Cloud2Db Universal database for Cloud Computing

Data Sheet

• Overview

Cloud2Db is a scalable, affordable, and universal database for cloud computing. While there are many cloud databases offerings geared towards better performance and scalability, these lack the built-in support for standards, structure and interoperability that is required to effectively and quickly implement enterprise class applications. This is where Cloud2db excels. Cloud2db provides a standards-based abstraction layer over these cloud technologies to provide you with performance and scalability of cloud database platforms along with structure, standards and interoperability of relational database platforms.

• Interoperable

Cloud2Db is a "universal database" that offers interoperability with existing tools and technologies within your company's current environment. Further, Cloud2db works seamlessly with most of the popular cloud database technologies like Google Bigtable, Amazon SimpleDB, and Cassandra and MongoDB. It also supports the relational database standards ANSI SQL-92/ANSI SQL-99 and JDBC 3.0.

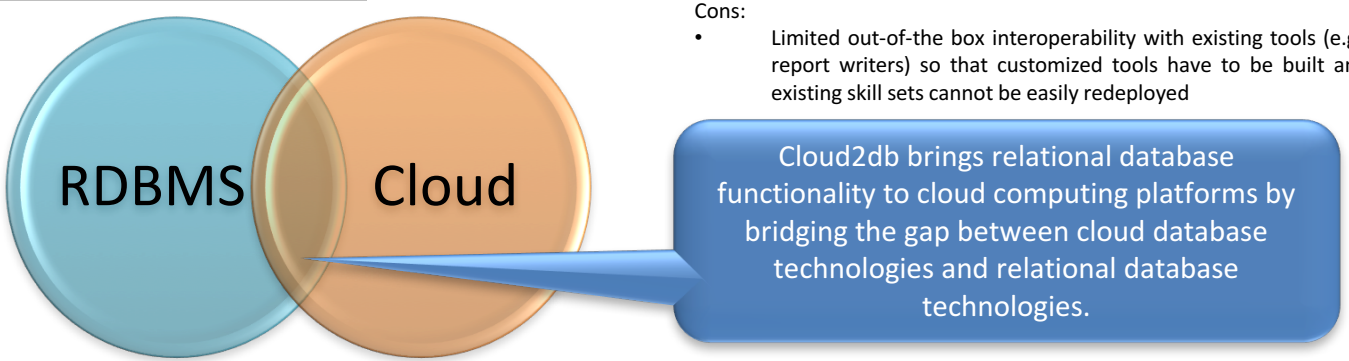
• Scalable

Cloud2Db is a highly scalable relational database like the traditional Oracle, Sybase and DB2 databases, but with a key differentiator – it is built to work with cloud computing platforms, at a fraction of the cost of traditional databases. Cloud2db brings relational database functionality to cloud computing platforms by bridging the gap between cloud database technologies and relational database technologies. Whether you have a need to bring the scalability and performance of the cloud platform in-house, or plan on using SaaS based cloud platforms (like Amazon or GoogleApp engine), Cloud2Db is the right solution for you.

• No Lock In

With the flexibility offered by Cloud2Db, you no longer have to fear about being locked into a new emerging technologies. You have an option to revert back to your current environment with ease, as well as change to another underlying cloud platform.

• Cloud2Db Model



• Customer Pain Points

Most of the organizations use relational database systems as their database platforms. These organizations are very interested in exploring cloud databases as another option for their enterprise database platforms.

However, today's cloud database platforms are proprietary in nature and require complete re-engineering of existing applications to use them as enterprise database platform.

As such, organizations face the dilemma of effectively utilizing their existing tools, technologies, skill sets and methodologies employed in their organization, while migrating to more efficient computing environments.

Cloud2db addresses these critical issues.

Traditional RDBMS

Examples: Oracle, Sybase, DB2

Pros:

- Easy to scale up, predictable performance, standards based (SQL and JDBC) and Interoperable

Cons:

- Cannot scale out (lacks elasticity), time-to-Market can be long, high price limits accessibility by many companies

Open Source RDBMS

Examples: MySQL, Postgre

Pros:

- Low price; Free – price point provides high accessibility

Cons:

- Cannot scale up or out (lacks elasticity)
- Support needs to be purchased from a third party

Pure Cloud Databases

Examples: Cassandra, Mongo DB, Couch DB, Riak, Apache, Google Bigtable, Amazon Simple DB

Pros:

- Easy to scale up and scale out (elastic)
- Per use price or free

Cons:

- Limited out-of-the box interoperability with existing tools (e.g., report writers) so that customized tools have to be built and existing skill sets cannot be easily redeployed

• Cloud2Db Solution

Quick to Market

- Cloud2db is **PLUG-AND-PLAY**: Allows for an immediate adaption of cloud database technologies into your enterprise technology stack. This is truly a plug-and-play into the cloud database technologies.

Scalability

- Cloud2Db is **SCALABLE**: Provides performance and scalability of cloud database platforms.

Interoperable

- Cloud2Db offers **STANDARDS, STRUCTURE AND INTEROPERABILITY:** Provides a standards-based abstraction layer over cloud database technologies to enable interoperability.

Agile

- Cloud2Db is **ADAPTABLE**: Works seamlessly with existing tools, Technologies, software frameworks used in the organization.

Simple

- Cloud2Db is **SIMPLE:** Provides JDBC 3.0 and SQL-92 Interface to cloud database platforms which allows an application developer with basic programming skills to implement business applications on cloud database platforms.

Streamlined

- Cloud2Db is **NON-DISRUPTIVE**: Any business application written using JDBC and SQL can be ported to cloud database platforms without changing anything in the application code.

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Cloud2Db Functionality

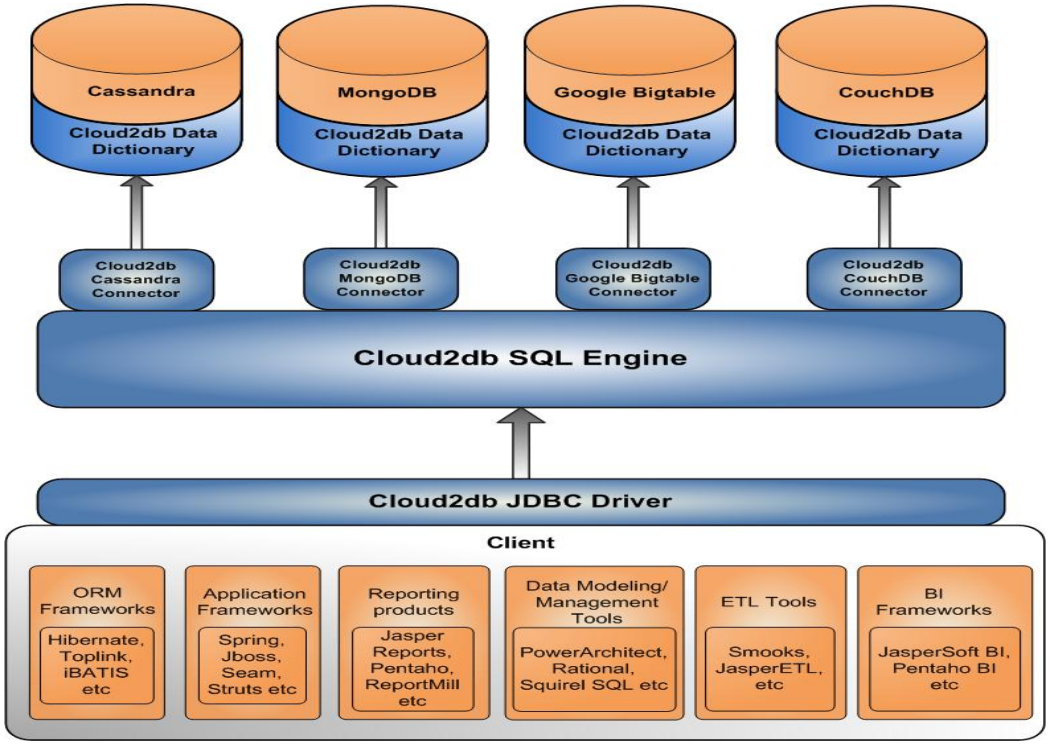
Cloud database support
- Google Bigtable
- Amazon SimpleDB
- Cassandra
- MongoDB
- Others (To follow)

Tools support
- All JDBC compliant tools
- Squirrel SQL (database management)
- Power Architect (data modeling)
- Jasper Reports (reporting)

Framework support
- All JDBC compliant frameworks
- Hibernate (OR mapping)
- Spring (Data access from application)

- ANSI SQL-92/ANSI SQL-99 support
- Referential integrity (Primary Keys, Foreign Keys)
- Role Based Security
- Joins (Inner Join, Left Outer Join, Theta Join, Cross Join)
- Sub-queries (Exists, Not Exists, In)
- DDL & DML
- Transactions
- ANSI SQL stored functions
- Views
- JDBC 3.0 support

How Cloud2Db Works



Value Proposition – Database Engine Layer

Today	Cloud2Db
•Various cloud database platforms are available •Technology: Proprietary to each platform •Different skill-sets required for designing for different cloud platforms •Separate skill-sets required than commonly used relational database technologies •Business change is expensive and requires re-engineering because of proprietary nature of cloud platforms	•Universal database engine works transparently with various cloud database platforms •Exposes various cloud database platforms via standard JDBC and SQL interfaces •Eliminates need for learning new skills to implement applications on cloud database platforms •Eliminates the need for using non-standard tools to manage cloud databases •Makes your existing relational database instances completely portable across various cloud database platforms

Value Proposition – Application Layer

Today	Cloud2Db
•Various cloud database client APIs are available •Technology: Proprietary APIs to each platform •Special and expensive skill-set required for writing applications for cloud databases •Business change is expensive and requires re-engineering because of proprietary nature of cloud platform APIs	•Exposes various cloud database platforms via standard JDBC and SQL interfaces •Eliminates need for learning new skills to implement applications on cloud database platforms •Eliminates the need for using non-standard tools to manage cloud databases •Makes your existing applications completely portable across various cloud database platforms

Value Proposition – Integration Layer

Today	Cloud2Db
•Technology: Home grown solutions •Home grown solutions are arbitrary and difficult to write •Home grown solutions are expensive because of development and maintenance costs	•Exposes various cloud database platforms via standard JDBC and SQL interfaces thus making integration almost a non-issue

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