CENTRAL CANADA DB2 USERS GROUP HANDOUT

2012 Technical Conference The BMO Institute of Learning Toronto, Ontario June 11th - June 12th

Central Canada DB2 Users Group 25 Hatherton Crescent, Don Mills, Ontario, M3A 1P6 - Email: ccdb2@ca.inter.net

KEYNOTE

"The BIG DEAL about BIG DATA "

Paul Zikopoulos IBM Canada

Paul C. Zikopoulos, B.A., M.B.A., is the Director of Technical Professionals for IBM Software Group's Information Management division and additionally leads the World Wide Database Competitive and Big Data SWAT teams. Paul is an award-winning writer and speaker with more than 18 years of experience in Information Management. Paul has written more than 300 magazine articles and 14 books on DB2 including DB2 pureScale: Risk Free Agile Scaling, Break Free with DB2 9.7: A Tour of Cost Saving Features; Information on Demand: Introduction to DB2 9.5 New Features; DB2 Fundamentals Certification for Dummies; DB2 for Dummies; and more. Paul is a DB2 Certified Advanced Technical Expert (DRDA and Clusters) and a DB2 Certified Solutions Expert (BI and DBA).

DB2 FOR z/OS

"Half Day with Bonnie Baker" Bonnie Baker Bonnie Baker Corporation

Bonnie Baker is a consultant and educator specializing in applications performance issues on the DB2 OS/390 and z/OS platforms. She is an IBM DB2 Gold Consultant, an IBM Data Champion, a five-time winner of the IDUG Overall Best Speaker award, and a member of the IDUG Speakers' Hall of Fame. She is best known for her series of seminars entitled "Things I Wish They'd Told Me 8 Years Ago"

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"What Can I Do To Protect DB2 Against Warehousing, WebSphere, and itself!" Adrian Burke

IBM USA

As DB2 for z/OS is exposed to more and more external influences and access methods DBAs and system programmers must not only be aware of these connections but take steps to protect the DB2 subsystem. This presentation will walk through 3 distinct tuning opportunities based on previous customer experiences. The tuning scenarios are:

- 1) A DB2 warehouse environment being negatively affected by system parameters and its environment.
- 2) A DB2 subsystem that is the back end for a WebSphere Application Server environment and what settings in WAS and DB2 have a bearing on each other. How do you protect DB2 at the application server, wherever it is?
- 3) An investigation of DB2's virtual storage including the tools, typical trends, and what can be done to maximize its utilization safely.

"zIIP Experiences" Adrian Burke IBM USA

With the constant focus on controlling MIPS consumption, IT staffs are being pressed to get every cycle possible out of the zIIP specialty engines. There are two methodologies involved in maximizing off-load potential:

- 1) ensure everything that is currently eligible is getting access to zIIP cycles and tune appropriately
- then look at other avenues to increase potential off-load. We will delve into both of these to investigate maximum zIIP exploitation and discuss the reality of current customer environments.

"Outer Joins – Taking a Closer Look" Joe Burns Highmark Inc.

The use of left outer joins can sometimes be a challenge. Even though the LOJ has been around since DB2 V4, there are still cases where the results returned are not what you might expect. In this presentation we will review the basic outer join syntax and look at potential pitfalls that can cause unanticipated results. We will also evaluate performance considerations, and look at areas where left outer joins can be most useful.

See Our Web Site at: <u>http://pages.ca.inter.net/~ccdb2</u>

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- Basic Left Outer Join syntax and results
- o Unexpected results too many rows returned
- o Unexpected results too few rows returned
- Where can Left Outer Joins be useful?

"Desperate challenges call for desperate measures"

Joe Burns

Highmark Inc.

In the past year or so, Highmark has faced some challenging DB2 application problems. These challenges range from accessing large tables (2 billion rows) down to accessing very small systems with an MS Access front end. This presentation will focus on the strategies and DB2 features we employed to address these challenges. In some cases the issue was overcoming performance bottlenecks while in other cases it was simply addressing the needs for unusual business functionality.

- o Sync I/O bottleneck reading 2 billion row tables
- o The date generator recursive SQL
- History tracking using insert/update
- Left Outer Join short circuit
- o MS-Access front end and the COUNT(DISTINCT) problem

"A New Catalog and Directory Structure in DB2 for z/OS"

Jim Dee

BMC Software

For the second time in three releases of DB2 for z/OS we have a significant set of changes to the Catalog and Directory structure. At first the introduction of Unicode and Long Names in DB2 V8 look to be more critical as any application accessing the Catalog and Directory needed to change, but the changes in DB2 10 for z/OS are likely to equally important in other areas. Chief among the changes are the use of UTS objects and the removal of internal links, but that's not all that was changed. For the first time we can issue SQL against some Directory objects, and we also have Inline LOBs used in some tables, so this is a pretty significant set of changes in its own right and probably the second most significant (at least) since DB2 was first released back in the mid-1980's. This session describes the changes that have been made and how they may impact the way we treat and access the Catalog and Directory moving forwards. Objectives:

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- Which of the Catalog objects now use UTS Tablespaces and what does this mean?
- o Understand Links in the Catalog and the implications of their removal.
- How inline LOBS are being used in the Catalog.
- What changes have been made the Directory.
- New Columns, Tables and other miscellaneous Catalog and Directory changes in DB2 10 for z/OS

"Looking Behind the Curtain of DB2 for z/OS 10 Performance and Scalability: Storage Monitoring and Control"

John Campbell IBM UK

This session will introduce and discuss how to monitor and control storage use with DB2 10 for z/OS. Objectives:

- o Terminology
- Virtual Storage Constraints and Management
- Real storage consumption
- Real storage control system configuration parameters (ZPARMs)
- o Understanding the key metrics via IFCID 225
- Future Considerations

"Gain Insight into DB2 for z/OS 10 Performance Updates and SAVE COSTS" John Campbell IBM UK

This session offers a look at performance impact of DB2 9 and DB2 10 for z/OS with particular emphasis on the DB2 10 improvements. Objectives:

- Scalability and buffer pool enhancements
- INSERT improvement
- FETCH/SELECT improvement
- o LOB, XML, and SQL procedure performance
- o JDBC and DDF performance

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"The Importance of Being Consistent - DB2 for z/OS and Remote Copy Services for IBM System z"

Florence Dubois IBM UK

Is your Disaster Recovery solution based on DASD replication functions? In most cases, all you will need to do is a normal restart of DB2 for z/OS. But this assumes the DASD copy is consistent. Otherwise, it is guaranteed data corruption that will have to be fixed up, possibly several weeks or months after the event. This presentation will tell you everything you need to know about the Copy Services for IBM System z and what is required to ensure data consistency. It will address the most common myths and misconceptions about these DASD replication solutions. It will also provide hints and tips on how to tune for fast DB2 restart and how to optimise GRECP/LPL recovery. Objectives:

- Introduce and compare Metro Mirror (PPRC), z/OS Global Mirror (XRC), Global Copy and Global Mirror
- o Address the most common myths and misconceptions about these solutions
- Discuss important concepts and functions such as Rolling Disaster, Consistency Groups, HyperSwap and FREEZE policies (GO|STOP)
- Provide hints and tips on how to tune for fast DB2 restart and how to optimize GRECP/LPL recovery

"The Many Uses of Flash Copy with DB2 for z/OS"

Florence Dubois IBM UK

FlashCopy makes it possible to create, nearly instantaneously, point-in-time copies of entire logical volumes or data sets. This opens up a whole new world of possibilities, and DB2 for z/OS utilities have started to make more and more use of FlashCopy technology. This presentation will introduce the copy options supported by FlashCopy and show how DB2 for z/OS can exploit them. It will provide hints and tips on how to set up your environment. It will also address common pitfalls, including all the gotchas of combining FlashCopy and Remote Copy Services: Metro Mirror (PPRC), z/OS Global Mirror (XRC), Global Copy and Global Mirror. Objectives:

- Introduce FlashCopy technology
- Look at how DB2 for z/OS utilities use FlashCopy
- o Address common pitfalls
- o Discuss all the gotchas of combining FlashCopy and Remote Copy Services

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"Temporal Data - An Insurance Policies Life" Phil Grainger Cogito/Grainger Database Solutions Ltd.

There are many ways of looking at the temporal data support in DB2 for z/OS - most of them spend time looking at the syntax of the new DDL required to create temporal managed objects ... THIS SESSION IS DIFFERENT ... We will look at the life of a generic insurance policy as an example of how Temporal Data support can simplify application development and provide simple access to historical data purely by coding relevant DML clauses.

"Application Performance - Tuning, Trending and Testing"

Phil Grainger Cogito/Grainger Database Solutions Ltd.

It seems to be a constant battle to ensure that DB2 applications are running at their optimum efficiency and speed, but what are the factors that affect this efficiency. This presentation looks briefly at those aspects of application coding, development and execution that have a bearing on the overall performance. But what if it's really not the applications fault? How do you determine, before embarking on lengthy analysis, that the problem really IS one you can fix from a DB2 perspective. We'll also look at why it is important to build a performance database that easily allows comparisons between "now" and "then". The performance database can also prove invaluable in determining trends in performance – perhaps even allowing problems to be highlighted and resolved BEFORE they cause major impacts.

"Switching – What IS Access Path Stability?"

Phil Grainger Cogito/Grainger Database Solutions Ltd.

DB2 now gives us the ability to manage up to THREE different versions of access paths for a single package, and to switch between them as and when we wish. But why is this feature here? What are the problems surrounding rebinds that Access Path Stability is trying to address and aren't there other ways (such as hints) that can address the same issues. This presentation looks at the background, at the problems with uncontrolled rebinding and at the three flavours of Access Path Stability.

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"It Could Happen To YOU – Scary Disaster Stories, Lessons Learned, NOTHING is Impossible" Phil Grainger

Cogito/Grainger Database Solutions Ltd.

There are many presentations on recovering computer systems from disasters and the need for planning BUT what exactly ARE these disasters? This presentation will give you the opportunity to learn from other people's misfortunes that NOTHING is impossible, and even the most improbable events can (and will) happen to someone. Whilst the presentation doesn't really give any guidelines on how to plan for a disaster, you will certainly leave knowing that you must plan for the worst possible scenario and take nothing for granted.

"DB2 for z/OS Utilities Update"

Haakon Roberts IBM USA

DB2 Utilities development continues to deliver significant enhancements form improved function, performance and availability and reduced CPU cost. This talk will cover DB2 10 utilities capability and also highlight recent enhancements provided in the maintenance stream that you can take advantage of today. Objectives:

• Understand recent enhancements to DB2 for z/OS Utilities Suite and how to take advantage of them to improve availability & performance, and reduce TCO.

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DB2 Cross-Platform

"Goin' Mobile [Beep Beep]" John Mallonee

Highmark Inc.

The world has changed in how we interact with information through smart phones and tablets. Mobile has become the ubiquitous computing environment spanning all types of users. This session is designed to discuss what you might already know about mobile and dive deeper into the details behind the technology. We'll talk about what's different about the development even from "newer" technologies like Java and more traditional web applications. I'll provide the context of bringing mobile development into an application area and the implications it's created for us. Objectives:

- Learn about mobile concepts and some more about the mobile application landscape.
- Dive into some different approaches to developing and providing mobile solutions.
- Find out how data and data transfer can be managed within a mobile application architecture.
- Examine some of the security implications of providing mobile capabilities.
- See how mobile applications fit into a services-oriented architecture and drive SOA decisions.

"Take a REST from Using SOAP"

John Mallonee Highmark Inc.

Representational State Transfer (REST) is an architecture that supports simplified web services over the HTTP protocol (you know that thing that supports basic transfers of information over the internet). Come learn about this alternate approach to the traditional use of the SOAP protocol and WSDL. You'll get some background on web services and RESTful services in particular, as well as see the differences between REST and SOAP. Additionally, you'll see REST at work in a sample application that calls DB2 as well as hear experiences from supporting live, production applications. So, come on out and give yourself a REST and learn something more about practical web services.

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DB2 Hands-on Lab

Data Studio Workshop "All the things Query Tuning : Data Studio & Query Workload Tuner" Saghi Amirsoleymani IBM USA

A unique opportunity of a hands-on workshop with IBM's Data Studio Workshop!

Integrated Data Management (IDM) is a cornerstone to real cost savings within the IT center. IBM's Optim portfolio is the highway of savings with technologies like Query Workload Tuner, pureQuery and more. The on ramp to this cost savings highway is called Data Studio and it's free since Data Studio is the replacement for the now deprecated Control Center and Optimization Service Center, get a full tour of your new GUI home: Data Studio and find out all the things you can do for FREE! As well as a preview to what more you can do with Query Workload Tuner.

Saghi Amirsoleymani is a Solutions Architect in the Optim Data Studio Enablement team at IBM's Silicon Valley Lab in San Jose, CA, where she enables customers and partners on IBM Optim Data Studio technologies. Prior to joining this team, Saghi was part of the DB2 z/OS L2 team. She joined IBM in 1999, after finishing her degree at University Southern California. She has presented on various topics related to Data Studio and Performance at the Information on Demand and IDUG conferences, various user groups, and events.

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DB2 FOR LINUX, UNIX and WINDOWS

"Which DB2 High Availability Technology is Right for You?"

Chris Eaton IBM Toronto

High Availability is not a single feature in DB2 for Linux, UNIX, and Windows. There are a number of features that can be implemented based on your needs and your budget. Chris will walk you through the various High Availability solutions provided by DB2 from simple backup/recovery and log management to High Availability Disaster Recovery (HADR) to Replication and pureScale. Each technical solution will be discussed including its architectural benefits and what's new in DB2 10 so that you can decide which solution or combination of solutions is right for a given set of application requirements. Objectives:

- Understand the basics of DB2 LUW log management and backup/recovery processing
- Understand the capabilities of HADR in DB2 10
- o Understand the replication capabilities available to you
- Overview of pureScale for high availability and geographically disbursed clustering
- Which technology or combination is right for you?

"Does Anybody Really Know What Time It Is?"

Martin Hubel MHC Inc.

DB2 10 for both LUW and z/OS has introduced "time travel", which allow users to store and manipulate time based on system and business time. The good news is the new facilities are identical in z/OS and LUW so this is a true cross platform presentation.

- Optimistic locking support (V9)
- System-time
- Business-period tables
- Bi-temporal tables
- o Best practices and implementation

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"Deep Dive into DB2 10 Query Performance Optimization: Statistics and Optimization Profiles" John Hornibrook IBM Canada

DB2 10 significantly improves query performance and database administration through enhancements to catalog statistics and optimization profiles. Statistical views have been improved in DB2 10 to make them easier to use and maintain. Their capabilities have also been extended to collect statistics for complex expressions used in predicates. Statistics for statistical views can now be collected automatically by the DB2 data server, using the same approach as tables and nicknames. Statistical views are now easier to deploy using the Optim Query Tuner workload statistical view advisor. The RUNSTATS utility has also been enhanced in DB2 10, with the addition of index page sampling, better index page prefetching and overall improved performance. Finally, DB2 optimization profiles have been extended to make them more powerful and easier to use. SQL statement matching is now more flexible so that an optimization profile can match many SQL statements with a similar structure. Optimization profiles can now be used to specify certain registry variables, so that they can be applied more selectively. Attend this presentation to understand how these new features can improve your query performance and make administering your DB2 system easier.

"Storage for DB2 Server" Thomas Kalb ITGAIN

This presentation illustrates key information about storage systems focusing on the relationship between a DB2 Database and the storage system and how together they can be configured for a high performance environment. The information should help guide the proper configuration decisions for the storage of DB2 Databases. In addition it contains considerations for an I/O efficient DB2 filesystem layout as well as for storage segment sizes, storage caching and raid levels. The presentation introduces the new storage technology of "PCIe Express SSD Cards" and demonstrates the I/O speedup within some benchmarks and also for a real production system.

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"DB2 10 for LUW - Early Experiences with Storage Management and others"

Vijay Sitaram McKesson Corp.

Co-presenting with

Kelly Schlamb IBM Canada

Join us and learn about early experience with DB2 10 for LUW, specific to storage management. We will be discussing the new storage management features such as ASM, Compression and Data Management. Also, we will touch on other new features that can help with monitoring and managing storage.

- o Baseline environment and Introductions
- o New DB2 10 Features in storage management
- Compare DB2 10 to DB2 V9.7.3 storage offerings and measure their ROI
- What's unique to DB2 10 for LUW in storage management?
- o Summary

"Upgrade Best Practices to DB2 10 for LUW" Melanie Stopfer IBM USA

A 2-Part Presentation

Are you responsible for upgrading your databases to DB 210 for LUW? Attend this presentation to learn about often overlooked but very important tips and tricks to understand before upgrading. Are you looking for details about what will change when you upgrade? Do you know what will not change? What new features will be implemented when you create a new database versus upgrade your existing database? Planning your upgrade is much easier if you know these best practices.

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"Stuffed with Great Enhancements DB2 9.7 Fix Pack New Features" Melanie Stopfer IBM USA

IDUG EMEA 2011 Best Overall Presentation!

DB2 9.7 Fix Packs are stuffed full of new enhancements to help you maximize performance, recoverability, security and operational management. Get the technical information about the new functions and features available in DB2 9.7 Fix Packs for Linux, UNIX, and Windows. Melanie will discuss the advantages and potential impact of the Fix Packs of DB2 9.7 to your environment.

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IBM Certification Exams Tuesday June 12th

Robert Borovsky IBM Toronto

Once again the Technical Conference will be offering the opportunity to take IBM Certification exams – courtesy of IBM Canada. The first exam will be offered free. Re-takes or additional exams will be offered at a 50% discount on the regular fee.

There are limited time slots. A signup sheet will be available at registration on Monday June 11th for attendees to schedule their exam(s).

The following link lists the available exams.

http://pages.ca.inter.net/~ccdb2/IBM_Certification-201105.pdf

Central Canada DB2 Users Group - 2012 event

8:15 - 8:50	badge pick-up attendees - please be seated in the large presentation hall [near the registration desk] by 9 AM					
9:00 - 10:15	ALL ATTENDEES: meet in the main presentation hall for opening remarks and Paul Z's keynote presentation.					
9:15 -10:15	Paul C. Zikopoulos, IBM,Director of Technical Professionals for IBM Software Group's Information Management division KEYNOTE: " The BIG DEAL about BIG DATA " Q&A					
		movement break				
	Presentation Hall	Studio	Room # 104	Room # 203		
10:30 - 12:00	John Campbell, IBM UK SPOTLIGHT: "Gain Insight into DB2 for z/OS 10 Performance Updates and SAVE COSTS"	Matthew Huras, IBM Toronto Lab SPOTLIGHT: "Technical Overview of DB2 10 for LUW"				
		LUNCH	-			
1:00 - 2:00	Bonnie Baker, Bonnie Baker Corp., USA ""Half day with Bonnie - I Didn't Know DB2 did THAT!""	Chris Eaton, IBM Toronto Lab "Which DB2 High Availability Technology is Right for You?"	Florence Dubois, IBM UK "The Many Uses of Flash Copy with DB2 for z/OS"	Saghi Amirsoleymani, IBM USA "All the things Query Tuning: Data Studio & Query Workload Tuner"		
		coffee break	•			
2:15 - 3:15	Bonnie Baker, Bonnie Baker Corp., USA ""Half day with Bonnie - I Didn't Know DB2 did THAT!""	Serge Rielau, IBM Canada "Oracle Compatibility Update for DB2 10 for LUW"	Florence Dubois, IBM UK "The Importance of Being Consistent - DB2 for z/OS and Remote Copy Services for IBM System z"	Thomas Kalb, ITGAIN "Storage for DB2 Server"		
		coffee break				
3:30 - 4:30	Bonnie Baker, Bonnie Baker Corp., USA ""Half day with Bonnie - I Didn't Know DB2 did THAT!?"	Melanie Stopfer, IBM USA "Stuffed with Great Enhancements DB2 9.7 Fix Pack New Features"	Adrian Burke, IBM USA "zIIP Experiences"	Saghi Amirsoleymani, IBM USA HANDS-ON WORKSHOP "Data Studio"		

	Presentation Hall	Studio	Room # 104	Room # 203
9:00 - 10:00	John Mallonee Highmark Inc. "Goin' Mobile [Beep Beep]"	Melanie Stopfer, IBM US "Upgrade Best Practices to DB2 10 for LUW" [part 1] coffee break	Jim Dee, BMC Software "A New Catalog and Directory Structure in DB2 for z/OS"	Saghi Amirsoleymani, IBM USA HANDS-ON WORKSHOP "Data Studio"
10:15 - 11:15	John Campbell, IBM UK "Looking Behind the Curtain of DB2 for z/OS 10 Performance and Scalability: Storage Monitoring and Control"	Melanie Stopfer, IBM US "Upgrade Best Practices to DB2 10 for LUW" [part 2] coffee break	John Mallonee, Highmark Inc. "Take a REST from Using SOAP"	-
11:30 - 12:30	Phil Grainger, Grainger Database Solutions Ltd. "Application Performance - Tuning, Trending and Testing"	Vijay Sitaram, McKesson Corp & Kelly Schlamb, IBM Canada "DB2 10 for LUW - Early Experiences with Storage Management and others"	Haakon Roberts, IBM USA "DB2 for z/OS Utilities UPDATE"	C E R T T
		L F		
1:30 - 2:30	Joe Burns, Highmark Inc. "Outer Joins — Taking a Closer look"	John Hornibrook, IBM Canada "Deep Dive into DB2 10 Query Performance Optimization: Statistics and Optimization Profiles"	Phil Grainger, Grainger Database Solutions Ltd. "It Could Happen To YOU - Scary Disaster Stories, Lessons Learned, NOTHING is Impossible"	DFS BIT 2CI AN
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2:45 - 3:45	Phil Grainger, Grainger Database Solutions Ltd. "Switching - What IS Access Path Stability?"	Steve Rees, IBM Canada "pureScale: Best Practices for Performance and Monitoring"	Adrain Burke, IBM USA "What Can I Do To Protect DB2 Against Warehousing, WebSphere, and Itself!"	I O N
		coffee break		
4:00 - 5:00	Joe Burns, Highmark Inc. "Desperate challenges call for desperate designs:"	Dale McInnis, IBM Canada "IBM DB2 HADR 2011 state of the union"	Martin Hubel, MHC Inc. "Does Anybody Really Know What Time It Is?"	

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