

DB2 Product

DB2 Overview for Java Developers

DB2 Product

Chapter 2:

Objectives

You will learn:

- DB2 products.
- Enhancements to DB2.
- Optimizer for advanced queries.
- J2EE application platform portability.
- Universal driver for SQLJ and JDBC.
- zSeries 64-bit virtual storage and storage areas.

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DB2 Products

- SQL Structured Query Language
 - SQL is a non-procedural language which can be used for DB2 database definition, data manipulation, and data control.
- DB2I Interactive DB2
 - DB2I is an extension to TSO which provides the capability for interactive set up and execution of SQL programs.
- SPUFI
 - Used to issue and test SQL statements.
- QMF: Query Management Facility
 - QMF is a query and report writer designed for users of DB2 databases.

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DB2 Products

- DXT Data Extract
 - DXT makes data from IMS/DB, VSAM, or QSAM available in relational format.
- DB2 Connect
 - DB2 Connect makes a company's host data directly available to a personal computer and LAN-based workstations.

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DB2 Products

- PM: DB2 Performance Monitor
 - Runs a performance analysis on log and RMF data.
 - This information is printed in a number of different reports.
- PA: IBM DB2 SQL Performance Analyzer
 - Extensive analysis of SQL queries without executing them.
 - This analysis aids in the tuning queries for achieving maximum performance.
- Utilities: DB2 Utilities Suite
 - All the functions of DB2 Operational Utilities and DB2 Diagnostic and Recovery Utilities.

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Version Enhancements

- The enhancements to DB2 are:
 - Virtual storage constraints removal.
 - Unicode support.
 - Automated prior point-in-time recovery.
 - Multi-row fetch, insert.
 - Multiple DISTINCT clauses.
 - Lock contention avoidance via volatile tables.
 - Compression of Indexes, Temp Tables and LOBs.
 - Reduce Locking for CS Isolation Level
 - Rename Columns
 - You can now delete all of the rows in a table very quickly with TRUNCATE TABLE

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Version Enhancements

- The enhancements to DB2 are:
 - Use of index for backwards searches.
 - Transparent ROWID.
 - Longer table names.
 - Converting column type.
 - Adding columns to an index.
 - Index-only access path for VARCHAR.
 - Many New Functions.

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Optimizer

- There is an advanced optimizer for complex queries.
 - It provides a cost model, statistics, and optimizer.
 - It optimizes the entire query.
 - There is no reliance on user hints.
 - Considers constraints, triggers, and RI in building an access plan.
 - Removes joins, push down group by, etc.
 - Provides advanced SQL capabilities.

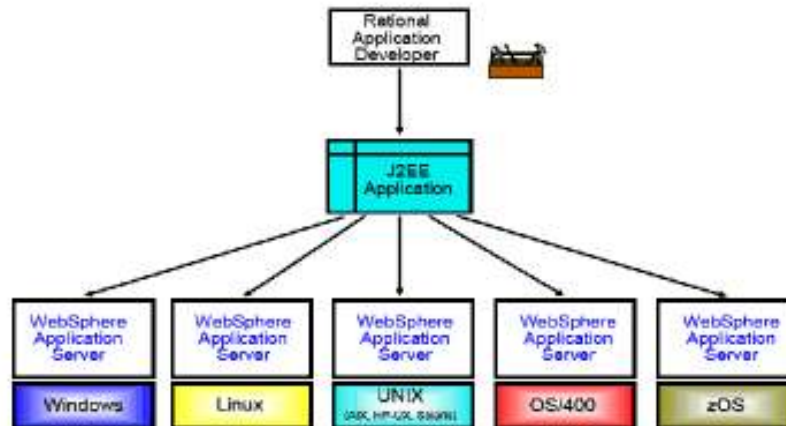
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J2EE Application Platform Portability



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Universal Driver for SQLJ and JDBC

- Organizations increasingly require access to data residing in multiple sources on multiple platforms throughout the enterprise.
 - Companies are buying applications rather than database management systems, as database selection is being driven by interoperability, price performance, and scalability of the server platform.
- The Universal Driver for SQLJ and JDBC provides an open and consistent set of database protocols to access data on the UNIX, Windows, and z/OS platforms.

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Universal Driver for SQLJ and JDBC

- Tools and applications can be developed using a consistent set of interfaces regardless as to the platform where the data resides.
 - End users can integrate their desktop tools and other applications in a consistent manner with whatever databases or multiple databases concurrently in the enterprise.

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64-bit Virtual Storage

- The zSeries 64-bit architecture allows DB2 UDB for z/OS to move various storage areas above the 2-GB limitation:
 - Buffer pool
 - EDM pool
 - DBDs, OBDs, and dynamic statement cache
 - Sort pool
 - RID pool
 - Compression dictionaries

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