MoM REVIEW

THE MAY 2006 MEETING OF MEMBERS

By Kumar Rajendra

To stay with the theme of evaluating various meeting places and times to attract the best possible attendance to our MoM's, we were at the IBM 3300 Steeles avenue location for a 2:30pm start. I would like to bring to your attention that these experiments are conducted in order to give our members the best value by attending as many MoM's as possible and benefiting from our variety of technical speakers and topics. Please do not hesitate to recommend any location or time that you may prefer. The speakers who were presenting the two sessions made it the "Bob & Bob" show.

First Session

The first session topic was Enterprise Generation Language (EGL), presented by **Bob Cancilla**, of IBM, who has spent 30 years managing large-scale systems development projects and technology for both large insurance companies and independent software development companies. He has been involved with AS/400 Internet technology since its inception. Interacting with IBM and approximately 10 other AS/400 Internet pioneers, Bob is also cofounder of the Web-based user group www.ignite400.org, which is dedicated to AS/400 Internet technology and education.

Kumar Rajendra

Bob presented how the EGL product got off the ground and how it has evolved. Enterprise Generation Language (EGL) is a simplified high level programming language that lets you write full-function applications quickly. It frees you to focus on the business problem rather than on complex software technologies. The details of middleware programming and Java/J2EE are hidden from you, so you can deliver enterprise data to browsers even if you have minimal experience with Web technologies.

Within the WebSphere Studio and Rational design and construction product families, EGL is part of a platform that integrates several rapid development technologies, such as JSF, within the Eclipse framework. Together, these technologies combine to produce a highly productive development environment. Developers write their business logic in EGL, the EGL is used to generate Java or COBOL, and the runtime artifacts can be deployed to whatever runtime platform you have targeted for your application. When he was asked why COBOL — not RPG, he said it's because this product works within the mainframe environment as well. However he stressed that the COBOL programs that are generated are for the benefit of creating runtime objects and the source does not require any changes. Therefore the argument of RPG vs. COBOL goes away.

He mentioned that this tool brings developers of different skill sets together. For example, RPG developers can generate COBOL or Java programs and a Java programmer can generate Java and COBOL programs. He also mentioned that the productivity of traditional Java programmers is increased by using this tool. As mentioned above, this tool is part of the WDSC product, however you need the advanced version in order to build EGL programs. He ended by saying "I wanted to get you thinking about the possibilities of using EGL to speed up the adoption of emerging web technologies, improve productivity, leverage legacy developers, and increase your likelihood of success in building applications."

Photos by Vaughn Dragland and Léo Lefebvre

Above: Tug MoM Speaker Bob Cancilla
Left: IBM Canada Headquarters, 3600 Steeles, Toronto

There was a brief intermission for delicious cookies and coffee. After the break **Stephen Quan** announced the election results, and **Léo Lefebvre** talked about the upcoming TUG Golf tournament in September.

Léo Lefebvre

TUG MoM Speaker Bob Schuster

Second Session

The second session topic was Blade Center and System i5 Integration presented by **Bob Schuster**, of IBM. When it comes to simplifying your IT environment, you need to look well beyond basic hardware or server consolidation. In complex environments necessary to support your business needs, one way to reign in costs is better management, better administration and better control. The integrated design, advanced systems management, and enhanced virtualization technologies make the IBM System i platform ideal to help you reduce costs, improve productivity, and increase responsiveness. What the System i family allows you to do is integrate, extend and grow your business applications like never before by integrating a variety of operating systems, including i5/OS®, AIX 5L™, Linux® and Windows Server 2003®. You choose and run the best mix of applications for your business and manage them centrally. By helping reduce complexity and enabling a high level of IT flexibility, System i integration with BladeCenter® and the System x™ platform offers an uncomplicated approach to gaining real business value.

The System i platform combines operating systems, middleware, database, security and storage into a single integrated system. This one system can be deployed very quickly, is less costly and offers easy manageability. Instead of supporting and maintaining multiple disparate servers, often one for each application running on Windows; you can simply integrate operations, networking, and server management of a System i, BladeCenter, and System x environment to help:

- Simplify your Windows infrastructure, and easily grow for the future
- Reduce administration and maintenance costs
- Run the applications you need — using resources and skills already in place

The System i Navigator provides a graphical user interface (GUI) for managing the System i and attached BladeCenter and System x servers. You can easily start and stop servers, enroll i5/OS users in a Windows domain and perform storage management tasks such as adding new virtual disks to a Windows server. In addition, Navigator for Wireless enables you to view server status and start/stop servers from a Web-enabled cell phone, personal digital assistant (PDA) or a Web browser.

We all know the importance of effective security. We also understand the time and costs associated to administer and enforce security measures. One of the ways System i can reduce IT costs is by enabling i5/OS and Windows Server user IDs and passwords to be managed centrally. Now when a user is added to i5/OS, the user can be automatically added to the Windows environment with proper authorizations. When the user changes his or her i5/OS password, the corresponding Windows password can be automatically updated. This integration capability can do a lot to ease user administration efforts because it eliminates the need for users to maintain multiple passwords across multiple systems.

One of the most significant advantages of the System i family is its unique storage architecture. It can provide more flexibility than standalone Windows server implementations, where dedicated disk drives are typically attached to each server and every server's capacity is managed separately. With System i integration, there is a single pool of virtual storage that Windows may share. "Virtual disks" are allocated in i5/OS to each System x or Blade server individually, yet all physical disk capacity and drive utilization is automatically managed by the System i for improved performance and asset utilization. If a Windows server begins to run out of disk space, additional virtual storage may be allocated simply and easily, without rebooting.

i5/OS can consolidate the backup of System i, System x, and BladeCenter systems allowing businesses to use their hardware and IT support resources more fully. In a typical server farm, data may be scattered across multiple servers, with backup processes running on each one and multiple tape drives to manage. With the integrated System i environment, all data and files are centralized in virtual storage and a single process can backup i5/OS and Windows data to a high-speed System i tape device. It's that simple.

IBM BladeCenter server

System i storage virtualization also provides innovative options for enhancing the reliability and recoverability of your Windows servers. If a physical server fails, you can quickly and easily switch the server's storage to a "hot spare" System x or Blade server. This can reduce the overall number of servers needed by enabling one "spare" to be available to protect multiple production Windows servers.

In a typical Windows implementation there may be several server configurations, including production servers, development

servers, and test servers — each with their own set of software and device drivers. Testing and deploying changes across the various Windows servers can be problematic because of the number of configurations that must be maintained. A test server may need to be rebuilt from scratch to match a production server whenever there are changes to be deployed. A single System x or Blade server integrated with System i may be used to support multiple test and deployment environments. One physical System x or Blade server is easily reassigned to the role of another server, because the hardware may be completely disconnected from the virtual storage on which a specific Windows server configuration and data image resides.

Vaughn Dragland

Intermission at the TUG Meeting of Members, May 24, 2006 — IBM Canada

System x and BladeCenter servers can communicate over System i virtual Ethernet network connections, which may be utilized for Windows-to-Windows, Windows-to-i5/OS or even Windows-to-Linux on POWER™ communications. Because there are fewer cables, connectors, hubs and routers, there are fewer points of potential failure. Network traffic travels within the System i infrastructure and less across client networks. Using virtual Ethernet networks can isolate server-to-server traffic to help provide more reliable communications between applications and reduce external network traffic. TUG

Kumar Rajendra *is Vice President (Information Technology) at Aon Re Canada Inc., and is also a TUG Board member. He can be reached at rajendra.kumar@aon.ca.*

Te(k)orner

By Aziz Saleh

MOVE, or else, EVAL, %dec, %char ... IBM continues to build on its development tools, one of them being RPG, which many of us love so dearly. While EVAL has been part of RPG IV for some-time it has not been able to provide all the functionality that its predecessor MOVE provided. One such limitation being that EVAL would only work when moving a character field to a character field, or a numeric field to a numeric field.

However, by employing the %dec or the %char BIFs, EVAL can operate as MOVE. The BIF %dec requires three parameters, a character variable, the length of numeric field, and the size of the decimal value. The BIF %char only requires one parameter, a numeric field.

Here is a code snippet demonstrating the use of EVAL with %dec and %char BIFs. Please note that there are certain limitations to using %dec and %char. The BIF %dec can only handle "clean" numbers, that is numeric values with a sign and a decimal. (Commas are not allowed.) In addition, in V5R4 the %dec BIF has been enhanced to allow date handling by specifying the first parameter to be a date, time or timestamp, and the optional second parameter to specify the format of the resulting numeric value. For reading more on the RPG enhancements in V5R4, visit the following URL: http://www-306.ibm.com/software/awdtools/wds400/about/ile_rpg.html.

For those who are still using MOVE instead of EVAL for situations described above, maybe you could consider a transition the next time you are tempted to use MOVE. Finally, EVAL works in Free-form RPG while MOVE will not! Happy coding! TUG

Aziz Saleh *is a TUG Board member. He can be reached at aziz.saleh@cgi.com.*

```
D charDate        s              10a   inz('20060420  ')
D Date8           s               8s 0 inz(0)
D quantity        s              11s 2 inz(-12345.78)
D charQty         s              13a
C                   eval      Date8 = %dec(charDate : 8 : 0)
C     Date8         dsply
C                   eval      charQty = %char(quantity)
C     charQty       dsply
C                   eval      *inLr = *On
```