IBM Cloudscape V10.1 provides a full-featured, robust, small footprint database server that is simple to deploy and reduces the cost of embedded and Web-based applications.

Overview
IBM Cloudscape V10.1 provides a leading database server that is enabled for open industry standards and does not require database administration. These capabilities help reduce the cost of development and deployment of applications. IBM Cloudscape is ideal for:

- Desktop/Laptop application developers who require a small-footprint (2 MB) database server
- Independent software vendors (ISVs) and customers requiring a zero-administration database server to support multitier Web applications

IBM Cloudscape can help significantly lower the cost of development, testing, and supporting your applications. Since the Cloudscape server is a pure Java™ database server, you can easily deploy your application on a vast number of popular computing platforms. IBM Cloudscape requires zero administration and scales from laptop or desktop applications to the more robust multiuser server applications. With IBM Cloudscape support for complex SQL and JDBC, your applications can migrate to DB2 Universal Database® (UDB) server when the database and transaction volumes increase.

IBM Cloudscape V10.1 has a 2 MB footprint database that can tightly integrate into e-business solutions today. This core database code has been contributed by IBM to the Apache Software Foundation (ASF), and is now available under an open source Apache Derby project.

Key prerequisites
Refer to Hardware requirements and Software requirements sections.

Planned availability dates
- August 16, 2005: Electronic software delivery
- August 23, 2005: Media and documentation

At a glance
IBM Cloudscape V10.1: Adds support for more complex transactional applications with the new Derby Network JDBC client support offered for C-based and PHP-based applications.

For ordering, contact:
Your IBM representative, an IBM Business Partner, or the Americas Call Centers at 800-IBM-CALL

Reference: YE001
Cloudscape V10.1 introduces a change to the "Value Unit" charge metric described in IBM Cloudscape V10.0. This charge metric will apply to all maintenance renewals for Cloudscape V10. Cloudscape V10.0 used a tiered pricing model based on a Value Unit calculation. Cloudscape V10.1 uses a Per Machine pricing metric. A machine is a single machine (regardless of machine size) or device where the IBM program is installed or executed and includes an unlimited number of users, connections, or CPUs.

Note that this change does not impact the ability to obtain technical support for a minimum of three years from the original general availability of Cloudscape V10.0 (September 21, 2004).

What's new

- Includes Derby Network JDBC client (type 4, JDBC 3.0 compliant, and contains JTA/XA transaction support)
- Supports C-based applications including MetaData APIs using ODBC or X/Open CLI (Call Level Interface) standards on Windows™
- Supports PHP applications deployed using the dynamic C-based application interfaces (DB2® Runtime Client)
- Supports J2ME/CDC/Foundation with JSR169 JDBC subset
- Has import support for generated columns
- Includes SQL support: SYNONYM, INTERSECT, and date time arithmetic
- Has online space reclamation utility
- Supports migration of Cloudscape V5.1 to V10.x database
- Includes companion tools: Cloudscape V10 to DB2 UDB V8.x Graphical SQL workbench and migration tool

IBM Cloudscape, with its small footprint (approximately 2 MB) but full-featured core relational database, can help significantly lower the cost of ownership and simplify the efforts for development, testing, and support. IBM Cloudscape allows you to create a single version of your application that addresses all platforms supporting a fully functional Java Virtual Machine (JVM).

IBM Cloudscape also includes the IBM Cloudscape Network Server, which enables multiuser connectivity for IBM Cloudscape databases within a single system or over a network. It receives and replies to queries from clients using a standard network protocol. Databases are accessed through the IBM Cloudscape Network Server using the Derby Network Client JDBC driver.

Value-added features

- Zero administration: IBM Cloudscape can be easily deployed by adding the core database server with your Java application.
- Multiple platform compatibility: IBM Cloudscape fully supports Sun Microsystems Java technology standards and runs on any standard JVM V1.3, or later. It supports Java 2 and J2EE.
- Full-featured database in compact design: IBM Cloudscape is fine-tuned for efficient use of resources and a high number of concurrent users. Other features and benefits include:
  - Read-committed, read-uncommitted, serializable, and repeatable-read isolation levels
  - Row-level locking
  - Optimal transaction performance
  - Low memory overhead for connections
  - Fast access time and space reclamation for long rows
  - Cost-based optimizer that supports hash joins, sort avoidance, and row-level or table-level locking based on percent of data selected
  - Fast query compilation
  - Bulk load
  - Multiple user support
  - Built-in performance diagnostics: query statistics, locks, and space usage

- Advanced security features
  - Signed Java Archive (JAR) files
  - LDAP or application-defined secure 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:
  - Per-database locale for character string collation
  - Localized installers, tools, user interfaces, error messages, and documents
  - Unicode support

- SQL features
  - SQL-92E compliance and support for key features for SQL-99 standards
  - Triggers
  - Foreign key and check constraints
  - Multicolumn B-Tree indexes
  - Transaction commit and rollback
  - Transactional isolation
  - Crash recovery
  - Multithreaded connections
  - Online backup
  - Cost-based query optimization
  - Data import and export
  - Support for complex SQL transactions and JDBC to speed migration to UDB

- Java features
  - JDBC driver certified for use with Java-compatible, J2EE branded products
  - Java stored procedures and functions
  - Storage of JAR files in the database, including signed JARs
Embedded JDBC 3.0 driver

IBM Cloudscape V10.1 applications can be developed using open standards-based interfaces such as ANSI SQL and JDBC. As your application needs and transaction volumes grow, it is easy to migrate to IBM’s DB2 UDB family of database servers.

Section 508 of the U.S. Rehabilitation Act

IBM Cloudscape is capable as of August 23, 2005, when used in accordance with IBM’s associated documentation, of satisfying the applicable requirements of Section 508 of the Rehabilitation Act, provided that any assistive technology used with the product properly inter-operates with it.

Product positioning

IBM Cloudscape is designed to meet the market demand for an extremely easy to use and easy to embed open standards relational database. IBM Cloudscape is fully complimentary to the DB2 UDB product line.

IBM Cloudscape is a great fit for many workloads. Customers are successfully deploying IBM Cloudscape:

- As a persistence and caching engine inside the Application Server tier
- To support rapid application development
- To support demonstrations and sample programs
- As a small business database for environments that don’t require an enterprise infrastructure database
- As a super embedded database inside Java applications
- As a lightweight server database where scaling to hundreds of users is needed

The small business database

Many small businesses have a small number of employees. They do not require a database that can support thousands of simultaneous users. For many small businesses, IBM Cloudscape is the perfect fit. IBM Cloudscape does not require a database administrator.

IBM Cloudscape easily scales to hundreds of users and when the small business grows into a larger business.

ISVs like IBM Cloudscape because it enables them to sell their applications to both small and large businesses. The small business buys their application with IBM Cloudscape and the medium-to-large businesses buy their applications with DB2 UDB. No porting is required.

The ideal light-weight database

Many applications are built to only run on the client (a laptop, for example). IBM Cloudscape will run anywhere a JVM (J2SE 1.3, or later) is available. These applications need the power and reliability of a fully transactional (safe) SQL database, without the overhead of a DBA. For these applications, IBM Cloudscape is the perfect fit.

Many IBM Cloudscape customers, ISVs, and developers build their applications to run both on the client and on larger servers. With IBM Cloudscape, the developer can design the client to be run in disconnected mode, and synchronized or updated when appropriate.

Embeddable

IBM Cloudscape is also used as a Java-embedded database. For these applications, the database is completely hidden.

IBM Cloudscape is only about 2 MB in size and is implemented as a Java JAR file. It becomes a part of the application that is running it.

Since no DBA is required, no one except your development team needs to know that IBM Cloudscape is installed.

Rapid application development

IBM Cloudscape is also very well suited for rapid application development. The developer can start with IBM Cloudscape core database, which is very easy to access inside a Java environment. The database server is just 2 MB, requires no DBA, and JDBC allows an easy switch to an open standards enterprise database during later stages of development and test.

Developers and researchers like IBM Cloudscape because it is so easy to use. They can spend their time working on their projects instead of on DBA tasks.

Sample programs/demonstrations

Application developers and ISVs commonly use IBM Cloudscape for the demonstration versions and sample programs. Since the database server is just 2 MB, it adds very little to the download size of the demonstration. The evaluator can run the program just as they would against an enterprise database without having to download, configure, and run it.

Persistence and caching

IBM Cloudscape is also heavily used inside applications as an easy-to-use store for both long-term persistence and short-term caching needs. Application Servers use IBM Cloudscape to store UDDI registries, to store shopping carts, and much more.

Reference information

Refer to Software Announcement 204-210, dated September 21, 2004.

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Product information is available via the Offering Information Web site

http://www.ibm.com/common/ssi

Also, visit the Passport Advantage® Web site

http://www.ibm.com/software/passportadvantage

Publications

No publications are shipped with this product.

The IBM Publications Center

http://www.ibm.com/shop/publications/order

The Publications Center is a worldwide central repository for IBM product publications and marketing material with a catalog of 70,000 items. Extensive search facilities are provided. Payment options for orders are via credit card (in the U.S.) or customer number for 50 countries. A large number of publications are available online in various file formats, and they can all be downloaded by all countries free of charge.

The IBM Publications Notification System (PNS)


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The PNS site is available in English and Canadian French.

The following publications are available.

<table>
<thead>
<tr>
<th>Publication</th>
<th>Form number</th>
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<tbody>
<tr>
<td>Getting Started with IBM Cloudscape</td>
<td>GC18-9246-01</td>
</tr>
<tr>
<td>IBM Cloudscape Developer’s Guide</td>
<td>GC18-9247-01</td>
</tr>
<tr>
<td>IBM Cloudscape Reference Manual</td>
<td>SC18-9248-01</td>
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<tr>
<td>Tuning IBM Cloudscape</td>
<td>SC18-9249-01</td>
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<tr>
<td>IBM Cloudscape Tools and Utilities Guide</td>
<td>SC18-9250-01</td>
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<tr>
<td>IBM Cloudscape Server and Administration Guide</td>
<td>SC18-9251-01</td>
</tr>
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</table>

Technical information

Specified operating environment

Hardware requirements: IBM Cloudscape runs on any hardware platform that supports a certified JVM (J2SE 1.3, or later).

Memory requirements

IBM Cloudscape JDBC applications (with basic DDL and DML) run with a minimum of 4 MB heap memory (in addition to the standard memory requirements of a typical Java™ Runtime Environment (JRE)). The actual requirement depends on the applications you intend to run. Additional memory may be required to handle heavy workloads and large number of users.

Disk space

Recommended minimum disk space for a typical installation depends on the type of installer being used — 20 MB for a Java installer on any platform that has an existing JRE installed, 120 MB for native Windows™, and 140 MB for Linux™. The actual space required may vary depending on your file system and client APIs installed.

Software requirements: JRE 1.3.1, or later is required for running IBM Cloudscape on all platforms.

Cloudscape is written entirely in Java and is supported on any platform with a standard JVM. The following platform combinations have been tested with Cloudscape V10.1.

<table>
<thead>
<tr>
<th>Operating system tested</th>
<th>Complementary or dependent software and versions (compilers and others)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Windows 2000 Professional</td>
<td>Sun JDK 1.3.1, Sun JDK 1.4.2, Sun JDK 1.5, IBM SDK 1.3.1, IBM SDK 1.4.2, WebSphere® Studio Device Developer 5.6</td>
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<tr>
<td>Windows XP</td>
<td>Sun JDK 1.4.2, Sun JDK 1.5, IBM SDK 1.4.2</td>
</tr>
<tr>
<td>Windows Server 2003 Standard Edition</td>
<td>Sun JDK 1.4.2, Sun JDK 1.5, IBM SDK 1.4.2</td>
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<tr>
<td>Red Hat Enterprise Linux Advanced Server 3</td>
<td>Sun JDK 1.4.2, Sun JDK 1.5, IBM SDK 1.3.1, IBM SDK 1.4.2</td>
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<tr>
<td>SuSE Pro 9.1, SuSE Pro 9.2</td>
<td>Sun JDK 1.4.2, Sun JDK 1.5</td>
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<tr>
<td>SUSE LINUX Enterprise Server 9</td>
<td>Sun JDK 1.4.2, Sun JDK 1.5, IBM SDK 1.4.2</td>
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<tr>
<td>Fedora Release 3</td>
<td>IBM SDK 1.4.2</td>
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<tr>
<td>AIX® 5.2</td>
<td>IBM SDK 1.3.1, IBM SDK 1.4.2</td>
</tr>
<tr>
<td>Solaris 9</td>
<td>Sun JDK 1.4.2, Sun JDK 1.5</td>
</tr>
<tr>
<td>Mac OS X Server 10.4.1</td>
<td>Apple JDK 1.4.2</td>
</tr>
</tbody>
</table>

This announcement is provided for your information only. For additional information, contact your IBM representative, call 800-IBM-4YOU, or visit the IBM home page at: http://www.ibm.com.
Note: IBM Cloudscape has been tested to work with Linux kernel 2.6.x and 2.4.x. The specific combination of JRE and Linux distribution is listed in the table.

Supported standards

IBM Cloudscape is certified with J2EE V1.4, adheres to SQL92 standards, and is in partial conformance to SQL99.

Planning information

Software Maintenance, previously referred to as Software Subscription and Technical Support, is included in the Passport Advantage Agreement. Installation and technical support is provided by the Software Maintenance offering of the IBM International Passport Advantage Agreement. This fee service enhances customer productivity, with voice and electronic access into IBM support organizations.

Packaging

Media

- IBM Cloudscape V10.1 Java CD

Security, auditability, and control

The customer is responsible for evaluation, selection, and implementation of security features, administrative procedures, and appropriate controls in application systems and communication facilities.

Ordering information

This product is only available via Passport Advantage. It is not available as shrinkwrap.

Product information

<table>
<thead>
<tr>
<th>Program name</th>
<th>PID number</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>IBM Cloudscape</td>
<td>5724-J28</td>
<td>Machine</td>
</tr>
</tbody>
</table>

Charge metrics definitions

Per machine

A machine is a single machine (regardless of machine size) or device where the IBM program is installed or executed and includes an unlimited number of users, connections, or CPUs.

Passport Advantage program licenses

<table>
<thead>
<tr>
<th>Part description</th>
<th>Part number</th>
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<tbody>
<tr>
<td>Cloudscape Machine License and SW Maintenance 12 Months</td>
<td>D559SLL</td>
</tr>
<tr>
<td>Cloudscape Machine SW Maintenance Annual Renewal</td>
<td>E01VNL</td>
</tr>
<tr>
<td>Cloudscape Machine SW Maintenance Reinstatement 12 Months</td>
<td>D559TLL</td>
</tr>
</tbody>
</table>

Passport Advantage supply

Program name/description | Part number |
-------------------------|-------------|
Cloudscape V10.1.0 Media Pack Multilingual (French, Korean, Chinese — Simplified, Spanish, Portuguese-Brazilian, German, Japanese, Chinese — Traditional, English U.S., Italian) Other CD-ROM Digital Disk — ISO 9660 Standard V10.1.0 | BB0NQML |

Passport Advantage customer: Media pack entitlement details

Customers with active maintenance or subscription for the products listed are entitled to receive the corresponding media pack.

Cloudscape V10.1.0

Entitled maintenance offering | Media packs description | Part number |
------------------------------|-------------------------|-------------|
IBM Cloudscape per machine    | Cloudscape Multilingual (French, Korean, Chinese — Simplified, Spanish, Portuguese-Brazilian, German, Japanese, Chinese — Traditional, English U.S., Italian) Other CD-ROM Digital Disk — ISO 9660 Standard | BB0NQML |

Terms and conditions

This product is only available via Passport Advantage. It is not available as shrinkwrap.

License: IBM International Program License Agreement. Proofs of Entitlement (PoE) are required for all authorized use.

Part number products only, offered outside of Passport Advantage, where applicable, are license only and do not include Software Maintenance.

This software license includes Software Maintenance, previously referred to as Software Subscription and Technical Support.

License information form number

<table>
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<tr>
<td>IBM Cloudscape</td>
<td>5724-J28</td>
<td>L-DLHD-6DDSYZ</td>
</tr>
</tbody>
</table>

Limited warranty applies: Yes. The limited warranty applies only to the non-open source components of IBM Cloudscape V10.1, although support for the entire program will be provided when support is purchased through the Passport Advantage ordering system (refer to “Software maintenance applies” below).

Warranty: This program has warranty for a minimum of one year from acquisition from IBM or authorized IBM Business Partner. The warranty provided to the
customer, for at least one year from acquisition, is access to databases (read Web sites) for program information and FAQs, including any known fixes to defects, which the customer can download or obtain otherwise and install at leisure.

**Program technical support:** Technical support of a program product will be available for a minimum of three years from the general availability date, as long as your Software Maintenance is in effect. This technical support allows you to obtain assistance (via telephone or electronic means) from IBM for product-specific, task-oriented questions regarding the installation and operation of the program product. Software Maintenance also provides you with access to updates, releases, and versions of the program. Customers will be notified, via announcement letter, of discontinuance of support with 12 months’ notice. If you require additional technical support from IBM, including an extension of support beyond the discontinuance date, contact your IBM representative or IBM Business Partner. This extension may be available for a fee.

**Money-back guarantee:** If for any reason you are dissatisfied with the program and you are the original licensee, return it within 30 days from the invoice date, to the party (either IBM or its reseller) from whom you acquired it, for a refund.

- For programs acquired under the IBM International Passport Advantage offering, this term applies only to your first acquisition of the Program.

**Copy and use on home/portable computer:** Yes

**Volume orders (IVO):** No

**Passport Advantage applies**

**Usage restriction:** Yes

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Your use of the IBM program may not exceed the level defined by the number of use authorizations you have acquired. The level of use of the IBM program is specified by the following:

The License Fee is based on a single machine (regardless of the machine size) or device where the IBM program is installed. You must acquire a use authorization for each such machine or device.

**Per machine definition**
A machine is a single machine (regardless of machine size) or device where the IBM program is installed or executed and includes an unlimited number of users, connections or CPUs.

**Product Web Site**
A complete list of products, terminology definitions, and licensing documents are available at the following Web site


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Software Maintenance does not include assistance for the design and development of applications, your use of programs in other than their specified operating environment, or failures caused by products for which IBM is not responsible under this agreement.

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**iSeries™ Software Maintenance applies:** No

**Educational allowance available:** Not applicable

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performance. In addition, information collected through the Service Agent will be made available to IBM service support representatives when they are helping answer your questions or diagnosing problems.

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