The Future of Database and Data Warehousing Software
Data Management Meets the Future

IBM

Broaden your Options with DB2 Compatibility Support

DB2 10 & InfoSphere Warehouse 10

Ana Rivera Matías – DB2 Client Technical Professional

© 2012 IBM Corporation

Businesses today are constantly challenged to stretch their IT budgets to handle rapid data growth while keeping costs under control.

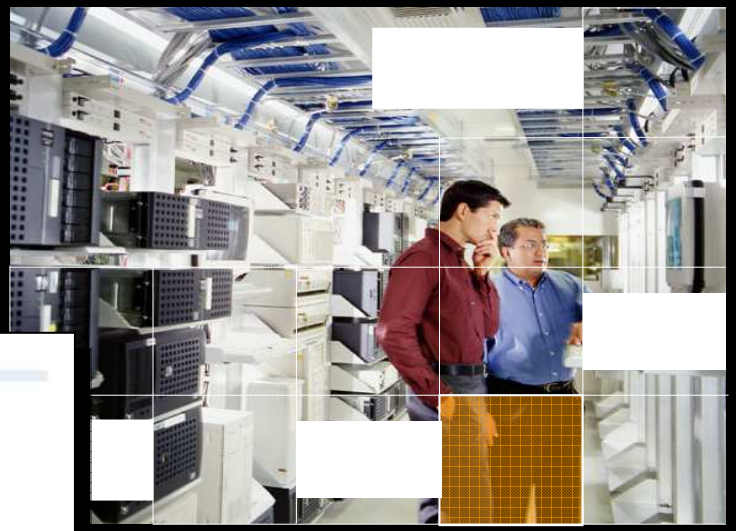
Server consolidation. Data storage optimization. Lower costs. What is stopping you from making the move to DB2?

Could it be…

- Considerations for migration complexity?
- Concerns for application performance after migration?
- Costs of retraining staff?

It might be far less complicated than you think.

Moving to DB2 *has just become more easier…….*



For Application Development & Delivery Professionals

February 9, 2011

Simpler Database Migrations Have Arrived!

IBM, ANTs Software, And EnterpriseDB Offer Innovative New Options

by Noel Yuhanna
with Mike Gilpin and Adam Knoll

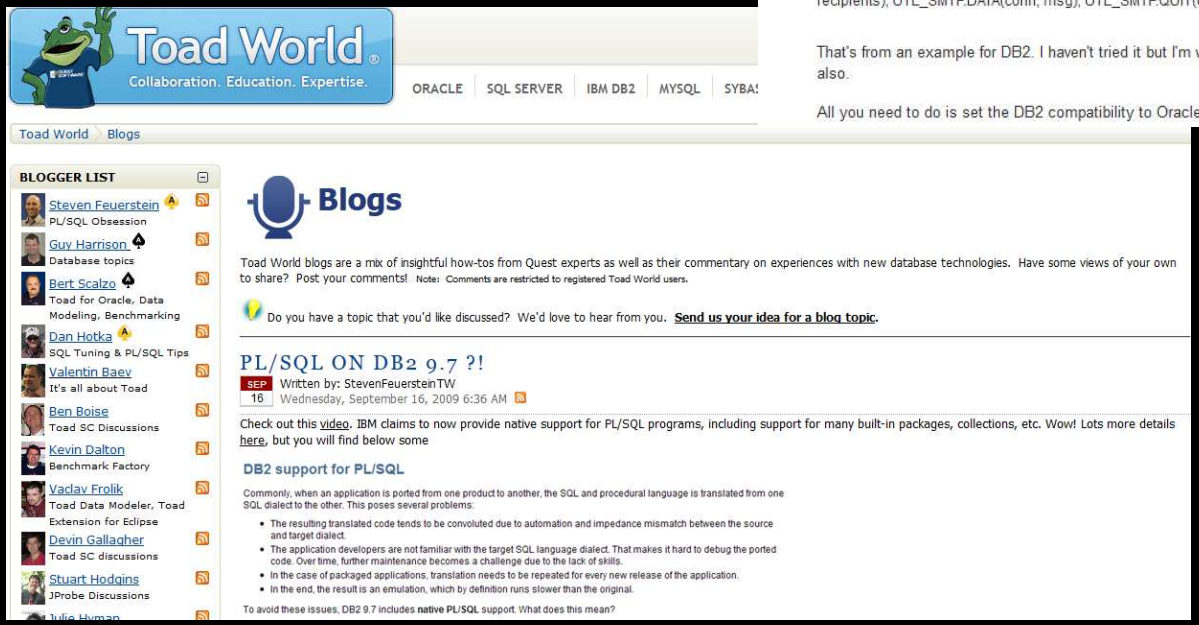
EXECUTIVE SUMMARY

Database migrations have always been complex, time-consuming, and costly due to proprietary data structures and data types, SQL extensions, and procedural languages. It can take up to several months to migrate a database, depending on database size, complexity, and usage of these proprietary features. A new technology has recently emerged for solving this problem: the *database compatibility layer*, a database access layer that supports another database management system's (DBMS's) proprietary extensions natively, allowing existing applications to access the new database transparently. ANTs Software, EnterpriseDB, and IBM offer database compatibility layers that enable a new approach to database migrations. Application developers and database administrators looking to migrate databases due to cost concerns, staffing problems, or technology issues should consider this new database compatibility layer option to mitigate risk, lower migration cost, and speed the migration process.

IBM

Don’t take our word for it…

Lewis Cunningham:
“Okay, this is just freaky”
bit.ly/DB2MigrationCunningham



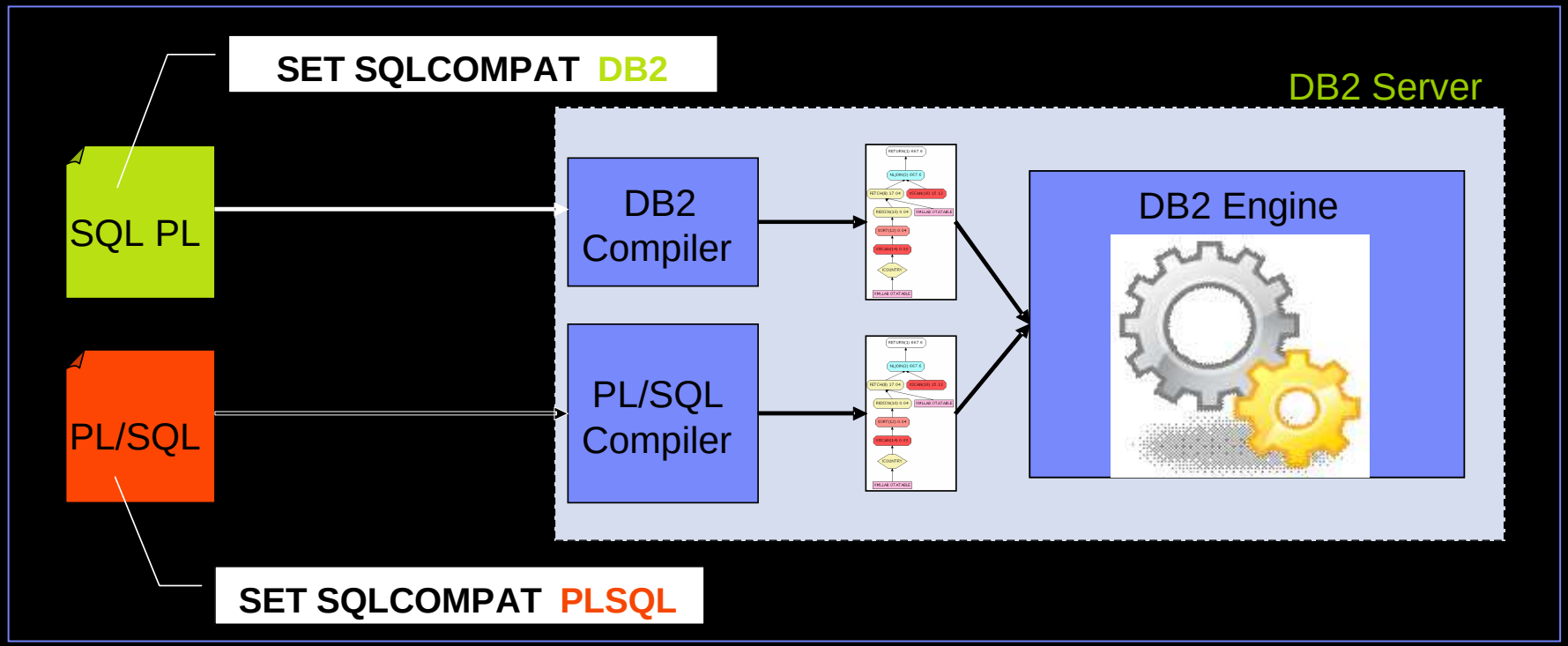
Steve Feuerstein: “wow”
bit.ly/DB2MigrationFeuerstein

SQL Compatibility is implemented in the core engine without emulation

What does it mean?
Your get to take advantage of DB2 performance without delay.

Oracle Application Enablement Made Easy

- Sample SQL Compatibility function from DB2
  - Registry variable: DB2_COMPATIBILITY_VECTOR
  - PL/SQL language is supported by DB2 interface
    - SET SQLCOMPAT PLSQL – command to setup the CLP environment so that it can compile PL/SQL code



DB2 10 Supports Extended Oracle Features/ Syntax

Oracle Database		DB2
Concurrency Control	→	**Native support**
Oracle SQL dialect	→	**Native support**
PL/SQL	→	**Native support**
PL/SQL Packages	→	**Native support**
Built-in package library	→	**Native support**
Oracle JDBC extensions	→	**Native support**
OCI	→	**Native support**
Oracle Forms	→	**Through partners**
SQL*Plus Scripts	→	**Native support**
RAC	→	**pureScale**

Application SQL changes are the exception. Not the rule.

"The compatibility level
that DB2 achieved
is amazing"
– Masato Kudo, Works Applications

In DB2 10 Early Access Program testing, DB2 obtained an average of 98% compatibility* with Oracle PL/SQL

Easily Move from the More Expensive Oracle Database; Leverage Oracle Skills with DB2

Reliance Life Insurance

"The total cost of ownership with DB2 running on IBM systems is almost half the cost of Oracle Database on Sun systems."

Banco de Crédito del Peru

"We switched from Oracle Database to IBM DB2 and cut our costs in half, while improving performance and reliability of business applications."

JSC Rietumu Banka

- Moved from Oracle Database to IBM DB2
- Used "compatibility features"
- 3-30x faster query performance
- 200% improvement in data availability

* Based on internal tests and reported client experience from 28 Sep 2011 to 07 Mar 2012.

9.7.1	SUB STRB	Increase compatibility
9.7.1	UDF Parameters: INOUT	Increase compatibility
9.7.1	FORALL/BULK COLLECT	Increase compatibility
9.7.1	Improve BOOLEAN	Increase compatibility
9.7.1	Conditional Compilation	Enhancement
9.7.1	Basic DPF Support	Broaden coverage
9.7.1	OCI Support	Broaden coverage
9.7.2	UDF Parameters: DEFAULT	Increase compatibility
9.7.2	Obfuscation	Enhancement
9.7.2	NCHAR, NVARCHAR, NCLOB	Increase compatibility
9.7.3	NUMBER Performance	Performance
9.7.3	Runtime "purity level" Enforcement	Increase compatibility
9.7.3	RATIO_TO_REPORT Function	Increase compatibility
9.7.3	RAISE_APPLICATION_ERROR	Increase compatibility
9.7.3	Small LOB Compare	Increase compatibility
9.7.4	Multi-action Trigger & Update Before Trigger	Increase compatibility
9.7.4	Autonomous Tx Improvements	Increase compatibility
9.7.4	LIKE Improvements, LISTAGG	Increase compatibility
9.7.4	ROW & ARRAY of ROW JDBC Support	Increase compatibility
9.7.5	Pro*C Support	Increase compatibility
9.7.5	Nested Complex Objects	Increase compatibility
10	Local Procedure Definitions	Increase compatibility
10	Local Type Definitions	Increase compatibility
10	PL/SQL Performance	Performance

DB2 Supports Multi-Action Triggers

- At DB2 9.7 GA (and earlier releases of DB2)
  - DB2 triggers ONLY supported 1 action (INSERT, UPDATE, or DELETE)
- Oracle Database allows a single trigger for all actions
- For Oracle to DB2 database porting, this difference required DDL changes
  - Increased the porting time
  - Required additional testing
- DB2 10 now supports multi-action triggers
  - No longer any conversion required when porting from Oracle Database

"We switched from Oracle Database to IBM DB2 and cut our data management costs in half, while improving performance and reliability of business applications." - Sandro Reátegui, Systems Architect, Banco de Crédito del Peru

Reliance cuts database total cost of ownership in half with IBM DB2

Reliance Life Insurance Company Limited (RLICL)

Reliance initially selected Oracle Database on Sun systems but IT staff soon found that the solution didn't meet the company's needs for performance, reliability and total cost of ownership.

Solution:

- Moved its most critical business applications, including its self-service portal, from Oracle Database on Sun servers to IBM DB2 on IBM Power 570 servers.

Benefits:

- Increased application uptime **from 80 to 95 percent**
- Decreased total cost of ownership **by 50 percent**
- Supports **four times** the number of concurrent users

"The total cost of ownership with DB2 running on IBM Power servers is almost half the cost of Oracle Database on Sun systems"—Anuprita Daga, Chief Manager, IT, Reliance Life Insurance

Knorr-Bremse puts the brake on costs using IBM DB2 for SAP Business Suite

Knorr-Bremse Group

Needed to reduce operational expenses for its SAP application landscape. The existing database was not capable of offering the scalability and reliability the company needed for 24/7 operations, and license fees from Oracle were considered to be too expensive

Solution:

- IBM DB2 for Linux, UNIX and Windows

Business benefits:

- Avoided purchase of additional storage at an estimated cost of more than **€200,000 in the first year**
- Reduced operational and maintenance costs by approximately **30 percent**
- Cut database license fees by approximately **15 percent**
- Achieved **a 48 percent** reduction in disk space required with the use of DB2 Deep Compression

"In terms of cost, Knorr-Bremse gained immediate savings of €155,000 and annual savings of €50,000. With DB2, we estimate that the maintenance costs are approximately 30 percent lower and the license costs around 15 percent lower." - Thomas Brauchle, Director Corporate Shared Service

Other Clients Who Have Made the Step Forward…

▪ Potash, Canada	▪ France Telecom, France
▪ Faith Industries, Italy	▪ Colgate, USA
▪ Wu Han Metro, China	▪ Indian Bank/TCS, India
▪ Ministry Environmental Protection, China	▪ China Mobile, China
▪ China Minsheng Bank, China	▪ TOTVS, Brazil
▪ Canadian Blood Services	▪ First Data Corp, USA
▪ Major Bank, USA	▪ Subex, India
▪ JSC Rietumu Banka, Latvia	▪ MyPoint, Japan
▪ Banco de Crédito del Peru	▪ Reliance Life, India

… and more

DB2 SQL Compatibility Helps You

- Move your applications easily from Oracle database to DB2
- Run migrated applications quickly with native execution
- Leverage existing skills and hit the ground running
- Break free from the shackles of SQL lock-in

Resources to Help Your Staff Hit the Ground Running

Complimentary workshops and materials

- **DB2 10 Workshop for Oracle Professionals**
  - A three-day workshop designed especially for Oracle practitioners. This session compares Oracle and DB2 technologies to better help you understand the functionality in DB2. Topics covered include the Oracle Compatibility features in DB2 10 and several hands-on labs including one demonstrating the migration process from Oracle to DB2.
  - You can also download the self-paced version here.
- **Redbook - Oracle to DB2 Conversion Guide: Compatibility Made Easy**
- **DB2 10 Trial Code Download**

Community

- **IBM developerWorks for Information Management**
- **IBM DB2 Tech Talk Series**
- **DB2 for Linux, UNIX and Windows User Forum**
- **DB2 Database Professional Community**

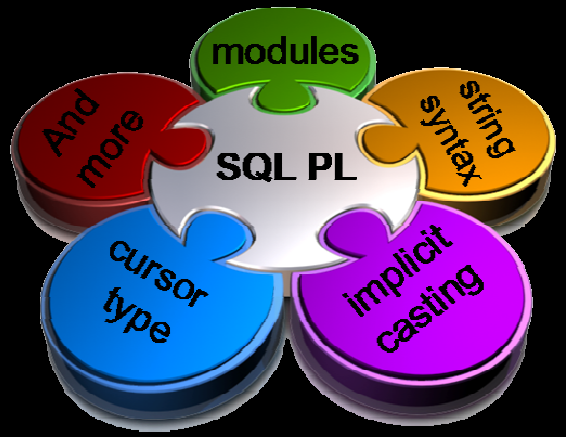
Report

- ***Simpler Database Migrations Have Arrive! -- IBM, ANTs Software, And EnterpriseDB Offer Innovative New Options;*** Forrester Research, Inc.: Noel Yuhanna with Mike Gilpin and Adam Knoll; February 9, 2011

Thank
You

SQL Procedure Language (SQL PL) enhancements

- Advancements in DB2 SQL PL
- New SQL, stored procedures, functions, and triggers
- DB2 supports:
  - SQL PL
  - SQL/PSM
  - PL/SQL
  - Packages
  - Built-in packages
  - JDBC
  - SQL*Plus scripts



PL/SQL COMPILER