



**CENTRAL CANADA DB2  
USERS GROUP  
&  
TORONTO IMS REGIONAL  
USERS GROUP**

**2019  
Technical Conference**  
The BMO Institute for Learning  
Toronto, Ontario  
April 29<sup>th</sup> – April 30<sup>th</sup>

## Central Canada DB2 Users Group

1969 Lenarthur Drive, Mississauga, ON, L5J 2J1 - Email: [info@ccdb2.ca](mailto:info@ccdb2.ca)

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**Monday April 29<sup>th</sup> – Tuesday April 30<sup>th</sup>, 2019**

The Bank of Montreal Institute for Learning  
3550 Pharmacy Avenue, Toronto, Ontario, M1W 3Z3

*The Toronto IMS Regional Users Group will be co-hosting their quarterly meeting with the Central Canada DB2 Users Group for 1 day on Monday April 29<sup>th</sup>.*

In its 34<sup>th</sup> year, the Central Canada Db2 User Group continues to offer quality technical Db2 education. Our 2-day conference brings together many of the best speakers from IDUG NA and the Db2 Labs: Haakon Roberts, Bernie O'Connor, Jeff Josten, Deepak Kohli, John Hornibrook, George Baklarz to name a few. For a fraction of the price of larger events, we bring you two days packed with educational opportunities within the professional surroundings of the Bank of Montreal Institute for Learning. If you are in the Toronto area, or can make the trip to join us, you should not miss this opportunity. For more details and to register, go to <http://www.ccdb2.ca/home.htm>.

This is the “**must attend**” seminar of the year and is only \$350 for 2 days of DB2 and IMS Education, or \$200 for 1 day of IMS (Monday only)!!

Registration Includes: Presentation material download, continental breakfast, coffee breaks, and lunch.

Vendor reception on Monday is open to all.

We look forward to seeing you on Monday April 29<sup>th</sup> – Tuesday April 30<sup>th</sup>, 2019.

Regards,  
Andrew Sykes, President  
Central Canada DB2 Users Group

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## MONDAY April 29

**8:15 - 8:50** badge pick-up attendees - please be seated in the presentation hall [near registration] by 9

**9:00 - 10:30** **ALL ATTENDEES:** meet in the main presentation hall for opening remarks and the keynote presentation.

9:15 - 10:30	<b>KEYNOTE: Database Technology Will Make You A Hero</b> Sam Lightstone – IBM Fellow		
<b>MOVEMENT/COFFEE BREAK</b>			
	<b>DB2 for z/OS - Presentation Hall</b>	<b>DB2 LUW</b>	<b>IBM IMS</b>
10:45 - 12:00	Best practices for developing high performing Java applications for Db2 Maryela Weihrauch - IBM	V11.1 Latest from the Lab and a Peak into the Future Keri Romanufa - IBM	IMS Trends and Directions Jasminder Singh, Program Director - IBM Catalog Your Way into IMS Deepak Kohli - IBM
<b>LUNCH</b>			
01:15 - 02:15	Db2 for z/OS Latest News and Future Directions Jeff Josten - IBM	IBM's Always-on Architecture - keeping your service up for DECADES! Dale McInnis - IBM	Improving IMS Availability through Dynamic Resource Definition Rick Engel - IBM
<b>coffee break</b>			
02:30 - 03:30	Best Design and Performance Practices for Analytics David Beulke - IBM GOLD Consultant	Using JSON in IBM Db2 to Manage Complex Financial Instruments George Baklarz - IBM	Extending your IMS applications with REST APIs and Modern Language Yves Tolod - IBM
<b>coffee break</b>			
03:45 - 04:45	Db2 Tuning Tips for Developers; Top Reasons for Poor SQL, Performance, and Application Performance Tony Andrews - Themis	Db2 Automatic Statistics Deep Dive John Hornibrook - IBM	Mining IMS logs for Performance/Diagnostic data Deepak Kohli - IBM & James Martin - Rocket Software
04:45 - 6:30	<b>Vendor Expo / Reception sponsored by IBM</b>		

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<b>T U E S D A Y April 30</b>			
8:30 - 8:50	User group status & request for volunteers - Presentation Hall		
	<b>DB2 for z/OS - Presentation Hall</b>	<b>DB2 LUW</b>	<b>DB2 Breakout</b>
9:00 - 10:00	<b>An Audit a Day Keeps the Lawyers at Bay</b> Roy Boxwell - SEGUS	<b>Db2 LUW Tablespace Internals</b> Pavel Sustr - IBM	<b>z/OS Db2 Batch System Design for High Performance</b> Neal Lozins - Softbase
<b>coffee break</b>			
10:15 - 11:15	<b>Remove the Hocus-Pocus from ZIIPs and Costing from System Z</b> Bernie O'Connor - Anixter	<b>Db2 native encryption: What to expect when you're expecting (to encrypt)</b> Paul Bird - IBM	<b>Monitoring BLU Acceleration in Depth (LUW)</b> David Kalmuk - IBM
<b>coffee break</b>			
11:30 - 12:30	<b>Db2 Utilities: The Very Latest Developments</b> Haakon Roberts - IBM	<b>Indexes: They're Not Just For Where Criteria Anymore</b> Jim Bean - CIGNA	<b>Temporary Tables in DB2 SQL - using for effective SQL</b> Brian Laube - Manulife
<b>LUNCH</b>			
1:30 - 2:30	<b>Db2 and data compression</b> James Magill - BMC Software	<b>Differences between optimization for row oriented tables versus column oriented tables</b> Calisto Zuzarte - IBM	<b>Continuous Delivery in Db2 12</b> Andy Badgley - CA / Broadcom
<b>coffee break</b>			
2:45 - 3:45	<b>Zowe: A new face for z/OS</b> Saghi Amirsoleymani & Timm Zimmerman - Rocket S/W	<b>Index vs. Prefetch - How To Win the Fight</b> Martin Hubel - MHC	<b>Transparently Migrating your IMS databases to DB2, without making changes to application code!</b> Mike Picou - Syncsort
<b>CLOSE</b>			

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## PRESENTATION ABSTRACTS

These may be subject to change so please excuse the proverbial "last minute changes".

### KEYNOTE

#### **“Database Technology Will Make You A Hero”**

Sam Lightstone, IBM Fellow

In this session Sam Lightstone - IBM CTO for Data & IBM Fellow, will discuss merging technologies evolving in the domain of data management. This entertaining and expansive view will explore emerging technology from IBM for query performance, geo-distributed query processing, security, paradigm changes from Machine Learning, how "multi-cloud" has eclipsed "cloud", and much more. Sam will also show emerging hardware that will soon disrupt how we store, access and process data. The next 10 years will revolutionize database technology more than the past 50, making data simpler, faster, and more meaningful.

Sam Lightstone is IBM Chief Technology Office (CTO) for Data, an IBM Fellow and Master Inventor. He loves to help customers solve real problems and help IBM invent the future. He has over 60 patents and is widely published including dozens of scientific papers and four books. He is author of the critically acclaimed programmers' career guide '*Making it Big in Software*'. In his spare time, he is an avid guitar player and fencer.

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## DB2 for z/OS

### **“Db2 Tuning Tips for Developers; Top Reasons for Poor SQL, Performance, and Application Performance”**

Tony Andrews, Themis

By the end of this presentation, developers should be able to:

- Understand some of the more common areas that cause poor performance in a query, program, or application
- Understand how data statistics can affect our program coding
- Understand data clustering and its effect on performance
- Understand Table Scans and what may cause them
- Understand their need to ‘Know the Data’

Tony Andrews has more than 25 years’ experience in the development of relational database applications. Most of this time, he has provided development and consulting services to Fortune 500 companies and government agencies. Tony has written literally thousands of queries and programs during his development years, and has also served as a database analyst. For the last 10 years, Tony has been splitting his time between performance and tuning consulting engagements along with training. His main focus is to teach today’s developers the ways of RDBMS application design, development and SQL programming -- always with a special emphasis on improving performance. He is a current IBM Champion, and regular speaker at many regional user groups, IDUG NA, and IDUG EMEA. He is also the author of a book for developers titled ‘DB2 SQL Tuning Tips for z/OS Developers’.

### **“The Impact of APPLCOMPAT in a Continuous Delivery World”**

Andy Badgley – CA / Broadcom

IBM's Continuous Delivery approach with Db2 12 has increased the frequency in which we receive new functionality for Db2 and introduced Maintenance Level, Catalog Level, and Function Level migration considerations. But what about APPLCOMPAT? What is its role in providing application stability in a Continuous Delivery World?

This presentation will talk about the Db2 12 Continuous Delivery model and IBM's recommended migration approach to leveraging new functionality. The focus will be on the APPLCOMPAT BIND parameter and its role in maintaining application stability.

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Andrew Badgley is the Lead Product Owner for the Database Management for Db2 for z/OS Administration, Backup & Recovery, and Utility products at CA technologies. He has 20 years of experience with these products as Developer, Support Engineer, Support Engineering Manager, and Product Owner. His areas of expertise include Db2 Log Reporting, Data Recovery, and Database Design. He is also the owner of the CA Db2 Tools 20.0 Validation Project.

## **“Best Design and Performance Practices for Analytics”**

David Beulke, IBM GOLD Consultant

Implementing analytic applications is easy with a variety of cloud, application appliance and hybrid database alternatives. Designing application analytical systems requires comprehensive data management and usage analysis to design and build the best performance analytical application that produces meaningful insights. Having designed, deployed and worked with successful five, eight, twenty-two and forty-two billion row analytical database systems, this presentation will discuss the application design patterns that provide sustainable performance for fast analytic answers. Through this presentation, you will learn the application analytics architectures, the superior design patterns and application techniques to maximize performance for insightful analytic answers.

- How to make the best application architecture design decisions for your workload’s characteristics.
- Understand the different IoT, ML, AI and operational data management challenges implemented through HTAP, cloud, Hadoop, IDAA analytics architectures.
- Understand the various analytic design considerations and techniques to optimize your application for insights.
- Comprehend the database design patterns for effectively managing billions of rows for decades.
- How to discuss, evaluate and set up reliability, availability and scalability within your analytical procedures and application.

David Beulke is an internationally recognized consultant, author and teacher. He provides leadership through data management, analytical designs and system performance consulting. He is currently president of DAMA-NCR, past president of the International Db2 Users Group (IDUG), a member of the IBM Db2 Gold Consultant program, an IBM Information Champion, former co-author of the IBM z/OS Db2 Certification and Business Intelligence Certification exams, former columnist for Db2 Magazine and former instructor for The Data Warehouse Institute (TDWI). Leveraging his new technologies knowledge helps his clients improve their strategic data management practices to align with business analytics initiatives while improving performance, reducing overall computing and CPU costs. Dave’s recommendations and designs have saved clients millions in their systems, databases and application areas within their mainframe, UNIX and Hybrid environments.

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### **“Transparently Migrating your IMS databases to DB2 to reduce risk and cost, without making changes to application code!”**

Michael Picou – Sales Engineer

Bill Bostridge - VP - Data Infrastructure Optimization Sales - North America  
SyncSort

For most organizations, IMS is supporting applications with deep customized business rules and functionality built over several decades. Re-platforming or rewriting these applications is a risky and cost prohibitive undertaking – not for the fainthearted.

CIOs today recognize the need to modernize and de-risk the long-term viability of these applications, but identifying a low-risk and cost-effective route is a huge challenge. The folks who wrote these IMS applications and currently provide support are slowly but surely moving off to a welcome retirement, so organizations are faced with the challenge of ensuring that current IMS based, mission critical applications continue to run, without risk to the business.

In this session we will explore the business benefit and ROI that has been proven with Syncsort DL/2 through customer use cases and discuss the development of the ROI statement that makes transparent data migration from IMS to Db2 on z/OS, without making changes to the IMS application code, such a compelling story.

Mike is the lead DL/2 consultant for North America with over 25 years' experience in mainframe programming, Systems and DBA work with the State of Florida. After leading the State of Florida Department of Corrections successful implementation of DL/2, Mike joined Syncsort to support DL/2. With his experience, Mike brings in-depth knowledge of IMS/DB2 and DL/2 both from a customer and vendor perspective and has been instrumental in leading numerous customers in successful DL/2 implementation projects.

### **“An Audit A Day Keeps the Lawyers at Bay!”**

Roy Boxwell, SEGUS

GDPR, GLB, HIPAA, PCI-DSS, Basel III, Sarbanes-Oxley, CA SB1386, Federal Information Security Management Act, “Red Flag” Rules (FRCA)5 are facing us with serious requirements to protect the data we're hosting and to be able to report on a variety of criteria the Auditors may ask for. There's different ways and tools that promise to be able to do it, but what can they really do and what are the associated costs?

This presentation introduces Db2 technology exploitation that delivers DML, DDL, DCL activity in a Db2 environment along with identification details.

This presentation helps you understand the way Auditors look at Db2 and what they need to do their daily work. Learn how you can satisfy your Auditor's needs, by interfacing with a SIEM system, like QRadar, Splunk, AlienVault, et al, combining the Db2 information with RACF, SMF and Master Log data.

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Roy Boxwell has more than 32 years of experience in MVS, OS/390, and z/OS environments – 30 of those in Db2. He specializes in installation, migration, and performance monitoring and tuning. Roy leads the SEG development team responsible for the real time database maintenance solutions. He is also an active participant, speaker and contributor on the IDUG Db2 Listserv and sends out a monthly Db2 z/OS Newsletter.

## **“Db2 for z/OS Latest News and Future Directions”**

Jeff Josten, IBM

Db2 for z/OS is investing for leadership in the cloud, mobile, and analytics era, while extending our mainframe heritage of 24x7 availability, security, scalability, and performance, and keeping Db2 as the industry leader for mission-critical applications. This presentation reviews the latest Db2 for z/OS enhancements, and takes a look at Db2's strategic roadmap and what the Db2 Development lab is planning in the coming months.

Jeff Josten is an IBM Distinguished Engineer and the lead architect of Db2 for z/OS. He has worked in Db2 Development at the IBM Silicon Valley Lab since 1985. He owns several patents in the area of data base technology, and is a frequent speaker at user groups and customer meetings.

## **“Temporary Tables in DB2 SQL - using for effective SQL”**

Brian Laube – Manulife

The SQL concepts of ‘temporary tables’ allows for creation of powerful SQL. Understanding the different types of temporary tables will allow the end-user the option to create useful SQL that may be relatively simpler to understand and allow great flexibility.

- DECLARED GLOBAL TEMPORARY TABLES (DGTT)
- CREATED GLOBAL TEMPORARY TABLES (CGTT)
- common table expressions (CTE)
- other forms of inline SQL

The first objective of this presentation is to drive home the difference between DGTT and CGTT. I will share the experience of how a simple DGTT was used in a new high-volume transaction and cost was relatively high. Switching to CGTT fantastically reduced cost! The second objective is to talk how CTE allow one to write ‘big’ SQL that are easy to understand. CTE are my new favorite SQL concept to exploit and use for producing ad-hoc complex SQL reports! The third objective is to expand upon CTE to show how to build recursive SQL. Recursive SQL is rare (in my shop) but we will discuss how to create and some potential use cases.

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Brian Laube is application DBA for DB2 for z/OS at Manulife Financial. He has been a DBA at Manulife since 2001 and he has been working as a DBA since 1999. And before that, Brian worked with DB2 as a developer (for many moons). Brian has presented at IDUG NA in 2016 and 2017. Brian has also presented at the Central Canada Db2 User Group in 2015. Brian is now involved with the Central Canada DB2 User Group as a director and organizer of the annual two-day user group conference.

## **“z/OS Db2 Batch System Design for High Performance”**

Neal N Lozins, SoftBase

Building Db2 for z/OS batch systems can be challenging. Mission critical high performing Db2 for z/OS batch systems bring the challenge to a whole new level. Learn the difference between an I/O bound and a CPU bound application. Learn how to turn an I/O bound Db2 for z/OS application into one that is CPU bound and why that is a good thing. Learn the concepts of parallel processing and additional performance considerations.

Neal is the creator and chief architect of TestBase, the SoftBase test data management suite, and manager of SoftBase development. Having more than 35 years of architecting, developing and implementing Db2 for z/OS applications, he has helped countless customers get more value from this important platform. Neal was the driving force behind a large utility company that transformed a billing system that could not bill forty thousand customers in eight hours into a system that bills seven million customers in three hours today.

## **“Suppress Depression with Compression”**

James Magill, BMC

Fixed Length Data Compression has been around a long time in DB2. It promised performance gains for your application coupled with disk savings! What is new is Huffman Data Compression which is variable length. It promises even better savings since your using less storage to represent your data. This presentation provides an overview of fixed length and Huffman compression features, and discusses some of the performance characteristics. Then we will walk through at the page level and point out the differences. Finally move on to pros and cons, and a process for taking advantage of the feature.

James Magill is a Lead Developer in Data Management organization in R&D at BMC Software. He has worked at BMC since 1996, in Db2 Backup and Recovery, as a developer, lead developer for Unload Plus, and has held his current position as Lead Developer for SCC that is responsible for all the common code that DB2 applications uses. Prior to joining BMC Software, James worked at Texas Instruments in the Jes3/BDT group and developed and marketed the EDI Gateway, a communication product developed to send/receive EDI records intercompany wide for 12 years. James has a B.S in Computer Science with a Math minor from Texas A&M University.

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## **“Remove the Hocus-Pocus from zIIPs and Costing on System Z“**

Bernie O’Connor, Anixter

Anixter’s experience with zIIPs: How does this work?

- MIPS, MSUs, VWLC, a little history on zIIPs for Java, Distributed, BI/DW
- Tips for smooth MSU consumption
- Native DB2 Stored Procedures: A Tale of Two Applications
- Other Opportunities Anixter Addressed:
- Tomcat on the mainframe
- CICS and Threadsafe – an opportunity we should have taken in 2001
- For more on CICS and DB2, see Dave Raiman’s presentations
- Road not taken: zNALC and why this could be a good deal

Bernie O’Connor has worked for Anixter for 24 years and is currently the Director of Information Technology. His other roles included DBA, DBA Manager, Technical Architecture, M&A and Divestitures, BI/DW/Analytics, Pricing Analytics, Computer OPS, System Programmers and Admins, Web Services. At IDUG, Bernie is a member of the Speakers Hall of Fame, and he was NA Conference Chair (2005 – Denver), and IDUG President (2007-2008).

## **“Db2 Utilities: The Very Latest Developments”**

Haakon Roberts, IBM

Db2 Utilities Suite is essential for the management of Db2 data. It's also an area of constant and intense development. This session will explain all the latest enhancements in this area to improve performance, availability and usability as well as cutting cost and overhead.

Haakon Roberts has over 30 years' experience working with Db2 on the mainframe platform covering various aspects of systems programming, database administration, software development and support. He is a Distinguished Engineer in Db2 for z/OS development at the IBM Silicon Valley Laboratory in San Jose, California and the chief technical architect and strategist for Db2 for z/OS Utilities and Tools. He holds several patents and is a leading expert in data integrity, availability, serialization techniques and problem resolution. He is a regular speaker on these and other topics.

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## **“Best practices for developing high performing Java applications for Db2”**

Maryela Weihrauch, IBM

Java workloads have proliferated on Db2. Due to gaps in understanding true database behavior, application developers find it challenging to code well behaved applications that are high performance with large data volumes and also have continuous availability. Furthermore, many customers have embarked on legacy modernization projects where COBOL and Java have to co-exist. This has increased the need for developing efficient programming models. Maryela will present best practices in all key areas of developing Java application against Db2 - connection management, result set handling, load balancing settings, failover techniques, optimization of expensive resources such as Java objects and much more - to bridge the gap between applications and Db2.

Maryela Weihrauch is an IBM Distinguished Engineer and z Systems Analytics world-wide technical sales and client champion. She has extensive experience with DB2 regarding systems, application, and database design. Maryela is very engaged in enterprises world-wide, driving the adoption of new analytical technologies. Her most recent role in DB2 for z/OS Development has involved determining DB2 z/OS strategy for HTAP (Hybrid Transaction and Analytics Processing). This includes IDAA strategy and implementation, as well as DB2's application enablement strategy. Maryela is a member of the IBM Academy of Technology and frequently shares her experience at conferences.

## **“Zowe: A new face for z/OS”**

Timm Zimmerman, Rocket Software

Information Technology is undergoing a revolution of changing architectures, new processing capabilities and a deluge of programming language options. With the ever-increasing speed of technology advancements, a dynamic workforce that spans millennials to baby boomers and rising expectations in user experience, there needs to be a new standard framework for interacting with the mainframe that enables an intuitive, productive and better integrated solutions.

Zowe is a new open source software framework that provides solutions that allow development and operations teams to securely, manage, control, script and develop on the Mainframe like any other cloud platform. Zowe is the first open source project based on z/OS.

Timm Zimmerman is a Director for Data and Analytics R&D at Rocket Software. He has worked in the enterprise data management for almost two decades - service in a number of roles including Db2 for z/OS development and consulting global mainframe customers worldwide. Timm began his career as part of Db2 for z/OS Development, He also has been part of the Db2 for z/OS SWAT team supporting large customer to

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enhance and improve the enterprise installations. As of 2014, Timm is part of Rocket Software, where he focused on R&D for several enterprise data management features.

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## DB2 for LUW

### “Using JSON in IBM Db2 to Manage Complex Financial Instruments”

George Baklarz

Past and Present Customer Environment  
Application Development and Data Challenges  
The Evolving NoSQL Marketplace  
NoXML versus NoSQL  
JSON for Document Representation  
Db2 JSON Support  
Combining the Best of Both Worlds

George Baklarz, B. Math, M. Sc, Ph.D. Eng., has spent 30 years in IBM working on various aspects of database technology (it seems longer, trust me). He has worked in every department in the Toronto DB2 Development lab and generally can't keep a job for more than 18 months. George has a Doctorate in Computer Engineering, which took him only 13 years to get. The Engineering Faculty didn't like the fact that he worked at IBM - they felt that part-time students would never finish their degree if they had to work for a living! IBM on the other hand wondered how he could work while trying to get a degree! George currently pretends to work as part of the Core Database Technical Sales group (aka DB2) and creates PowerPoint slides for a living.

### “Indexes: They're Not Just For Where Criteria Anymore”

Jim Bean, CIGNA

We all know how indexes speed up searches; but what else should we be using them for? The main purpose of this presentation is to provide examples of SQL performance improvements using indexes. We're all familiar with traditional index usage to address WHERE predicates versus scanning an entire table. But what about other performance enhancements using indexes? The presentation will cover:

- Preliminary information on typical tuning scenarios
- Identifying “candidates” for improvement
- When an index **WASN'T** needed
- Typical index usage – single column
- Typical index usage – multi-column
- Multi-index usage versus multi-column index
- Function-based indexing
- Collating sequence versus clustering
- Referential Integrity

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- Index-only access
- “One fetch” access
- Joins

Jim Bean is an IT Principal in the Performance Management area of Cigna, a U.S.-based global health services company. Jim has been with Cigna for 25 years as a developer / team lead for a major application, a DBA, and a database product support technician, and most recently has specialized in database and application performance. Jim has worked in IT 34 years, including prior positions in IT operations and development at a machine tool distributor, and application development and support at a large aircraft engine manufacturer. He has presented both internally at these companies and externally at other conferences. He has a master’s degree in Computer Science from Rensselaer Polytechnic Institute (RPI), and a bachelor’s degree in Computer Engineering from the University of Hartford School of Engineering.

## **“Db2 native encryption: What to expect when you're expecting (to encrypt)”**

Paul Bird

More and more customers are looking to leverage Db2 native encryption to help protect their database from evil-doers. Do you really understand what might change in your Db2 world as a result of moving to an encrypted database? To help avoid unpleasant surprises, this presentation helps you review a list of things you need to consider before implementing database encryption.

Paul Bird is a senior technical staff member (STSM) in the Db2 development organization. For the last 27+ years, he has worked on the inside of the DB2 for Linux, Unix, and Windows product as a lead developer and architect with a focus on such diverse areas as workload management, monitoring, security, upgrade, and general SQL processing. You can reach him at [pbird@ca.ibm.com](mailto:pbird@ca.ibm.com).

## **“Db2 Automatic Statistics Deep Dive”**

John Hornibrook

Current and accurate catalog statistics are the lifeblood of the query optimizer Db2 has had automatics statistics support since version 8.2 and real-time statistics were introduced in version 9.5. Automatic statistics collection is enabled by default for new databases and is the recommend best practice. So, if you are still hesitant to use them, or have tried and have had a bad experience, attend this session to gain a deeper understanding of how they work and why you can trust them to simplify your DB administration and improve overall query performance. In addition to providing details on the automatic statistics architecture, this presentation will provide details on ways to monitor and control automatic statistics collection so that it works well for any type of Db2 system.

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John is a Senior Technical Staff Member responsible for relational database query optimization on IBM's distributed platforms. This technology is part of Db2 for Linux, UNIX and Windows, Db2 Warehouse, Db2 on Cloud and Db2 Big SQL. John also works closely with customers to help them maximize their benefits from IBM's relational DB technology products.

## **“Indexes vs. Prefetch: How to Win the Fight”**

Martin Hubel

From the beginning of DB2, application performance has always been a key concern. There will always be more developers than DBAs, and even as hardware cost go down, people costs have risen to even higher levels. Indexes are often added to fix problems, but many don't help at all. The presentation looks at techniques to judge which indexes are good and which are evil, and techniques to improve application I/O.

Martin Hubel is an independent consultant and has worked extensively with DB2 since 1985. Martin develops and teaches DB2 advanced courses and is recognized as a leading authority in the field. He has been using Db2 on Linux, Unix, and Windows since 1993 and has participated in several beta test programs for these platforms. He is an IBM Gold Consultant, IBM Champion, and a member of the IDUG Volunteer Hall of Fame. He is also a member of the Db2 LUW SAP Technical Leadership Exchange.

## **“Monitoring BLU Acceleration in Depth”**

David Kalmuk

IBM's BLU Acceleration in-memory column store technology brings with it a host of new monitoring considerations and metrics. This session will introduce you to the monitoring capabilities that support BLU Acceleration and through practical examples will show you how you can leverage these to better manage your analytics environment.

David Kalmuk is a Senior Technical Staff Member & Master Inventor with responsibility for the MPP scale-out, Workload Management, and Monitoring areas of the Db2 family products. David has contributed to the development of numerous technologies in Db2 over the years including BLU Acceleration, Workload Management, Monitoring, as well as much of Db2's Processing and Communications architecture. He is currently leading efforts focused on evolving Db2's Hybrid Warehousing Architecture. David has been a member of the Database team at IBM since 2000.

**“IBM's Always-on Architecture - keeping your service up for DECADES!”**

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Dale McInnis

In this presentation we will discuss how IBM has implemented its "Always-on" architecture, providing the ability to keep services up without any outages. This architecture was originally designed for sports venues, e.g. Olympics, Wimbledon, Masters, but now has been adopted by several private companies who are unable to take any service outages

Dale McInnis is a Senior Technical Staff Member (STSM) at the IBM Toronto Canada lab. He has a B.Sc. (CS) from the University of New Brunswick and a Masters of Engineering (M.Eng) from the University of Toronto. Dale joined IBM in 1988, and worked in the DB2 development team from 1992 - 2014. Dale's area of expertise includes DB2 for Linux, UNIX and Windows Kernel development, where he led teams that designed the current backup and recovery architecture and other key high availability and disaster recovery technologies. He has obtained eleven (11) patents in the area of database resiliency. Dale is a popular speaker at the International DB2 Users Groups (IDUG) conferences worldwide, as well as DB2 Regional users groups and IBM's Information On Demand (IOD) conference. His expertise in the area DB2 availability area is well known in the information technology industry. Dale spent 10 months as the IBM Cloud Data Services Chief Availability Architect, and now Dale is now on the North American Hybrid Data Management Technical Sales team.

## **“V11.1 Latest from the Lab and a Peak into the Future”**

Keri Romanufa

V11.1 first shipped in April 2016. It introduced a new paradigm of continuous delivery to Db2 releases. We will take a look back over V11.1, and to v11.1 going forward. Topics will include:

- Review of the Continuous deliver model including mod-packs and fixpacks
- A quick review of V11 GA-Mod 3
- A deeper dive into new Mod Pack 4 functionality (Nov 2018)
- V11.1 going forward
- An introduction to the next continuous delivery release.

Keri has worked on Db2 for 25 years, and is currently an STSM and Db2 Chief Architect. She spent her career in a variety of teams from SVT to Performance to Development. Most of her development career has been spent in the Db2 kernel (buffer pool, logging, data management) and on availability such as PureScale and HADR.

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## “Db2 LUW Table Space Odyssey”

Pavel Sustr

Db2 storage de-mystified. DMS, SMS, Automatic Storage table space internals. Default table space types across different Db2 editions and versions. Best practices. Container structure, naming conventions, internal architecture. Buffer pool considerations. Storage paths, auto-extend mechanisms, automatic striping. Parallelism vs. performance discussions. Common high watermark issues, reclaimable (object-relative) vs. non-reclaimable (pool-relative). Explanation on current deprecation statements, upgrade paths and considerations. Common tooling and tricks to deep dive into the storage components (db2dart, db2pd, and others).

### Objectives

Understand the current table space types

Learn about the best usage practices

Clarify the current deprecation statements

Reveal the internal design of Db2 storage

Get an insider view of advanced problem determination techniques

Pavel Sustr is a Senior Manager and Senior Software Engineer with IBM Db2 LUW development, responsible for multiple core Db2 kernel components. Always thrilled to work on hard-to-crack puzzles. Expertise in Db2 LUW kernel architecture, configuration and administration, advanced problem determination, memory architecture, memory leak troubleshooting, and assembly language. Hands-on development experience with buffer pool management, storage, prefetching, page cleaning, transaction logging, recovery, monitoring, and problem determination. As a member of the Db2 team, Pavel spent years in Db2 L2/L3 advanced support (over 1,500 resolved cases), then transitioned to Db2 LUW kernel development. In his past life Pavel was an application developer mostly using C++, SQL, .NET, Oracle, MS-SQL, and Informix on Windows, Linux, Solaris, and HP-UX.

## “Differences between optimization for row oriented tables versus column oriented tables”

Calisto Zuzarte

In this presentation, we look at differences in query execution plans for row-oriented tables versus column-oriented tables. The strengths and weaknesses of these two types of tables and the technology used in Db2 will be discussed in the context of how best we exploit the technology to get the best query performance.

Calisto Zuzarte is a Senior Technical Staff Member (STSM) in the Db2 development organization. His focus area is database query performance. He also represents IBM on the ANSI and ISO SQL Standards committee.

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## IMS for z/OS

### **“IMS Trends and Directions – the latest from the IMS Development Lab”**

Jasminder Singh, IBM

In this opening session, IMS Senior Offering Manager Jasminder Singh shares the current perspective on the state of IBM IMS. IMS continues to be a strategic, integral asset to enterprises worldwide; IBM enterprise clients that rely on Z and IMS have an infrastructure that is primed to transform and lead in a hybrid cloud. The ongoing digital transformation also impacts how our team builds and delivers IMS. Jasminder will highlight the many new opportunities and program offerings that the IMS Development Lab offers to assist clients in their digital transformation journeys.

Jasminder Singh is the IBM Program Director for the IMS Offering Management and Design teams. He drives overall product strategy based on latest technology trends, overall IBM strategy as well as customer requirements. Jasminder started his IBM career as developer in IMS and has held leadership roles in both Db2 for z/OS and IDAA. Prior to re-joining IMS, he led the API Connect development team.

### **“Catalog your way into IMS”**

Deepak Kohli, IBM

The IMS catalog opens the door to many capabilities. Do you know how to exploit all of the IMS Catalog's rich capabilities? In this session, Deepak Kohli will help you catalog your way into IMS so that you can perform analytics on the operational data in your IMS databases, even when the database metadata is located across various application program's logic. You'll learn how you can make changes to IMS database metadata and then get right to work without a GEN, and create new databases modeled after existing IMS databases. The IMS Catalog, with the IMS Enterprise Suite for Development, provides a wealth of function and tooling to help you with these use cases, and more.

Deepak Kohli is a Senior Software Engineer at IBM Silicon Valley lab. Currently, he is part of the IMS Offering Management team, helping customers modernize and transform their IMS systems. Deepak also provides IMS Level 2 technical support, specializing in IMS On Demand and TM areas. He has a Master's in Computer Science from NYU. In the area of IMS, Deepak's experience ranges across applications, DBA, Systems, performance tuning and problem determination. He has taught various IMS and DB2 courses. His presentations have won him rave reviews at conferences worldwide.

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## **“Improving IMS Availability Through Dynamic Resource Definition”**

Rick Engel, IBM

Maintaining IMS availability is always a top priority, and the capability to make changes dynamically is an important requirement to achieve this. The ability to do dynamic resource definition has evolved over many IMS versions, from using MODBLKS, to Resource Definition Datasets (RDDS), to a repository server. In this presentation, Rick Engel, IMS Technical Specialist, will discuss the operational aspects and benefits for each configuration. You will also learn ways to control who can change what resources and what attributes, how to enable historical tracking of changes, and capabilities for easy back out of changes with respect to the various IMS resource configurations.

Rick Engel is a long time IBM veteran, working the past 16 years as an IBM CTP (Client Technical Professional) and a Team Leader for IBM's North America IMS and IMS Tools business. He has spent his entire 35 years IT career experience supporting IBM mainframe systems, his first position being an MVS systems programmer in his home area of St. Louis, Mo. He has attained several levels of IBM certifications and is a regular speaker at IBM and customer technical events throughout the US and Canada.

## **“Extending your IMS Applications with REST APIs and Modern Languages”**

Yves Tolod, IBM

Assembler was first introduced in the early 1950s. Cobol in 1959, PL/I in 1964 and C/C++ in 1972/1983. Today, IBM Z also offers modern languages like Node.js and Swift on z/OS. The Swift language has been one of the fastest growing programming languages since it first appeared back in 2014. The IBM SDK for Node.js - z/OS enables the developers to use the popular JavaScript language on z/OS and tap into the wealth of JavaScript developer talent and resources. This session will demonstrate how developers can use modern languages as a way to augment existing IBM Z applications to provide a timely response to customer requirements driven by digital transformation. This session also includes a demo of how an existing COBOL application can be extended to use REST APIs to call new functions and services written with modern languages and calling an iPhone app developed using Swift calling server-side services using Swift on z/OS that invokes an IMS transaction.

Yves Tolod works as a Client Technical Professional for IBM Systems (IBM Z) since 2012. He started working in IBM since 1996 and holds a Bachelor of Science degree in Mathematics from De La Salle University in the Philippines. Yves started as a UNIX developer and later became an MVS Systems Programmer when he joined IBM. He joined the IBM Toronto Lab in 2000 and worked as a Java and C/C++ developer for Db2 on z/OS. As a developer, he also helped manage the Db2 z/OS test environments as a Db2 Systems Programmer and z/OS Systems Programmer. In his current role as a Client Technical Professional for z Systems, he supports different

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IBM Z products including z/OS Connect, CICS, IMS, ADFz, and modern languages on z/OS like Node.js, Swift and Java.

## **“Mining IMS Logs for Performance/Diagnostic data”**

Deepak Kohli, IBM & James Martin, Rocket Software

If you've ever wanted to be an IMS guru, if you've ever needed to do IMS performance analysis, if you've ever needed to get IMS diagnostic data, then you need to read IMS logs. IMS logs contain a wealth of information related to performance, diagnosis & audibility. This session will first show you how you can do rudimentary analysis of raw

Deepak Kohli is a Senior Software Engineer at IBM's Silicon Valley lab. Currently, he is part of the IMS Product management team helping customers modernize and SOA-enable their IMS systems. Deepak also provides IMS Level 2 technical support specializing in IMS On Demand and TM areas. He has a Masters in Computer Science from NYU. In the area of IMS, Deepak's experience ranges across applications, DBA, Systems, performance tuning and problem determination. He has taught various IMS and DB2 courses. His presentations have won him rave reviews at conferences worldwide.

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### **Travelling to The Institute for Learning 3550 Pharmacy Avenue, Scarborough, Ontario, M1W 3Z3**

#### ***From West:***

Follow the 401 east bound to the Don Valley Parkway (DVP) exit. From this exit take the 404 north. Follow the 404 north to Steeles and Woodbine exit (Exit 22). Stay to the right of the exit, as you will be turning right on to Steeles. Once on Steeles, go to the third set of lights, which is **Pharmacy Avenue**, and turn right. Follow Pharmacy Avenue south to the first driveway and turn right. Follow the driveway to the parking lot, which is located on the West side of the building.

#### ***From East:***

Follow the 401 west bound to the Don Valley Parkway (DVP) exit. From this exit take the 404 north. Follow the 404 north to Steeles and Woodbine exit (Exit 22). Stay to the right of the exit, as you will be turning right on to Steeles. Once on Steeles, go to the third set of lights, which is **Pharmacy Avenue**, and turn right. Follow Pharmacy Avenue south to the first driveway and turn right. Follow the driveway to the parking lot, which is located on the West side of the building.

#### ***From North:***

Follow the 404 south to Steeles Avenue. Turn left on to Steeles and at the fourth set of lights, which is **Pharmacy Avenue**, turn right. Follow Pharmacy Avenue south to the first driveway and turn right. Follow the driveway to the parking lot, which is located on the West side of the building.

#### ***From South:***

Follow the Don Valley Parkway (DVP) north and once you cross over the 401, it becomes the 404. Follow the 404 north to Steeles and Woodbine exit (Exit 22). Stay to the right of the exit, as you will be turning right on to Steeles. Once on Steeles, go to the third set of lights, which is **Pharmacy Avenue**, and turn right. Follow Pharmacy Avenue south to the first driveway and turn right. Follow the driveway to the parking lot, which is located on the West side of the building.

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## ACCOMODATION

- [Hilton Suites Conference Centre](#)  
8500 Warden Ave, Markham, ON (beside the IBM Toronto Lab in Markham)
- [Holiday Inn Hotel & Suites Toronto Markham](#)  
7095 Woodbine Ave, Markham, ON
- [Sheraton Parkway Toronto North Hotel & Suites](#)  
Highway 404 and Highway 7, Richmond Hill, ON
- [Courtyard Toronto Markham](#)  
65 Minthorn Court, Markham, ON

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## Users Group Meeting Registration

We now accept payments by cheque, Pay-Pal, and credit cards.

Regardless of your payment option, please email the following form to [registration@ccdb2.ca](mailto:registration@ccdb2.ca), and indicate which session you wish to attend, i.e. DB2 for z/OS, DB2 for LUW, or IMS

If you would like to pay on-line via Pay-Pal or credit card, please follow this link:

<http://www.ccdb2.ca/paypal.htm>

Otherwise, please complete and submit the PDF form at <http://www.ccdb2.ca/registrationform.pdf>, and mail a cheque for the appropriate amount to the address below.

Please make cheques payable to: "Central Canada DB2 Users Group".

**Please Note:**

- Registrations must be received by Wednesday April 24th, 2019.
- Sorry - NO WALK-INS.

Email: [registration@ccdb2.ca](mailto:registration@ccdb2.ca)

Mail:

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