

The ultimate choice for embedded databases

Birdstep RDM Embedded 8.0

Birdstep's RDM Embedded 8.0 is a high performance, small footprint embeddable data management solution designed for today's complex, interconnected application-specific systems. With over 20 million installations and selected by tens of thousands of developers, RDM Embedded v8.0 is still the number one choice of embedded database technology in telecommunication, defense and aerospace, financial and banking, automotive, business automation, and consumer electronics applications.

RDM Embedded provides rich database functionality one would expect in a much larger database. With this functionality comes exceptional flexibility that developers can choose to optimize their system design.

RDM Embedded is based on the very efficient and comprehensive Network data model. Pre-dating the relational model, the network model is proven to have the best performance when relating data. RDM Embedded also supports the relational data model for more traditional data representation. These two models can be combined in RDM Embedded providing the best of both worlds – Birdstep's databases are the only databases that offer this capability. With support for high level interface like SQL and XML the flexibility is unbeaten. Some of the Key benefits offered by RDM Embedded v8.0:

- ***New Feature! Pure and Hybrid In-Memory Operation***

In-memory database capabilities add a huge amount of flexibility to an embedded db system. RDM Embedded can now be configured to run completely diskless or in hybrid mode where the application designer puts part of their implementation in-memory and other parts on-disk in a single system.

- ***New Feature! True Varchar Support***

Fast embedded database engines implement fixed sized records, sacrificing database image size for speed. But with this function addition RDM Embedded combines the fixed sized records, proven over the last 20+ years of deployment, with a high-performance variable sized string implementation.

- ***New Feature! Sparse Indexing***

For on-disk efficiency a data index is a

duplicate but ordered instance of your data. Duplication of data steals both CPU and I/O cycles, so to avoid this overhead RDM Embedded adds a user configurable sparse indexing system for strings, where you decide the amount of duplication you'd like. The implementation supports no duplication, partial duplication, or full duplication giving you the flexibility to tune the size of your database vs. performance. If you think of it, most string comparisons are resolved by comparing the first few characters, so why duplicate the full string when you only need a few bytes?

- ***Active-Passive Replication***

Data redundancy, fault tolerance, and high availability are all keywords tied into data replication. With RDM Embedded advanced replication engine, application databases can be replicated for fault tolerance and high availability.

- ***64bit File Systems Support .***

Commercial file systems have over the years evolved to support 64 bit addressable files. With this release, RDM Embedded can now utilize this extended support to allow storage of even more data in the database engine.

- ***Dual Database Model Support:***

RDM Embedded is based on the high performance and expressive network data model. It also supports the traditional, relational data model. Unique to RDM Embedded is its capability to combine the network and

relational data models giving developers the advantages of both models.

- **Comprehensive Data Modeling:** Embedded databases are used in application specific systems where it is important to accurately express the data relationships. RDM Embedded uses a C-based Database Definition Language (DDL) that is used to define all of the data relationships to the degree of detail needed by the developer.
- **Multi-User Support:** In many cases, developers need to have multiple applications, or instances of an application, access a database while maintaining data integrity. RDM Embedded supports multiple users whether they are multi-tasking, multi-threading, or accessing over the LAN. With locking and transaction processing features, RDM Embedded ensures data integrity through managed control and record keeping.
- **Data Integrity:** Transaction Processing, File Locking, and Database Mirroring are key features within RDM Embedded to ensure the data integrity essential for multi-users and database recovery.

- **Native API:** RDM Embedded includes over 150 C-based functions available to the application for complete database control.
- **SQL API:** SQL is a common database query language often used for its simplicity. RDM Embedded has implemented a SQL API set to support applications that manage the database through SQL commands.
- **JAVA API:** The Java API is based on Java Native Interface (JNI) technology. By an extended C API to the Java programmer via the JNI, RDM Embedded lets you organize and access information efficiently, regardless of the complexity of your data. This combined technology provides tremendous speed advantages, and minimizes data redundancy.
- **XML API:** XML is an emerging standard used by web appliances and systems to facilitate easy data transfer between disparate systems. RDM Embedded's XML import/export layer allows for import and export of well- formed documents with or without DTDs or XML Schema.

Birdstep RDM Embedded is designed with features that specifically meet your business needs, giving you a strong foundation for application development with unique tools for performance enhancement and database customization.

Database Specifications

- **Maximum Databases Open Simultaneously: limited only by computer memory**
- **Maximum Fields Per Record: limited only by maximum record size and available memory**
- **Maximum Files Per Database: 256**
- **Maximum Key Size: 242 Bytes**
- **Maximum Objects Per Database: 4,294,967,040**
- **Maximum objects Per File: 16,777,215**
- **Maximum Record Size: 32 KB**
- **Memory Requirements starting at: ~270K (depending on operating system and features).**

Operating Systems Supported

- **AIX**
- **FreeBSD**
- **HP-UX**
- **Linux**
- **Solaris**
- **Windows**
- **For other OS, please call.**