Risk" in the Change Management arena means ensuring you have controls in place to manage the risk of unpredictable outcomes to your software projects. And "Controlling Risk" is also a large component of what the Sarbanes-Oxley Act is all about.

In a nutshell, the Sarbanes-Oxley Act of 2002 is about "ensuring that internal controls or rules are in place to govern the creation and documentation of information in financial statements". There are a couple of misconceptions surrounding how (and if) this act affects us in the IT industry:

Misconception 1: "The rules apply only to publicly traded companies." Although private companies are not governed by these rules, it is recommended that they adopt them as best practices. As well, a private company will become subject to the Sarbanes-Oxley Act upon filing a registration statement with the SEC in anticipation of an IPO.

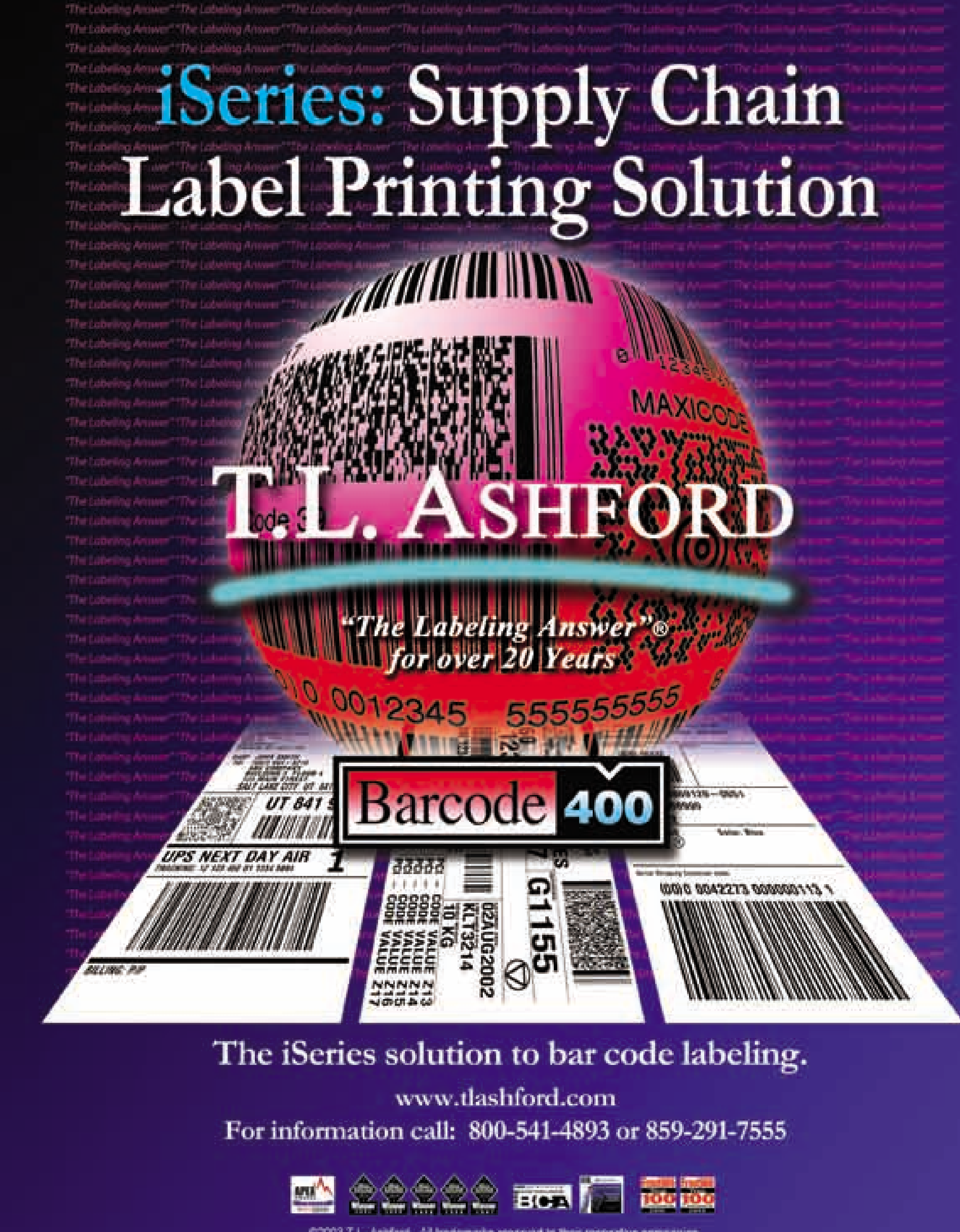
Misconception 2: "The Sarbanes-Oxley Act is only a financial issue affecting only CFO's and not a systems issue." This act affects information technology, human resources, compensation and environmental compliance – the reason being that these areas all affect company financials.

IT's role is far reaching – IT must build the controls that will ensure that financial data stands up to audit scrutiny. We understand how the information is stored and changed in systems, so we need to ensure the controls are in place. As you can see, it is critical that we all attend this session to get a good understanding of not only what the act is but how it could affect the way we store data and how we manage future changes to our systems.

Salary Survey

On another note, at the beginning of the year we sent out the annual salary survey to the primary contact at every TUG member company in the GTA. Unfortunately, the response has been very disappointing and at this time, there are not enough replies to produce an accurate statistical representation of our industry.

Although the TUG Board is discussing various options for next year, we are still faced with what to do with this most recent survey which covers the calendar year of 2003. The deadline for returns was originally Feb 29, 2004 and we will extend it until March 15th. However, if we do not get sufficient replies by then, the results can not be distributed as they will virtually be meaningless. With today's cutbacks on resources and spending, we realize that time is at a premium. However, the survey can be a valuable resource for your IT planning for the upcoming year – but only if you take to the time to participate! If you have not yet filled it out, please do so by March 15, 2004.



See our booth at the TEC Vendor Showcase, Tuesday, April 20

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Feature Article:

Corporate Accountability

A Sarbanes-Oxley Primer

What is it? Why it's here to stay? How do we make sense out of it?

By Bill Smiley and Wes Helms

Introduction

There are many new business regulations coming down the pipe that information systems folks will need to get a quick handle on. New regulations such as Sarbanes-Oxley (SOX) and Bill C-198 have left information management professionals trying to understand exactly how these regulations will affect them. Let's look at the new compliance landscape to answer these questions.

SOX and Bill 198: Where did they come from?

The failure of major US Savings and Loans establishments a decade ago, and the recent corporate malfeasance of Enron, Tyco and WorldCom devastated shareholder worth and overall confidence in the markets. This resulted in the U.S. Federal Government appointing a commission headed by Sen. Paul Sarbanes (MD) and Rep. Michael Oxley (OH), which concluded that these catastrophic business failures represented the epitome of poor corporate governance and greed. Their commission drafted legislation to hold corporate officers responsible for the financial health of their companies, and the resulting Sarbanes-Oxley Act (SOX) became law on July 30, 2002.

SOX mandates that CEO's and CFO's of companies listed on US stock exchanges must "certify" and sign off on interim and annual statements as well as their corporate governance framework. If the CEO's cannot comply by the stipulated date(s), the penalties can be swift and severe: the company's stock could be de-listed, heavy fines imposed, and top executives could be prosecuted. Good governance is no longer a "best practice": now it's the law. SOX's influence extends to subsidiaries of American companies operating outside the US (e.g. GE Canada) and foreign companies whose stock trades in the US (e.g. most of Canada's big banks). Bill C-198 is Canada's SOX equivalent. Any company complying with SOX will likely also comply with C-198.

Involvement by Information Systems

Systems professionals will play a major role in achieving corporate compliance. IS will need to ensure that automated transaction processes, documentation, and records are authentic and not open to corruption or fraud. To help IS develop accountable information systems for this new compliance landscape we will lay out 5 principles to guide you through this project.

Principle 1: A Corporation-wide Collaborative Approach

The internal champions for this compliance initiative will be CEO's and CFO's. It's their signatures that go on all documents forwarded to the regulators attesting to the fact that all the company's financial controls meet required guidelines.

The Compliance Teams that analyze the company's processes must operate cross departmentally. Getting all the financial processes documented quickly and accurately is a major undertaking, especially if there isn't enough slack in the organization to allow for enough qualified staff to execute the project. Most companies second key staff from their operating areas (content experts), augment their ranks with audit professionals from major accounting and audit firms, and contract a skilled Project Manager (process expert). Collectively, they form teams that conduct the actual process reviews.

Principle 2: Avoiding Conflicts of Interest

It is vital to avoid conflicts of interests when assembling your team. In a large organization, such conflicts can cause corporate governance to fall flat on its face. Let's clarify this:

U.S. President George W. Bush with Congressman Michael Oxley (R-Ohio) and Senator Paul Sarbanes (D-Maryland)

The Role of the Internal Audit Department

Internal Auditors *cannot* participate in the review of existing processes because they will ultimately audit the team's findings; adjudicating their own work would be a conflict of interest. The team will review the internal processes and sub-processes, rate their applicable controls, and highlight areas requiring change in order to achieve compliance. The Internal Auditor cannot begin until the teams confirm that all the controls have been documented and comply with the guidelines. ▶

The Role of the External Auditor

SOX and C-198 have the big audit houses very nervous, and rightly so. They will serve two roles in your compliance process: auditing your financial statements and (potentially) attesting to your governance framework. Obviously, they will require assurances to avoid liability, and will be unwilling to participate until you have confirmed that your part is completed and they can have full autonomy over the project.

However, your auditors will probably have a greater understanding of the compliance process, deadlines, and requirements than anyone in your organization, so it's in your best interest to incorporate their expertise into your thought management.

They will be mindful of the potential for conflict of interest issues (and will certainly be guarded in what they say and recommend) but it is essential to ask them to sit in on your board reviews, and participate in planning efforts. Be diligent and document all correspondence between the companies.

Principle 3: Process Identification and Control Repository

Let's consider what the process of becoming compliant is all about. It's easy to understand that any process that deals directly or indirectly with the financial integrity of the company should be evaluated. Consider the idea of a process chain: each link of the chain represents the controls that secure the transaction. For example, one control when applying for a bank loan would be the applicant's sufficient unencumbered collateral to secure the loan. Another control might be a rule that says "no collateral, no loan."

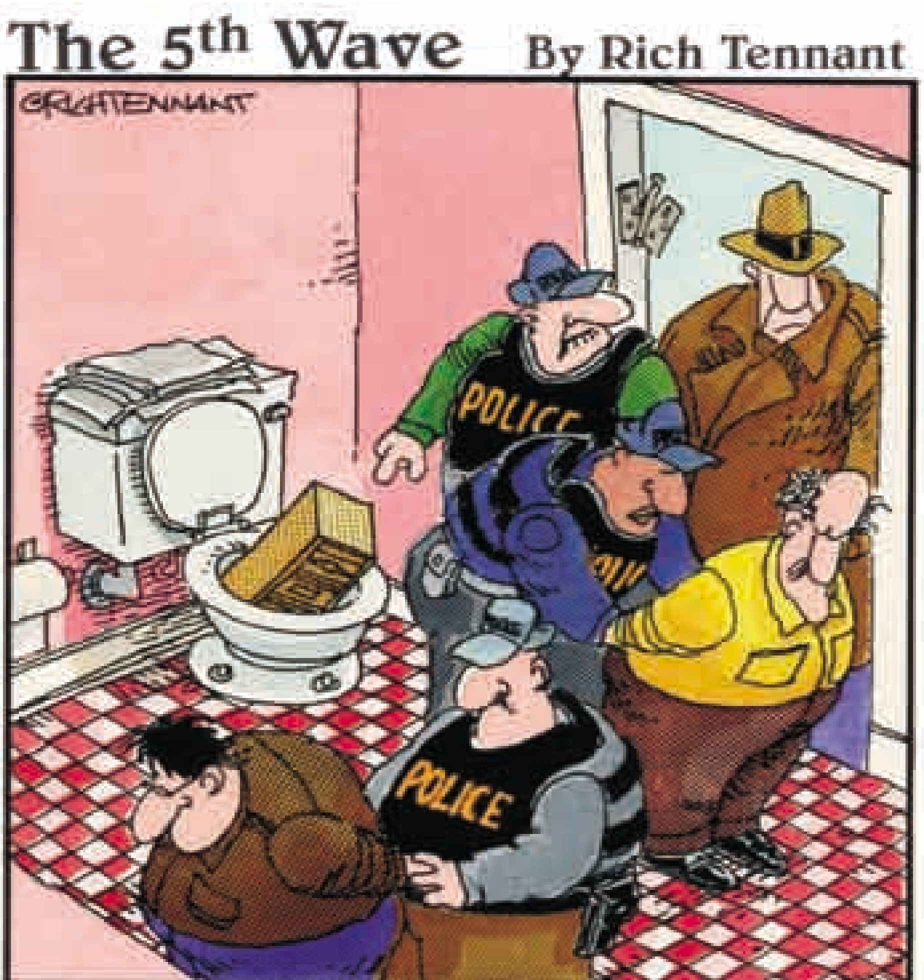
But what if there is collateral and the control can't detect or determine if it's unencumbered, or sufficient? And what if the loan is approved but the collateral is never assigned to the loan? You see the point; there have to be dozens of controls, dependant on each other.

Each control – dozens, hundreds or thousands – must be rated. A typical rating hierarchy might be:

- Unreliable – Undocumented, or simply doesn't work, either consistently or occasionally.
- Informal – The control exists but likely isn't documented or well understood.
- Standardized – The control meets standards and is adequately documented.
- Monitored – The control is standardized, documented and will flag activities outside certain boundaries and issue warnings without proceeding.
- Optimized – the control will automatically take the necessary corrective action to events that fall outside its threshold.

The Data Repository

This is the other area for IS involvement. The Data Repository stores every attribute about every process, sub-process, and control that the team reviews. There are numerous repositories on the market that are suitable for analyzing and warehousing the data collected during the compliance project (almost every big audit firm has one), but be careful when defining what you want it to do. Every shred of information gleaned by the compliance team will end up here. This is also the place the Internal and External Auditors will visit as they conduct their reviews. IS will be mandated to keep the Repository's code current and secure its contents through suitable access controls, backups, off-site data storage, etc.



"Their financial controls did not meet the required Sarbanes-Oxley guidelines. We broke through the door just as their IT guys were trying to flush this harddrive down the toilet."

Negotiating with Outsourcers

If you outsource any of your financial processes, their controls can become a major concern. For example; if you outsource your payroll, which controls do you keep and which do you vest to your outsourcer? Can you adequately rate the controls you've retained? Can your outsourcer attest that the controls you have empowered it to conduct will satisfy the new requirements? It's easy to achieve your own compliance dates, but it might be considerably harder to get your outsourcer to do the same. Consider and plan this area carefully.

Principle 4: Document and Records Management

Even with our controls identified, rated, and placed in a repository, we are still generating countless reports, relying upon control documentation, and searching for multiple files across our companies. SOX Section 302 mandates that real time disclosure on changes to the firm's financial condition be made on a "rapid and current basis." Therefore, we will have to immediately access the unstructured data, reports and contracts that explain why our numbers appear the way they do beyond the usual financial statements.

The biggest challenge with unstructured content is that it is often disorganized and inaccessible. Information Systems Professionals must begin to organize this content at the organizational level by developing an *enterprise content management* and *records management* strategy. Companies should strive for faster access to information to meet reporting requirements, which can involve developing sophisticated internal file naming conventions, a record indexing model, or investing in an Enterprise Content Management solution. Many companies are deploying content management applications which provide auditors access to cross departmental control documentation from their desktops. ▶

The 10 Deadly Sins of 'Sarbox"

* In a Sarbanes-Oxley world, beware of these errors in financial record keeping:

1. Records-management policy isn't linked to regulatory requirements.
2. Retention schedule is no longer reflective of the law departments.
3. Formal policies are nonexistent or inconsistent across departments.
4. Records management covers paper records only.
5. No one is responsible for administering the program.
6. Retention periods aren't integrated with document management to purge documents.
7. Employees are unaware of policy.
8. There are no tools to authorize deleting documents.
9. There's no audit process to track what's happened.
10. There's no indexing, so it's impossible to retrieve documents when required.

THE AGENDA for our next Meeting of Members

Wednesday, March 24, 2004

LOCATION: ***Toronto/Yorkdale Travelodge Hotel***

2737 Keele Street (at Highway 401) Toronto, Ontario

5:00pm Sarbanes-Oxley and You

SPEAKERS: Bill Smiley & Wesley Helms


Bill Smiley


Wes Helms

Abstract:

This presentation will be delivered in two parts. **Part 1** "Technology for Compliance," will examine how technology can enable effective corporate governance by: augmenting internal control structures and processes, mitigating risk through effective records management, and increasing corporate visibility, communication, and collaboration. **Part 2** "Running a Sarbanes-Oxley project," will review the considerations necessary to achieve Sarbanes-Oxley 404 compliance, how to organize the project, pitfalls to avoid, and unexpected benefits. This presentation will be based on the recent plans put in place by one of Canada's largest banks. Both sessions will provide a knowledge based architecture strategy focused on maintaining long term accountability and compliance.

Biographies:

Bill Smiley is Managing Director of Illumina Management Solutions. For over 25 years, Bill has held many senior management positions, served on Senior Management Committees, participated on Advisories and Corporate Boards, and held a number of Interim Management portfolios. He has been a keynote Risk Management speaker at several North American and European conferences, and has published papers on these and other business topics. Bill has led senior and middle management teams in their preparation of: Business Continuity Plans, Business Development and Growth Strategies, Business Restructuring and Change Management, Compliance Planning, E-Commerce, Operational Effectiveness, Project Management, Risk Management, and Strategy Formulation and Implementation. He can be reached at bill@illumina.ca.

Wesley Helms is Director of Accountability Solutions with GSI International Consulting Group. He received his Bachelor of Arts from Tufts University and his Masters in Dispute Resolution from the Straus Institute for Dispute Resolution, Pepperdine University School of Law. At GSI, he works with public and private sector clients to enhance good governance through technology, specifically by analyzing client control processes and technology to close organizational gaps and mitigate risk. He writes and speaks regularly on the role technology, with sound processes, will play in organizational conflict management and dispute resolution. He can be reached at whelms@gsigroup.

Intermission – 6:00 pm TUG Meeting of Members (MoM)

• Mingle and network with professional colleagues. • Enjoy our scrumptious complimentary buffet dinner. Please REGISTER with the TUG office of your intention to participate. • You can call, fax, or use the TUG web-site to register, (stating: name, company, phone number, and number attending). www.tug.ca • Do we have your current e-mail address?

7:00pm Remote System Explorer (RSE) Tools

SPEAKERS: Phil Coulthard & George Farr


Phil Coulthard


George Farr

Abstract:

Did you know that there are new tools for developing RPG, COBOL, CL and DDS code? These tools are a follow-on to the PDM, SEU, SDA, RLU and System debugger tools, and developed by the same team in Toronto that brought you PDM and friends. These are the Remote System Explorer (RSE) tools, and they will definitely improve your productivity and your day. Imagine guaranteed clean compiles, cursor-sensitive F1 access to reference manuals, and the ability to list the fields in an F-spec file. Do not just imagine, but actually come to this TUG meeting and see what all PDM users already have unlimited licenses for. Existing RSE users can also learn what's new in the latest 5.1 release from October, 2003. In addition we will touch on the iSeries project support that comes in WDSc and allows you do do team development. We will take a few minutes at the start of the session to position these different components as they relate to the iSeries RPG and COBOL developer's roadmap.

Biographies: (See "Better Tools' article which starts on page 19.)

What topics would you like to see in future? Drop us a line with your suggestions at: leo@tug.ca

Principle 5: Testing and Training

Now that the compliance process is understood, it will be important to develop a testing and training methodology for the compliance team to follow. Every documented control, in every department, will need to be tested (the alternative is catastrophic – imagine the reporting impact on a financial statement if one field is not linking to the database).

When your new compliance systems are implemented and tested, training will be vital to ensuring end-user adoption. This opportunity provides an excellent opportunity to train not only on the applicable technology (software management tools, governance methods), but on the company's new governance processes.

Conclusion: Y2K Déjà-Vu?

In the late 1990's as Y2K approached, analysts and coders who knew the old languages and legacy applications charged unbelievable rates and companies scrambled for their share of the available skills. The inevitable changes required for SOX and C-198 are similar, but with a twist.

Now that the laws of supply and demand are kicking in, Internal Auditors and CA's will become increasingly scarce. Companies will vie for professionals with these skills to get the work done before the compliance deadlines, and at the moment there aren't enough contract skills to meet the needs. The banks understood this very well when they positioned themselves to lead the pack; now they are contracting these skills in huge numbers. Smaller companies who haven't grasped this same fact will be in a precarious place if they cannot meet the regulatory deadlines.

The Timing

The most important aspect of SOX with respect to financial statements is what is referred to as Section 404 and it deals with what we've been talking about: Management's willingness to attest to the completeness and accuracy of internal controls. Compliance with Section 404 of the Act is currently being re-negotiated (for Bill C-198, the date remains March 31st, 2004).

The Goal

The goal, then, must be that for compliance at the conclusion of the project, the company documents and assesses the effectiveness of its internal controls consistent with SOX 404; which enables management to provide a clean assertion to its external auditors to obtain an unqualified Section 404 attestation.

The Benefits

So, what are the benefits from this exercise, beyond legal compliance? Companies are learning that SOX and C-198 efforts will reveal errors, inconsistencies, and redundancies in their existing financial processes. A side benefit to the compliance project is that they will improve internal efficiencies relating to the processes and documentation at the same time.

Some companies have seen such significant benefits from their financial process reviews that they have initiated additional projects to look at their remaining processes with the same goal of reducing duplications and outdated operations. If sanctioned from the top down, the benefits appear to be well in excess of the cost of the project, and represent recurring savings. While initial costs and inconvenience may be frustrating, the benefits will likely outweigh the costs.

Useful Web Links

Bill C-198:

http://www.fasken.com/web/fmdwebsite.nsf/0/A69604E494A1AD7685256DDD0058D3E3/$File/BILL198.PDF?OpenElement

Sarbanes-Oxley Act:

http://news.findlaw.com/hdocs/docs/gwbush/sarbanesoxley072302.pdf

http://www.sarbanes-oxley.com/

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Solutions Beyond Limits …
eServer has IT all!

By Glenn Gundermann, Chair – TEC2004

Glenn Gundermann

"To say what you have to say, and to say it briefly, lucidly and concisely, is the most challenging problem …"

This is true for each of our 25 speakers who jam-pack just the right information into each of our 60+ sessions over two days. So whether you want to learn about WebSphere, RPG, ILE, WebFacing, Security or the many other topics we have in store for you, you definitely don't want to miss out on the great opportunity of attending TUG TEC 2004 on April 20 – 21. By the way, the quote above (which ends with " …for the composer") is from the great Russian composer Sergey Rachmaninov.

It astounds me to hear how many people do not take the time to increase their knowledge on a regular basis. Are you attending to your educational needs? There are so many opportunities these days, with IBM seminars, other vendor seminars, technical conferences, trade shows, etc., many of which are moderately priced or even free. Take our Meeting of Members for example.

We have a meeting five times a year with a session at 5pm and another at 7pm. How hard is it to make a meeting just five times in a year? You'd think it would be pretty simple … a lot simpler than say taking a night course that might be every week. All you need to do is make the effort to get up and go. You owe it to your career to take advantage of these opportunities.

TEC Committee members – Glenn Gundermann, Bob Lesiw and Eveline Gaede, with TUG Treasurer – Bev Russell

If you program in RPG, are you using RPG IV, prototyping, ILE, APIs, etc.?

Education is one of those things that is easy to get behind on. Education is not an option and should be treated with urgency. Most people plan their vacations well in advance.

So why is something as important as education falling by the wayside?

You can't find time, you must make time!

I'm sure everyone has a list of things they want to learn more about but how do you know when there is something completely brand new? You won't know there is something that you don't know about. As Donald Rumsfeld[1] said, "… because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns …" So whether you know what you have to learn about or you want to come and see what's new – we have what you need!

There is no time like the present to register for our conference. Contact the TUG office at admin@tug.ca or (905) 607-2546 and be sure to check our web site at www.tug.ca/grid.htm for updates.

This is my last installment of three informing you, our readers, about TUG TEC 2004. You can view these on our web site taking the **eServer Magazine** link and then looking under Articles: Nov/2003 page 20, Jan/2004 page 15 and Mar/2004 page 12.

See you at TEC. Until then remember, *eServer has IT all!*

***Glenn Gundermann** is an independent iSeries consultant and can be reached at ggundermann@tug.ca or (647) 272-3295.*

1. Secretary of Defense Donald H. Rumsfeld, DoD News Briefing, Feb. 12, 2002.

Customer Testimonial #1

– TUG MoM Review –

The January 2004 Meeting of Members

By Stephen Bingham

Software Management: The Ultimate Survivor challenge!

Stephen Bingham

Our evening started with our President **Eveline Gaede** introducing our guest speaker, **Paul Conte**, who was brought to us courtesy of **Soft Landing Systems**.

Eveline Gaede

Paul started off by asking the group to reflect and see if any of the following described their project management experiences:

- This project is "One of a Kind."
- The process is (or isn't) predictable.

SoftLanding SYSTEMS

- It takes too long.
- It's over budget.
- The Software is not reliable.
- The code is too hard to maintain.

With this in mind, Paul brought us through the five, "Software Development Process Levels": Chaos, Repeatable, Defined, Managed and Optimal.

- **Chaos**: Is often defined as ad hoc, relying on individual heroics to fix the problem.
- **Repeatable**: Basic project management processes are in place so similar projects in the future can be repeated to achieve similar success.
- **Defined**: Software management processes are defined and documented. This may include regular training and peer reviews.
- **Managed**: Introducing quantitative and qualitative measures of the products and processes.
- **Optimal**: Continuous improvement based on previous results and innovation.

For more information on the "Software Development Process Levels", please see the Software Engineering Institute at: www.sei.cmu.edu/cmn/cmm.sum.html.

Essentially, the primary goal of the software management process is to deliver a functional, maintainable product on time and on budget.

With the background established, Paul was able to guide us on how to get from where we are, to where we want to be, in five basic steps that are defined in his whitepaper, the "Software Development Survival Guide".

- **Making the case to management and staff:** Management needs to be convinced of the return on investment.

What will they get for their dollar$? The staff need to understand that in the long run, this will make their daily lives easier.

- **Adopting Change Management (CM):** With all the changes that can happen in a corporate IT environment, a solid CM process can help prevent problems before they occur. When everyone is aware that work is being done, then potential for unforeseen results or conflicts can be reduced or avoided.

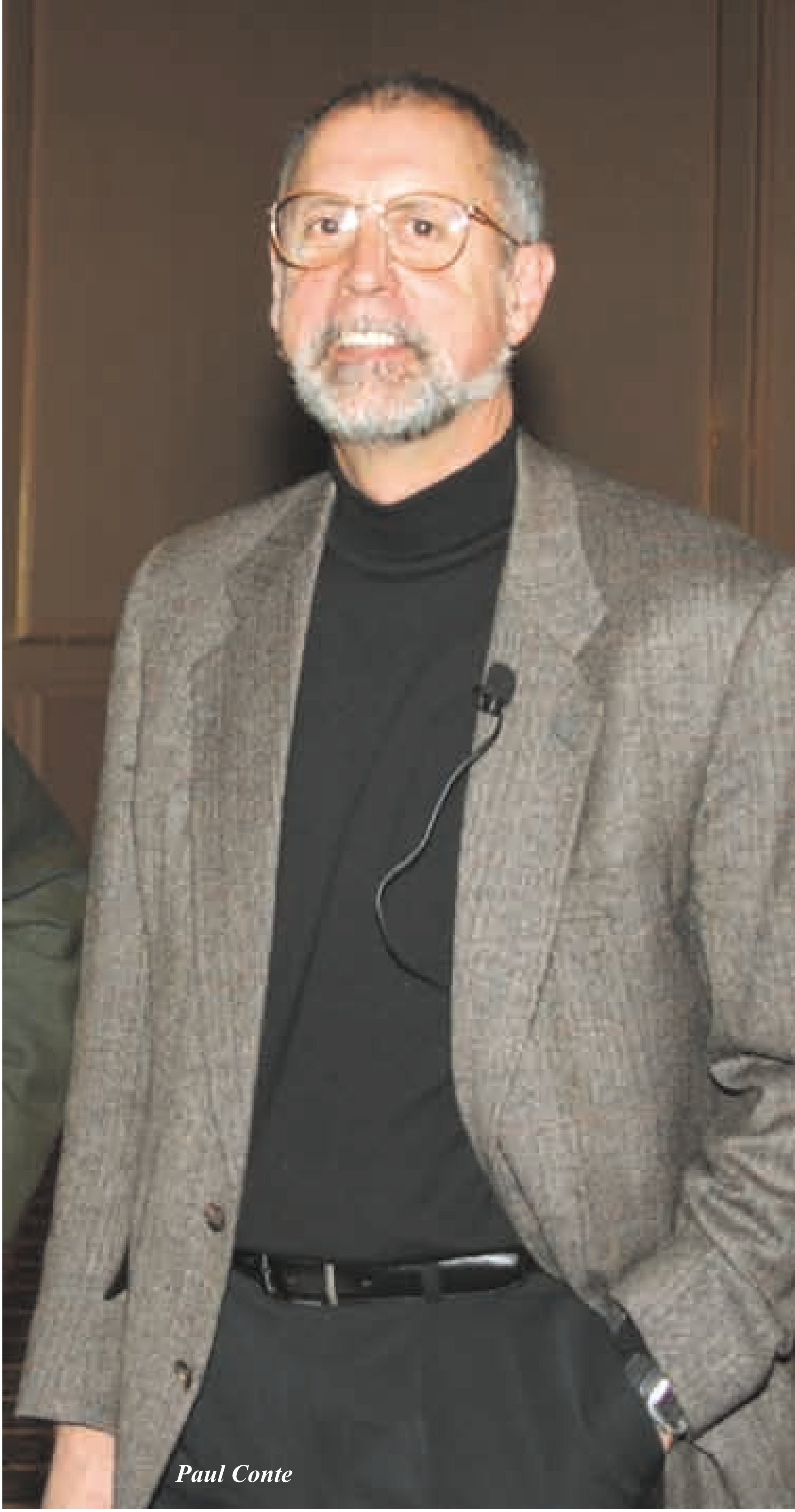
Break Time

During the break, **Léo Lefebvre** introduced the members of the TEC committee. The 11th annual TEC conference will be held on April 20-21 at the Sheraton Parkway Toronto North Hotel in Richmond Hill. This must-attend event will include an emphasis on Websphere and include 2 sessions at IBM's Toronto lab on RSE (Remote System Explorer) and Web-Facing.

Following the break, Paul resumed his presentation with the next step of the process.

- **Adopting a quality assurance process:** Before you can reduce defects, you first need the ability to track them and find the root cause. Quality assurance is set of practises to measure and improve quality.

Photos by Léo Lefebvre



Paul Conte


Neil Andrus & Wende Boddy


Prize winner receiving gift from Paul Conte

- **"Incremental" and "Iterative" development processes:** Every project can be broken down into tasks. Some of these tasks will be incremental, and others will need to be re-worked several times. In conjunction with your change management and quality assurances processes, you will be able adjust your deliverables and establish credibility with your end users, as well as build self-confidence within your team.
- **Re-assess and Improve:** The final step in the "Software Development Survival Guide" is to continually improve your methods and processes.

If you missed the session or would like a copy of the whitepaper, the "Software Development Survival Guide" or "Making the Case to Management", please visit the SoftLanding website at www.softlanding.com.

Stephen Bingham *is the TUG Secretary and works for CGI as an iSeries Technical Analyst. He can be reached at 905-821-2252 ext. 7866, or Stephen.Bingham@cgi.com*

Photos by Léo Lefebvre


The MoM crowd at rapt attention

Project Management Tales – Sleepless Nights

By Debbie Gallagher

Each story in this series of Project Management Tales is true, but company names have been changed. Some stories occurred in Canada and others took place in the US or overseas.

Debbie Gallagher

Background

Acme Corporation, a European manufacturer, was implementing a new ERP system. They had completed the implementation of the general ledger and accounts payable modules and started on billing.

Acme had found the data conversion to their new general ledger system very difficult. The team had worked many long nights and lost sleep worrying about whether the final result would be right. The Acme team knew that the conversion for billing would be much more complicated. They decided to eliminate the sleepless nights by hiring the expertise to do the conversion programs. Standard Consulting was hired to develop the data conversion programs for the billing module.

Acme's legacy billing system was more than twenty years old. It was running on hardware and an operating system that were no longer sold. In addition, it was custom software, developed by a person who was no longer available to support it or explain how it worked.

The billing implementation team met and decided what data they needed converted, in order to support internal and external reporting, as well as long-term billing needs. They used these requirements to create a strategy document, which they gave to the Standard Consulting project manager.

Standard's project manager assigned a technical team lead to review the strategy document, and prepare a project plan and cost estimate. Standard's project manager was satisfied with the plan and cost, and so was Acme. The conversion programs were to be ready for testing by the implementation team in five weeks.

The Situation

After three weeks, the budget was half gone. This was approximately as expected. However, the project manager had not seen any deliverables yet. The technical team leader had not submitted her status reports, and when pressed, provided only vague verbal reassurances that everything was under control. She seemed unclear on how she would know that her development team was finished.

Although there were several components required to convert the billing data, there were no pieces ready to test by the five-week deadline. Again, the technical lead was vague and assured the project manager that the programs were progressing.

After about seven weeks, programs were ready for testing, and the billing implementation team lead was asked to review the sample data in the new system.

The billing team lead was unhappy. This data wasn't even close to what was required. There were significant differences between what was stated in the requirements document and what had been built. In addition, there were several components that had not been built at all. The technical team lead was also unhappy, since she had developed a perfectly elegant solution to the technical challenge of extracting data from the legacy system, and the client was not appropriately appreciative of the effort or outcome.

Action Taken

The Standard Consulting project manager added a business analyst to the technical team. He was to review the design of the conversion programs compared to the requirements, and determine what re-work and new development was required. However, there were no detailed design documents to review, only the original strategy document.

So, the business analyst assessed each component by developing the detailed design, working with the technical lead and billing lead to solve discrepancies between what was needed and what had been built.

Standard Consulting was committed to delivering what had been promised to Acme. Significant parts of the conversion programs were re-written, and the missing components were developed.

[Debbie's previous "Project Management Tales" are available on her personal web site: www.gallaghers.ca/debbie.]

Epilogue

Testing became very time consuming. The programs had not been built for the volume of data and complexity that was really required. So, whenever one bug was fixed, others would appear. More than a dozen rounds of testing were required for some components. The billing implementation team couldn't keep up with the testing, so Standard had to provide additional testers.

The project cost went three hundred per cent over budget. The billing team and the technical team worked nights and weekends to complete testing and program revisions.

The Acme project manager and billing implementation team were concerned that the conversion programs would not be useable on time, and lost sleep as a result of their worries.

The go-live date was not delayed. However, only the basic functionality could be used right away, because not all of the conversion components were ready.

The technical team continued to work for another month to complete the remaining components.

"Face it Vinnie – you're gonna have a hard time getting people to subscribe online with a credit card to a newsletter called "Sarbanes-Oxley Felons Interactive."

Conclusions

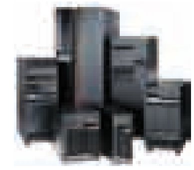
The project plan prepared by the technical team leader should have been the first sign to the project manager that something was amiss. The technical lead had been focused on the technical complexities of extracting data from the legacy system, and had planned only technical deliverables. She had included a task for preparation and a milestone for sign off of technical design, but no preparation and sign off of functional design.

The next sign of a problem was the lack of status reporting from the technical lead. When she tried to give just vague reassurances, the project manager was rightly concerned, but should have pushed harder and earlier for proper status reporting, with progress described for each component. This would have allowed the project manager to identify earlier that components outlined in the strategy document were missing.

Once it was clear that there was a problem, the project manager should have insisted on a new project plan and budget being created. Instead, he developed a priority list of components to be fixed or developed, to focus efforts on the critical pieces needed to go live, and everyone just kept working until all of the programs were done. As the fix-it time continued, this approach led to some concerns on the team that the project might be never-ending.

In the end, the client go-live deadline was achieved, and all of the components were finished. The data conversion programs ran successfully and loaded correct data into the new system. However, the client was not happy. Acme was not interested in the technical elegance of the delivered programs. What they wanted, and didn't get, was programs that met their requirements and allowed them to sleep at night, without worrying about their data conversion.

Debbie Gallagher *is a Manager at Deloitte, Toronto. She can be reached at (416) 643-8767 or dgallagher@deloitte.ca.*



Better Tools: iSeries Projects

By George Farr and Phil Coulthard, IBM Toronto Lab

In this our third article, we continue our description of the first step in the J2EE five-step roadmap. This first step is "Better Tools", and in it we use modern tools for RPG and COBOL development. In the last issue, we described the Remote System Explorer (RSE) for PDM-style drill-down access to remote objects and members. While we believe the RSE is where most will and should start their modernization journey, we think the next logical step for many will be into a more structured development environment and process offered by iSeries projects.

An iSeries project is a typical Eclipse project. Ultimately, it is nothing more than a folder on your local Windows disk, containing other sub-folders and files. However, in this case these sub-folders represent iSeries source files, and the files are iSeries source members. Each iSeries Project is associated with a single library within an RSE connection, and this association is important in a number of actions you can perform, as we will see.

There are two ways to create iSeries projects: using the New iSeries Project wizard available from the File->New->Other window, or by using the "Make Available Offline" popup action in the Remote System Explorer. The former

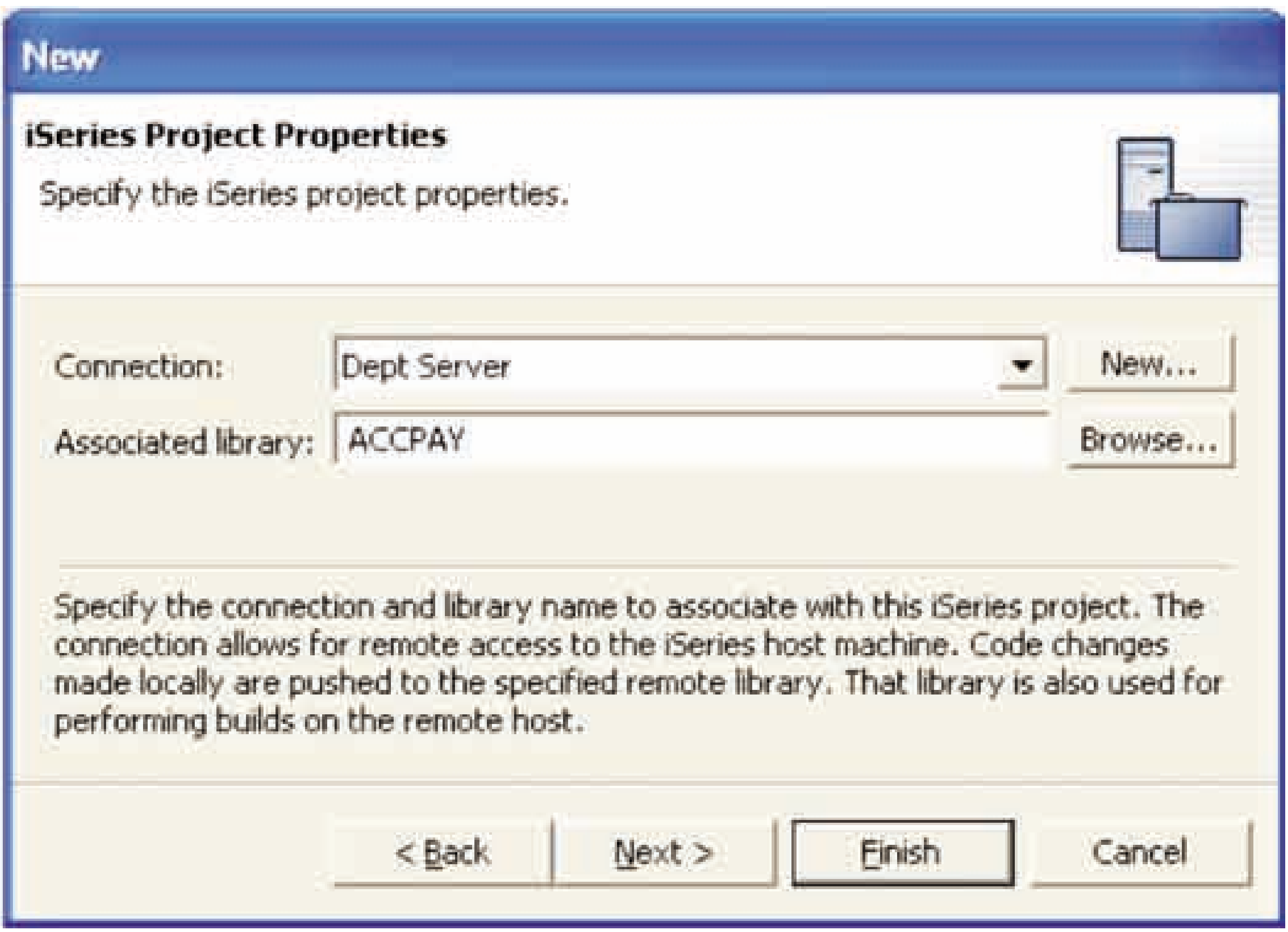


Figure 1. New iSeries Project wizard

prompts for the project name, and the RSE connection and associated library as shown in **Figure 1**. The latter implicitly determines the connection and library of the selected files or members, and creates a project with a derived name and the associated connection and library.

Once you have a populated project, you are now in a position to work with the source in it. For example, you can edit a member with the same rich editor that is used in the Remote System Explorer. The difference though is that you are editing a local copy of the member, not the remote member directly. This means you can work on the member in disconnected mode, while sitting in a train for example. This is most powerful when combined with the caching support in the RPG, COBOL and DDS program verifiers, which allows you to find and fix all compiler errors while disconnected. There are other popup actions you can perform on the local members, such as rename, delete, copy and paste. The default view in the iSeries Project Navigator (the tree view on the left in **Figure 2**) is to show only members you have locally in your project. However, sometimes it is nice to see all the members, and objects, in your associated library as well, for context. To this end, in the right-click action for the project you can enter into Show Remote Objects mode, which shows the combination of all remote members and objects and all local members. If a member is both local and remote then it is not shown twice, but rather it is only shown once and the double-arrowed yellow icon and text indicate that is both local and remote.

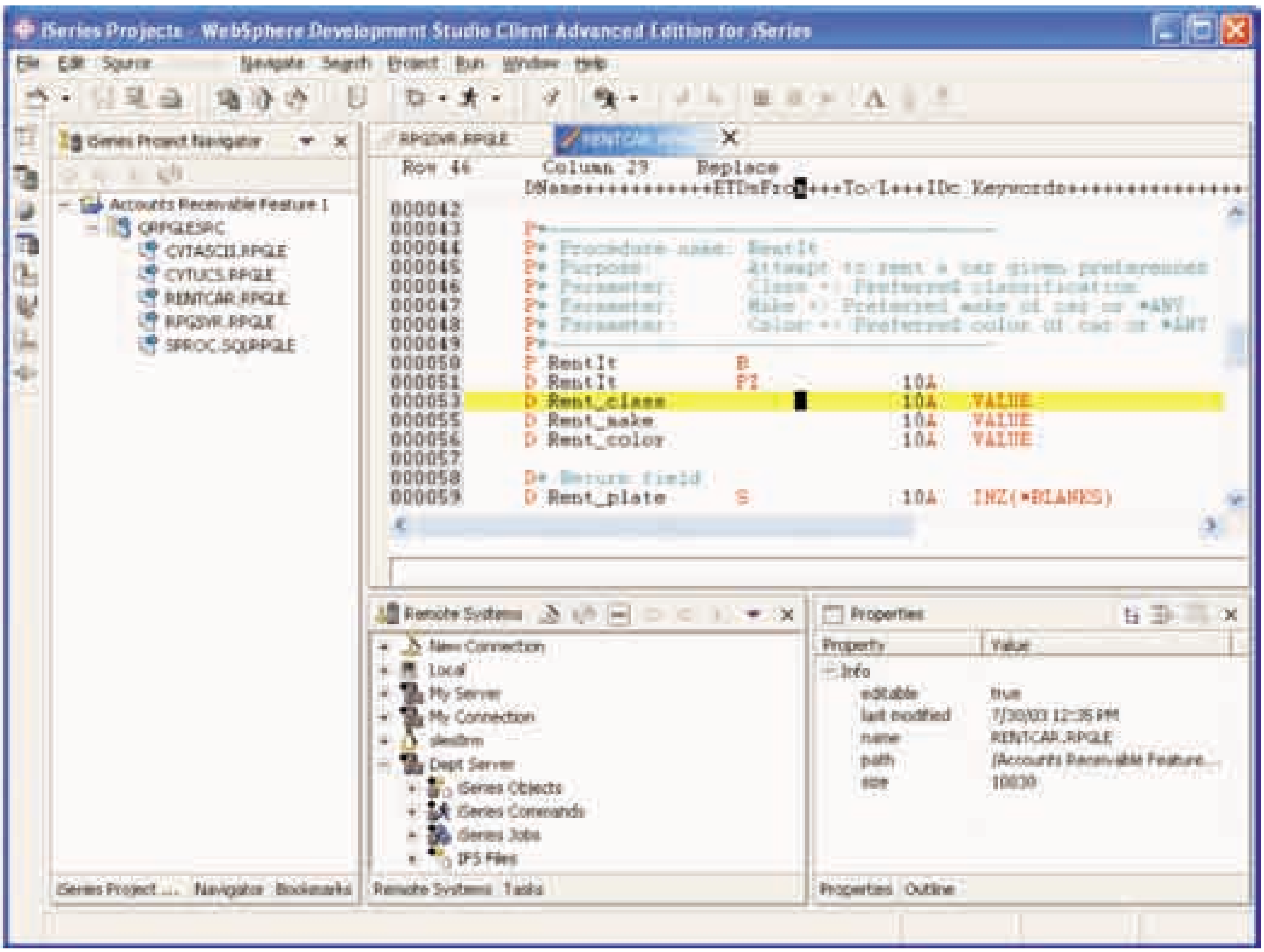


Figure 2. iSeries Projects perspective

Once you have an iSeries project, you work in the iSeries Projects perspective, where you see and manipulate your projects. In this perspective you can use wizards to create new source files and source members in the project, or you can use the Import Remote Objects popup action on the project to populate it with existing source members from any library on any system. **Figure 2** shows the iSeries Projects perspective in its default configuration.

If the member has been changed in the associated library since importing it into the project, the icon adornment will be red instead of yellow, indicating a collision. Similarly, different icons and text indicate members that are only remote or only local.

In **Figure 3** we see the iSeries Project Navigator in show-remote-objects mode, and the popup menu for a remote-only member. Notice how we can easily import remote members in this mode by selecting the Add to Project action.

For any remote object, if you want to perform actions directly on the object, the Show in Remote Systems View action will expand the embedded Remote Systems view to show and select the object, so the RSE's full complement of actions are easily accessible there, for the selected object.

Finally, when you are done editing and working with your local source, you use the Push action to push the changed members back to the project's associated library. If you created any new source files or members locally, on a push the appropriate CL command is run to create them. If someone else has changed a same member in the meantime, you will be told of this and given the option to continue or cancel the push. However, in most cases we recommend using a unique scratch library per developer, for the purpose of compiling and testing their own changes prior to integrating with their colleague's changes.

Speaking of compiling, this is usually the next interesting thing you will want to do after pushing your changes. This is most easily done by using the Build action, which by default will generate a CL member named COMPILE.CLLE for compiling each changed member, using the last-used compile command from the Remote System Explorer. Of course, you can edit that member as needed, and by configuring your build style from the project's properties you can stop the default behavior of re-generating that CL member each time the Remote Actions->Build action is selected.

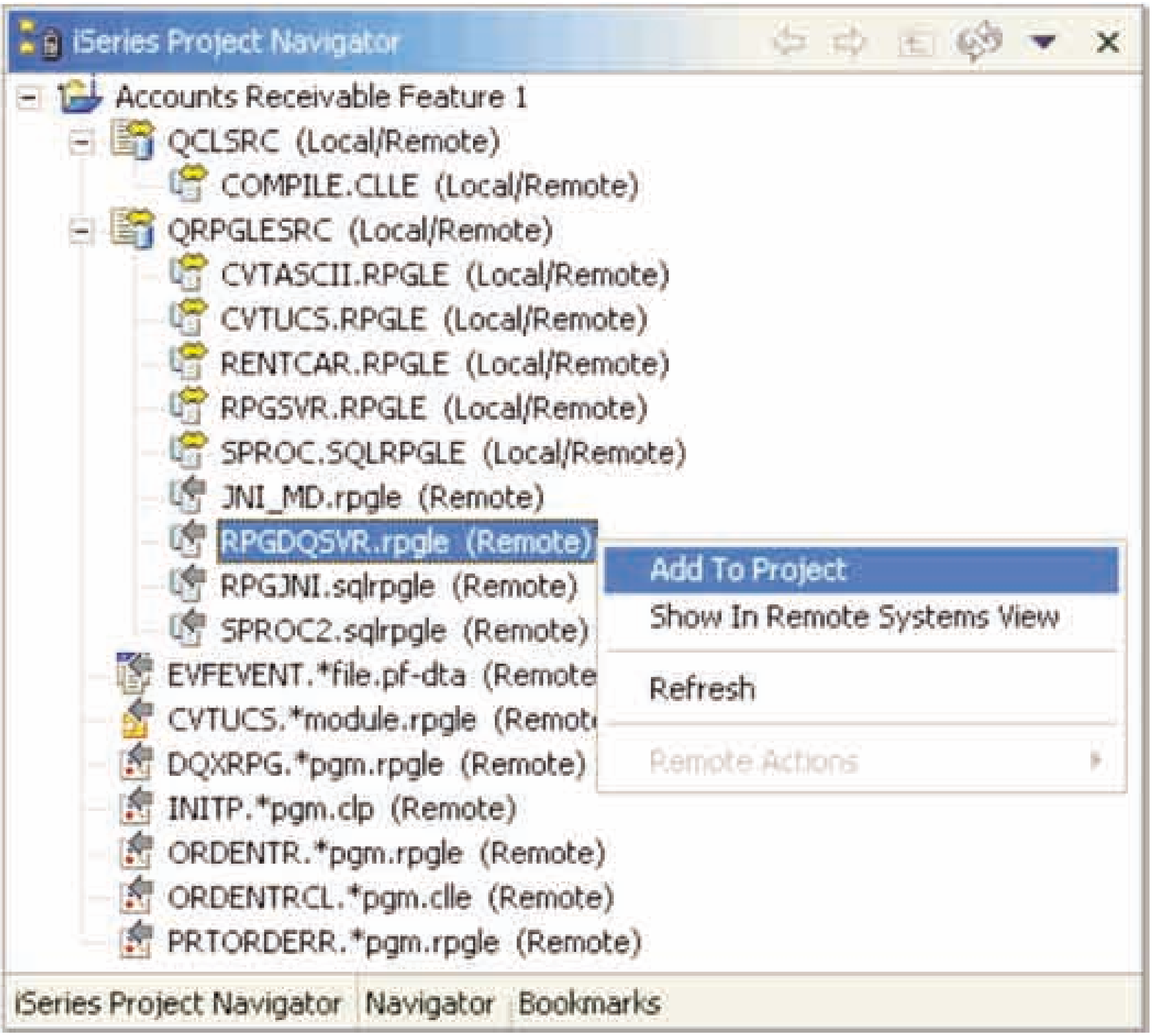


Figure 3. iSeries Project Navigator in Show Remote Objects mode

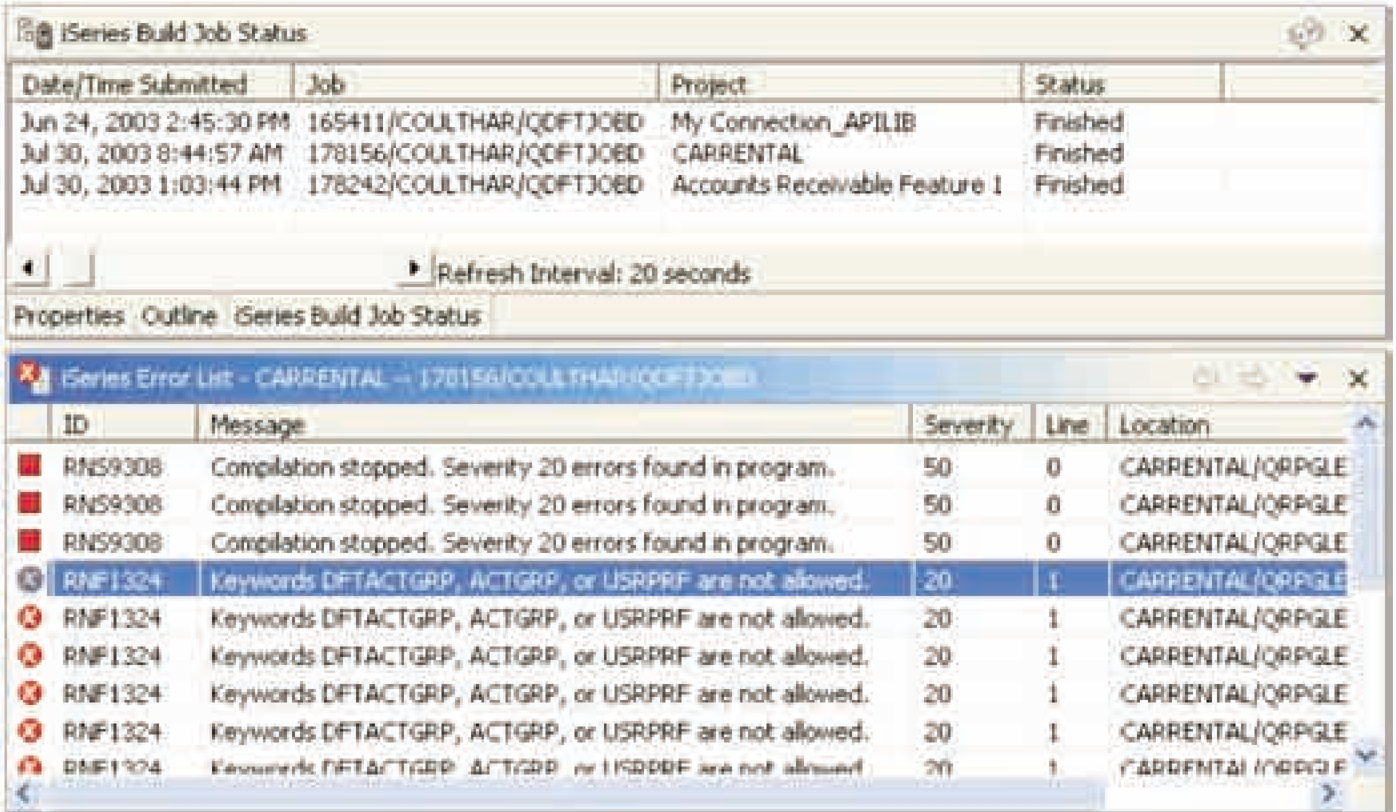


Figure 4. Build Job Status and Error List views

When this action eventually is selected, the generated or edited CL member is pushed to the associated library of the project and compiled, and run, there. Further, if you manually create a BIND.CLLE member, it too will be pushed, compiled and run on a build, but only if the COMPILE member compiles and runs successfully. This is where you would put post-compile actions such as binding your ILE modules into programs and service programs. All submitted builds are displayed in an "iSeries Build Job Status", where you can easily monitor their status in the job queue. When complete, all errors from all compiles are combined and can be seen in a single Error List view by a right click Retrieve Errors action in the build status view. As in the RSE, when you double click on one of these errors, the member is opened in the editor, and you are positioned at the error. Of course, if you used the verifiers you will not have compile errors in your RPG, COBOL or DDS members ever again. **Figure 4** shows the build status view, and error list view.

By the way, we are often asked how to permanently affect the library list of a project so that the builds pick up the necessary libraries. The answer to this is the same as it is in the Remote System Explorer: via the Properties action on the associated connection, in the Remote Systems view, in the Subsystems->iSeries Commands page.

There are other options for doing builds as well, and these options are known as "build styles". For example, there is a build style to simply run an iSeries command that you specify in the configuration for the build style, which is the right choice if you already have a process for building your application. If you use any of the popular change management products on iSeries, then chances are that they supply their own build style as well, which snap into the iSeries Project perspective … the build action is specifically designed to be extendible by vendors and indeed it has been.

When your changes all compile cleanly you can use the Debug action to run the application and step through the code to ensure it works as expected. This is the same debugger used in the RSE, and by Eclipse for Java. To launch the debugger, use the debug icon in the toolbar, and in its dropdown select Debug As to specify the CL command to launch the application. You can just from four flavors of iSeries debugging: batch, interactive, job (existing) or multi-threaded. Once you create the debug configuration once, you can subsequently just select it from the dropdown list. Also as in the RSE, you can set breakpoints within the editor prior to launching the debugger … by simply double clicking in the left-most margin area for the line you wish to stop at.

So these are the basic steps you iterate through when working with iSeries projects … create the project; populate it via importing or creating members; edit and verify as you would with the RSE; then push your changes; build the changed members; and finally debug your changes.

There are two primary reasons for using iSeries projects. The first is for disconnected mode, as we have mentioned, with all the power of the editor, program verifiers and reference manuals at your disposal. The "Make Available Offline" actions in the Remote System Explorer make this scenario very straightforward. The other option is a more structured development method. Because these projects are typical eclipse projects, they support the team actions that all eclipse projects support. This means you could associate the project with a CVS or Rational ClearCase repository on the LAN, for example, and team members working on the same feature or enhancement could all share the same project. Each would first import, edit, push, build and debug their own changes to the members. When happy with their own changes, they then would synchronize with the repository, picking up their colleagues' changes. Then they could push, build and debug the integration of their changes with their colleagues'. They would iterate this process until complete, and then use their existing process for pushing their collective changes up the stack to test and eventually production, hopefully using one of the iSeries change management products.

The use of iSeries Projects exposes programmers to eclipse project-based terminology and functionality, and so it is a good stepping stone to further steps in the roadmap. If you know how to work with iSeries Projects, you will have less culture shock when you move into working with WebFacing, Web and Java projects, for example.

We hope this introduction to iSeries Projects have convinced you they are an interesting new tool for RPG and COBOL developers, and they play an important role in the modernization of your team as it moves through the roadmap, or simply as it works on that next critical release. We'll talk to you again next month! TUG


Phil Coulthard


George Farr

George Farr *and* ***Phil Coulthard*** *are co-authors of the Midrange Computing books Java for RPG Programmers and Java for S/390 and AS/400 COBOL Programmers. George can be reached at farr@ca.ibm.com, and Phil can be reached at coulthar@ca.ibm.com.*

* This article is a reproduction of an article first published in iSeries News/400 Magazine. (Reprinted with permission.)

Come and Enjoy TUG TEC 2004

By Jay Burford

Jay Burford

Have you ever attended TUG TEC? It is the **T**echnical **E**ducation **C**onference presented by the **T**oronto **U**sers **G**roup for Midrange Systems. If, like me, you have attended before, you are probably already excited about the upcoming 11th Annual TUG TEC being held on Tuesday, April 20th, and Wednesday, April 21st, 2004.

TEC 2003 speaker: Grace Wong

If you have never been before, you should be asking yourself – **WHY NOT?** (And more importantly – **What are MY plans for attending this year?)**

This probably sounds very presumptuous of me. However, I have been to a number of TUG TEC's, as an attendee, volunteer, exhibitor, and Showcase manager, and therefore feel somewhat qualified to encourage you to attend. **Why attend?** There are a number of reasons, including the fact that it is educational, beneficial to your career, and cost effective, as well as entertaining and enjoyable, with something for everyone.

Educational is an understatement! With six tracks, most of which have eleven different sessions over the two days, the biggest problem that I always have is choosing which sessions to attend or speakers to follow, or alternately how to clone myself. (Speaking of cloning, that suggests a possible solution. If you bring more people from your company and agree ahead of time on the different sessions that you will each attend, you will be able to bring more of the first hand knowledge back to your company). And talking about the speakers providing these sessions! These are some the best in the industry, not only from Toronto, but international. Many of these presenters have won Speaker's Awards at COMMON Conferences, and will be giving these presentations a few weeks later at the COMMON's Spring Conference in San Antonio.

Benefits to your career are always an important consideration. TUG TEC can provide many possibilities. Bring your company's current problems, needs, or concerns to the conference. Ask for help with resolutions in the sessions, at the Vendor Showcase, over lunch with other attendees, vendors, or the speakers. If you don't know who to ask, go to one of the volunteers and they will match you with the right expert to help you resolve your problem. As a registered attendee you will also receive a "Certificate of Completion". Another way to benefit your career is to bring some of your company's executives to attend the Executive Breakfast and to listen to Robert Tipton's presentation on "Untangling IT". I have heard Robert Tipton speak many times at COMMON and I have never heard anything but the highest praise for his presentations. (Robert Tipton has won 7 Gold Medals, 13 Silver Medals, and 1 Bronze Medal as Speaker Awards for his wonderful presentations at COMMON.)

TEC 2003 speaker: Alison Butterill

Photos by Léo Lefebvre

TEC 2003 Keynote: Randall Munson with Bernard Gough

After the executives from your company come for this session, get them to stay for the Vendor Showcase and the lunch that will be provided. This is an opportunity to see the latest products and to find solutions for the current problems that your company may be experiencing. Remember, if you find a solution for your IT needs at the Vendor Showcase, and you have some of your company's executives available, they will be able to see the demonstration, or discuss the product with the vendor and make the buying decision right on the spot. This will save you the extra effort of doing the selling back at the office. In addition, invite your fellow workers, even those that are unable to attend the whole conference, to come to the Vendor Showcase during the lunch hour (lunch is provided), or after work. This part of the event is open to everyone, not just registered Conference attendees, and it is always entertaining and informative. (The free-of-charge lunch is great too!)

Why is it **Cost Effective?** The price for the conference is excellent, and perhaps importantly to your company, you are only away two days. As the conference is on a Tuesday and a Wednesday, you are available on Monday to resolve any problems that surfaced over the weekend, and you are back in-house for the end of the week rush. Travel expenses should be minimal as we are "local" for a huge number of companies in the Greater Toronto Area, and even if you are traveling from the northern United States you are still probably able to drive and enjoy the effective purchasing power of our lower dollar to cover the cost of gas, food, and lodging if you should require an overnight stay. (**Note:** There is a special Conference room rate at the Sheraton and the Best Western.) Therefore, this is not only a terrific conference, but it will also be attractive to the manager of the Education Budget at many companies.

Did I say entertaining and enjoyable? YOU BETTER BELIEVE IT! From the moment that you arrive on Day One to find a well-organized registration desk, served by a group of enthusiastic volunteers, you know that this is going to be a great Conference. Come early and after you register, enjoy a complimentary continental breakfast (available both days) and start to chat with your fellow attendees. Who knows, some of them may have experienced the same problems that you are encountering at your company, and hopefully they might even have one or more possible solutions to suggest. (If you are going to the Executive Breakfast, you will have a chance to discuss common issues, and draw on the accumulated experience of the other executives, as well as benefit from Robert Tipton's vast experience.)

Attendees will then be going on to their selected sessions. I know that it may be important for you to talk to the speaker at the end of a session, to get clarification on a point, or to ask questions concerning an area that didn't get covered, but **remember** to get up, walk around, stretch and have a drink during the break between sessions. Otherwise, you may suffer from "information overload", and miss meaningful input in the later sessions.

The Vendor Showcase will open at lunchtime. I find this part of the

Hungry attendees sample the complimentary buffet during Showcase 2003

conference exciting, not for the "free lunch", but because there are a large number of vendors gathered together in one location. This means that we can do some one-stop comparison-shopping. The vendors are there because they want to help you resolve your company's problems. If they are able to help you, and sell their product or service at the same time, then it's a win-win situation. Add to the expertise provided by the vendors, the availability and experience of the many speakers who will be in the same room, and accessible to answer your questions, and you have an unbeatable resource to resolve problems. The Vendor Showcase is also the place to meet old friends who are also attending the Conference, but perhaps have been in different sessions than you.

Irvin Kovar and Tom Napier at the Automation Associates Inc. booth

Don't forget to come back to the Vendor showcase during the afternoon breaks, and especially at the end of the day. There is a terrific draw for prizes (supplied by various vendors) at day's end. In order to enter you take a passport to various vendors who will mark your attendance at their booth. When the passport is full you enter it into the draw. (Be sure to put your name and other requested information on the passport.) Also later in the day there will be an hors d'oeuvres table and a cash bar for your enjoyment while finishing your tour of the Vendor Showcase. It makes for a fun ending to a long and productive, but busy day.

TEC 2003 Keynote Luncheon

On Day Two, take pleasure in the camaraderie of talking to new and old friends while you enjoy the complimentary continental breakfast. Some of you will then be going to a bus to travel to the IBM Laboratory to participate in a two-hour hands-on lab. This is a new event at this Conference and I am sure that it will be exciting. (The new IBM laboratory is a "not to be missed" experience in itself, a fact to which the many members who have attended a TUG Meeting of the Members at that location will attest.) Other attendees will then be off to the sessions. Again, remember to make use of the breaks to refresh and restore your energy.

Next comes the Keynote Lunch. This is an exciting event as it is the first time that all the attendees at the Conference are gathered together in one room. Robert Tipton is the Keynote Speaker. A number of you may have attended one of Robert Tipton's sessions on Day One and you will have some idea of what you might expect from his Keynote Address at this Day Two Lunch. Other attendees will be hearing Robert Tipton for the first time.

No matter, this presentation will be new and fresh for everyone, and it will be an excellent ending to a terrific lunch. Then it's back to the sessions, or the bus to the lab to finish off the conference.

Something for everyone! You bet! I have no doubt at all that there is something for everyone at the TUG TEC:

- Company executives will benefit from both Robert Tipton's presentation on "Untangling IT" during the Executive Breakfast, and the information and solutions available at the Vendor Showcase.
- Attendees will gain knowledge from the sessions, and this education will help them to further their career. More information will be obtained at the Vendor Showcase during the lunch break, and later during the hors d'oeuvres and passport draw.
- The companies that send the attendees will benefit from their new knowledge.
- Vendors will gain access to a number of qualified contacts from a variety of companies, while they also enjoy lunch, and hors d'oeuvres.

Ed Jowett, Charlie Massoglia, and Jay Burford

Photos by Léo Lefebvre

Troy Bleeker learns a new trick

- Everyone will have a magnificent Keynote Lunch and enjoy a great speaker with a wonderful presentation.
- Volunteers will end the conference tired, but with the knowledge and satisfaction of knowing that they have done another great job and completed another successful TUG TEC, the 11th.

Make sure that you are one of the fortunate attendees at TUG TEC on Tuesday, April 20th and Wednesday, April 21st! SEE YOU THERE!

Jay Burford *holds a Bachelor of Science degree from the University of Toronto. He retired from the IBM Laboratory in 1997 and is currently a Senior Consultant with ASTECH Solutions Inc. He is a member of the COMMON Finance Committee and Manager of the COMMON Training Program, as well as a TUG volunteer. Jay can be reached at jburford@astech.com.*

Ron Love mans the Syntax booth

See our booth at the TEC Vendor Showcase, Tuesday, April 20

COMMUNICATING WITH SAM

Autonomic Network Security

Sam Johnston

Question:

Recent legislative changes in Canada and the U.S. along with new viruses and worms have created a real awareness within our senior management team of the need to properly protect our information and ensure compliance. We have taken measures to protect the high-risk points. Our Internet connection is protected by a firewall; we have anti-virus software and intrusion detection software to monitor our AS/400 for host security breaches. We also regularly force our users to change their various network and system access passwords, and we randomly do security checks. Despite these actions, senior management is concerned that we may not be taking all the security measures necessary to protect our valuable data. What more can be done to reduce security risks?

Answer:

The key to unlocking the answer, and demystifying the solution, is rooted in the fact that there is a need to protect all valuable data and all network resources. If you start by accepting that security is a network-wide need and demands a system embedded in the utility of the network, like the immune system in our bodies, then you will be successfully prepared to fight the battle.

The strategic implication of today's connected world is simple. If security is not focused on the entire network, and if it is not a system that is planned and considered on the same playing field with other mission critical applications, then you as an organization are exposed and unprepared to effectively do business in an Internet enabled world. True, the data on your host systems are the crown jewels, but think about how many portals and devices either provide access to this data, or contain fragments of this data, and it becomes clear that host protection is merely the last line of defense in security.

Even though many enterprise companies, and government organizations have invested heavily in various appliances and software technologies and are following the best practices, viruses and worms continue to disrupt business, causing downtime, lost productivity, and continuous installation of patches. The self-propagating nature of the latest attacks makes them damaging and pervasive. Existing anti-virus solutions, which rely on recognizing attack signatures, are unable to detect and contain "day-zero" viruses and the denial-of-service (DoS) attacks they create.

Servers and desktops that are not compliant with corporate security policy are common, and they are difficult to detect, contain, and cleanse. Locating and isolating these systems is time and resource intensive, resulting in infections that appear to be removed from the corporate network, but that reappear at a later time. The problem is compounded by the complexity of today's networked environment, which contains:

- Multiple types of end users – employees, vendors, and contractors
- Multiple types of endpoints – company desktop, home, and server
- Multiple types of access – wired, wireless, virtual private network (VPN), and dial

So now we know that we will be threatened and we are exposed, how do we architect a security infrastructure to protect our valuable assets that is Self-Defending?

To address this issue Cisco Systems has announced Cisco's Self-Defending Network, a new security vision that takes a fundamentally new approach to network security. Until now, network security and computer security were dealt with separately. Cisco's Self-Defending Network breaks from the traditional approach of creating separate security products for networks and the computers attached to them. Instead, it treats the network and end-point devices as part of the same system.

The Self-Defending Network's goal is to create greater security coordination between the network and its associated computers, servers and other devices. Much in the same way the human body identifies, prevents and responds to threats, the Self-Defending Network fights against the infiltration and spread of computer viruses, worms and other malicious programs across Cisco networks.

A key component of the Self-Defending initiative is the Cisco Network Admission Control (NAC) program. NAC will use Cisco routers to enforce admission privileges to end-point devices including, personal computers, servers, or PDAs – based on the security status of those devices and their compliance with a network's security policies. NAC is designed to dramatically increase the capabilities of data networks to protect themselves against viruses, worms, and other security threats.

This is not a Cisco only proprietary solution. Other members of the "Initiative" are leading anti-virus software companies, including Network Associates, Symantec and Trend Micro. Such industry collaboration is key to the success of the NAC program, since the network will need to know what, if any, protection end-point computers have before allowing them network access. This lets businesses leverage their existing investment in Cisco network infrastructure and anti-virus software to protect themselves.

The NAC program includes the Cisco Trust Agent, a small piece of client-based software that resides on computers and other end-points and communicates end-point security information to the Cisco network via the Cisco Secure Access Control Server. The Access Control Server will execute admission controls to permit, deny, quarantine or restrict end-point network access. The Cisco Trust Agent will collect security state information from multiple security software clients, such as anti-virus clients or the Cisco Security Agent, Cisco's laptop/desktop and server host intrusion prevention and distributed firewall software that identifies and prevents malicious behavior before it can occur. The Cisco Security Agent is capable of stopping Nimbda, CodeRed, Slammer and Blaster worms with out-of-the-box policies. The NAC program will initially support end-point devices running Microsoft Windows NT, XP and 2000 operating systems.[1]

Other devices that enforce network admission control policy include routers, switches, wireless access points, and security appliances. These devices demand host security credentials and relay this information to policy servers, where network admission control decisions are made. Based on your defined policy, the network will enforce the appropriate admission decision that can include: permit, deny, quarantine, or restrict.

The Cisco Secure Access Control Server (ACS) evaluates the endpoint security information relayed from network access devices and determines the appropriate access policy for them to apply. Cisco ACS is an authentication, authorization, and accounting (AAA) RADIUS server. It is the foundation of the policy server system. ACS works in conjunction with Cisco's "Initiative" partner's application servers, (such as anti-virus policy servers) to provide deeper credential validation capabilities.

Management of the security process is provided by CiscoWorks VPN/Security Management (VMS). This provisions Cisco NAC elements, while CiscoWorks Security Information Manager Solution (SIMS) provides monitoring and reporting tools. Cisco "Initiative" partners provide management solutions for their endpoint security software.

The initial release of Cisco NAC will be available in the first half of 2004. The development of the Cisco Self-Defending Network is a multiphased security initiative that will be enhanced in future releases to improve the ability of networks to identify, prevent, and adapt to security threats. The Cisco Self-Defending Network Initiative significantly advances Cisco's strategy of integrating security services throughout IP networks. By delivering new system-level network threat defense capability in this manner we approach a security model that is truly autonomic.

***Sam Johnston** is a partner and Chief Technology Officer of Intesys Network Communications Ltd., providing value-added networking and e-commerce solutions to the iSeries community. He can be reached at (416) 438-0002 or via e-mail at sjohnston@intesys-ncl.com. Any TUG member wishing to submit a question to Sam can forward their typewritten material to the TUG office, or to Intesys. The deadline for our next issue is Friday April 8, 2004.*

[1] Source: Cisco Self-Defending Networks

JACKIE's Forum

OS/400 Query Options File

Jackie Jansen

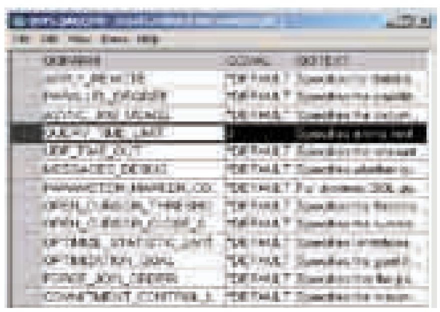
With V4R4, IBM consolidated the various attributes that can affect a querie's performance into one table. No longer do we need to find out if the parameter that we require is in the data area QQQOPTONS, or the system value QQRYDEGREE, or even in CL commands such as CHGQRYA. The query options table QAQQINI has them all. This table can be specified at a system level or an individual job level.

There isn't room in this column to list all the parameters that you can control via the QAQQINI file but here are a few. If you want to set a time limit on a query using the query governor the control is here. If you want to control the parallelism or number of CPUs used in a query you can do that also. Do you want to turn on the query debug messages, optimize your SQL or even use star join queries?

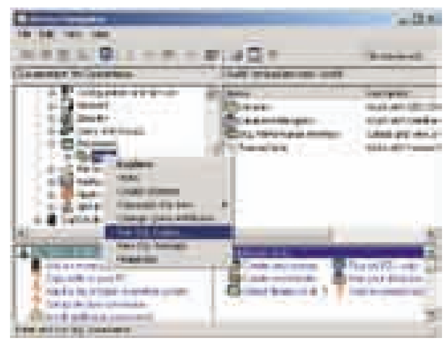
There are some tricks to using the QAQQINI file. First, if you look in QSYS you will find a QAQQINI file. Do not modify this file. It is intended as a template only. To create your own query options file you will want to duplicate the file in QSYS using the Create Duplicate Object (CRTDUPOBJ) command with DATA(*YES) specified. Do not use Copy File (CPYF). This file has associated triggers that will not be duplicated with the CPYF command.

To make your options available to the entire system you will want to create QAQQINI in the QUSRSYS library. To tailor the options to a specific query you should create this file in a user library and specify the library name on the QRYOPTLIB parameter of the CHGQRYA command in the job. If you don't issue a CHGQRYA command or don't specify a QRYOPTLIB command the system will automatically check the QUSRSYS library for a QAQQINI file. Options specified within this file will automatically apply to all jobs.

The QAQQINI file consists of one record for every parameter that can be modified. After duplicating the table from QSYS you will need to modify the appropriate records. For example, to set the query governor to 0 seconds for testing purposes you would find the record where QQPARM equals "QUERY_TIME_LIMIT". You would then modify the QQVAL column to "0". You can make these changes through any data update tool such as SQL or DFU. An easy way to modify the file is to use iSeries Navigator. Open the file in your user library and then directly enter your new parameter values.



Another way to modify this file is to use the IBM Custom Query Options Builder tool on the web. Go to "http://www.ibm.com/iseries/db2/db2tips.htm". You will be asked what library you want your QAQQINI table created in, and what values you want for all the parameters. Each parameter is well documented. After specifying your new parameter's values you will press a "Build" button. At this point a window will pop up with all the SQL script needed to create and modify the QAQQINI table. You can cut and paste this SQL script into the SQL script centre in iSeries Navigator. To do this start iSeries Navigator, right click on either "Databases" or the local system name below Databases and choose "Run SQL Scripts". Using the SQL Script Centre was explained in more detail in the recent "SQL Query Access" article in "Jackie's Forum". Another alternative is to cut and paste the SQL into an iSeries source member. You can then use the OS/400 command "Run SQL Statement (RUNSQLSTM)" to execute the script statements. You do not need to be licensed to the iSeries SQL Development Kit to use this command. OS/400 has full support for runtime SQL embedded in it.



Overall having IBM bring all the different query performance options into one table for access is very handy. You must remember that if you create this table in QUSRSYS and then modify it, the modifications will automatically apply to all jobs running on the system unless you override them. You have the capability here of causing major query performance degradation. For example, if you wanted to specify that one of your queries was a star join query but used the QAQQINI table in QUSRSYS you would successfully decrease the run time of your join query but you would have increased the run time of all your standard queries. Don't forget to use unique user libraries when you want to update any parameter that was not intended to apply to the entire system. TUG

***Jackie Jansen** is a Senior Consulting IT Specialist. She currently works in the IBM Americas Advanced Technical Support Solutions Centre. Jackie is a frequent speaker at iSeries Technical Conferences and Users Group meetings. Contact her at jjansen@ca.ibm.com.*

The Gold Page

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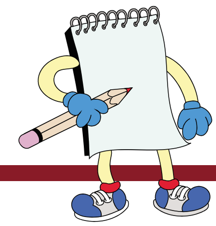
TUG NOTES



TUG's Calendar of Upcoming Events

- **March 24, 2004 – MoM**
  - 5:00 Session 1
    Sarbanes-Oxley Act
    Speakers: Bill Smiley & Wes Helms
  - 7:00 Session 2
    RSE - Better Tools
    Speakers; Phil Coulthard & George Farr
- **April 20-21, 2004 – (TEC)**

Technical Education Conference

- **May 2-6, 2004 – COMMON**
  San Antonio, Texas
- **May 19, 2004 – MoM**
- **June 18, 2004 – TUG Golf Classic** (16th Annual) Nobleton Lakes Golf and Country Club in Bolton
- **September 22, 2004 – MoM**
- **Oct. 17-21, 2004 – COMMON**
  Toronto, Ontario
- **November 17, 2004 – MoM**

Door Prize Winners

Here are the lucky winners of the prizes at the January 2004 TUG MoM…

Paul Bennett (Aldon Computer Group)
Diego Gonzales (Aldon Computer Group)
Todd North (Scholastic Canada Ltd.)
Dino Dervic (Unisen Inc.)
Tariq Naseem (Sprint Canada)
Jonathan Daniels (Source Medical)
Sherry Feng (Weekenders)

Thanks to **Paul Conte** (the evening speaker) for contributing his books as prizes. Thanks also to **IBM Canada Ltd.** for the super laptop bags.

Wende E. Boddy
TUG Association Manager

a Local Area Network

in Australia, would be called...
"*the LAN down under*"
(submitted by Glenn Gundermann)

COMMON Corner

COMMON's most recent IT Education Conference & Expo, September 7-11, 2003, in Orlando, Florida, drew IT professionals from across the country. Which educational sessions drew the most attendees? Statistics from the conference reveal the most popular sessions, based on attendance. They are, in order:

01 Embedding SQL into Application Programs – **Alison Butterill**
02 RPG IV: RPG at V5R2 – It Keeps Growing and Growing – **Jon Paris**
03 A Vision for the iSeries – Frank Soltis
04 Introduction to XML – **Susan Gantner**
05 RPG IV: Subprocedures – The Basics – **Jon Paris**
06 Success through CREATIVITY! – Randall Munson
06 RPG IV: The Power of Prototyping – **Jon Paris**
07 RPG IV: Subprocedures – Beyond the Basics – **Jon Paris**
08 OS/400 Security Fundamentals – **Carol Woodbury**
08 Get a Life! – Trevor Perry
08 Integrated File System: Fundamentals – Tom McBride
09 How to Deliver a GREAT Technical Presentation! – Randall Munson
10 Single Sign-on Enablement – Patrick Botz
11 Introduction to the Integrated File System – Dave Boutcher
12 Enhance Your 5250 GUI Access with HATS LE – **Carole Miner**
13 Webfacing 5250 Applications with WebSphere – **Claus Weiss**
14 ILE by Example – Paul Tuohy
15 Overview of Cybercrime Efforts in Florida – Bob Breeden
16 What's so Different About Men and Women? – Becky Schmieding
17 RPG IV: RPG at V5R1 – Bigger and Better than Ever! – **Jon Paris**
18 Overcoming the Fear of Speaking – Randall Munson
18 RPG Skills for the New Millennium – Paul Tuohy
19 Introduction to HTML: What Is It and How to Use It – Melissa Anderson
20 What Is WebSphere? – Kevin Larsen

* Names in **bold type** will be speaking at TUG TEC 2004.

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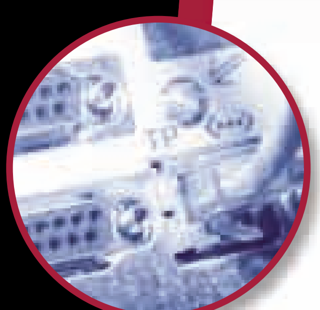

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