IBM

DB2® Information Management Software
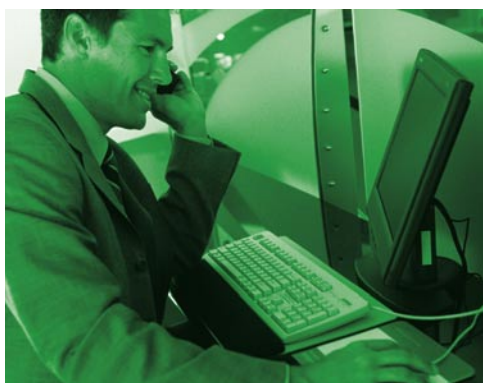
IBM Cloudscape

Highlights

- ■ *Provides developers with an affordable, embeddable, small footprint relational database for client or server-side environments*

- ■ *Supports Java™ technology standards and runs on any standard Java Virtual Machine (JVM), allowing developers to "write once, deploy anywhere"*

- ■ *Delivers zero-administration functionality to eliminate the need for a dedicated DBA*

A 100 percent Java technology-based database, IBM Cloudscape can be deployed anywhere — from laptop or desktop applications, to robust server solutions.

Rapid application development

You spend considerable time and money developing database applications for your market segment. Wouldn't it be nice to be able to deploy those solutions on any operating system platform? That's where IBM Cloudscape can make a big difference.

Based on the open-source Apache Derby Project, IBM Cloudscape is a 100 percent Java technology-based relational database management system (RDBMS) that's built from the ground up for the embedded environment. This platform-independent, small-footprint (2MB) database integrates tightly with any Java-based solution, allowing you to shorten development cycles, and quickly go to market with innovative and secure products. With IBM Cloudscape, you can create a single version of your application that addresses all platforms supporting a fully functional Java Virtual Machine (JVM).

Lowering costs

IBM Cloudscape requires no database administration or resource management, and is invisible to non-technical end users. This zero-administration feature of IBM Cloudscape eliminates the need for a database administrator (DBA) at each client installation site, reducing total cost of ownership. In addition, IBM Cloudscape can be deployed anywhere — from laptop or desktop applications, to robust server solutions. And to keep costs to a minimum, partners can license IBM Cloudscape by machine at no cost, and with no restrictions on the number of CPUs, users and connections.

The Cloudscape Network Server

IBM Cloudscape ships with the Cloudscape Network Server. A key component, the IBM Cloudscape Network Server provides multi-user connectivity to IBM Cloudscape databases within a single system, or over a network using standard Distributed Relational Database Architecture™ (DRDA®) protocol.

ON DEMAND BUSINESS™

A zero-administration database for unsupervised environments

Leveraging IBM DB2 Universal Database

IBM Cloudscape is with IBM DB2 Universal Database. That gives you the option of migrating your database to take advantage of the powerful, industry-leading enterprise capabilities of the IBM DB2 family. In fact, there's a straightforward migration path to DB2 Universal Database Enterprise Server Edition DB2 Universal Database Workgroup Server Edition DB2 UDB Express Edition.

Big performance in a compact design

IBM Cloudscape is fine-tuned for high performance, as well as efficient use of resources. IBM Cloudscape provides:

- *Serializable, read-committed, read-uncommitted and repeatable-read isolation levels.*
- *Row-level locking.*
- *Optimal transaction performance.*
- *Low memory overhead for a connection.*
- *Expedient access time and space reclamation for long rows.*

- *Cost-based optimizer that supports hash joins, sort avoidance and row- or table-level locking based on percent of data selected.*
- *Fast query compilation.*
- *Bulk load.*
- *Multiple user support for simultaneous connections.*
- *Built-in performance diagnostics: query statistics, locks and space usage.*

Advanced security features
- *Signed Java Archive (JAR) files*
- *Runs with a Java 2 Security Manager enabled*
- *Optional LDAP or application defined user authentication*
- *Configurable disk encryption, supporting both diverse encryption algorithms and encryption providers other than the default Java Cryptography Extension (JCE) provider*

Internationalization and localization support

IBM Cloudscape supports international characters and formats without requiring special accommodations for various locations around the globe. IBM Cloudscape offers:

- *Localized installers, tools and user interfaces for Spanish, Japanese, German, Italian, simplified and traditional Chinese, French, Korean and Brazilian Portuguese.*
- *Error messages and documents available in all the languages listed above.*
- *Unicode support.*

SQL features

IBM Cloudscape supports a rich set of RDBMS features based on SQL-92E and part of the SQL99 standard, including row locking, triggers and stored procedures. Other RDBMS features supported include:

- *Multicolumn B-Tree indexes.*
- *Transaction commit and rollback.*
- *Transactional isolation (serializability).*
- *Crash recovery.*
- *Multithreaded connections.*
- *Online backup.*
- *Cost-based query optimization.*
- *Data import/export with fast load and fast create index.*

Java features

Java developers can access IBM Cloudscape from inside Java programs using JDBC, and can embed the IBM Cloudscape relational databases inside Java applications on the server, on the desktop, or in pervasive devices. Other Java features include:

- *JDBC driver certified for use with Java 2 Platform, Enterprise Edition (J2EE) branded products.*
- *Java stored procedures, functions and triggers.*
- *Built-in performance diagnostics: query statistics, lock table, and space usage table.*
- *Storage of JAR files in the database, including signed JARs.*
- *Type 4 JDBC 3.0 driver.*
- *Both the IBM Cloudscape code and any databases you create can be used on any platform with a standard JVM.*
- *Easy to integrate with WebSphere® software from IBM, including IBM WebSphere Application Server.*

Multiple platform compatibility

IBM Cloudscape fully supports Java technology standards and runs on any standard JVM, Version 1.3.1 and beyond. It supports J2EE and has been verified on Microsoft® Windows® 2000, Microsoft Windows NT®, Solaris,

With zero-administration functionality, IBM Cloudscape eliminates the need for a dedicated DBA.

Operating System, AIX® and MacOS. In addition, IBM Cloudscape supports Linux, providing an ideal lightweight database system for Linux desktops.

Requirements and limitations:

- *J2SE/J2EE 1.3 or later*
- *4MB available memory*
- *Table size: limited by available disk space*
- *Rows per table: limited by table size*
- *Maximum number of tables per instance: no limit subject to disk space availability*
- *Maximum number of indexes per table: 32767*
- *Columns per table: 1012*

For more information

For more information about IBM Cloudscape, visit **ibm.com**/software/data/cloudscape. For information about the open-source Derby Project, please visit the Derby pages at *www.Apache.org*.

For sales information or to inquire about purchasing IBM Cloudscape, please contact your IBM marketing representative or an IBM Business Partner, or call 1-800 IBM CALL within the US.

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cloudscape

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