



Raima Database Manager 12.0

Raima Database Manager (RDM) is a high-performance database management system that is optimized for workgroup, real-time and embedded, and mobile operating systems. It is ideal for programming interoperating systems of networked and distributed applications and data such as those found in financial, telecom, industrial automation or medical systems. Multiple APIs and configurations provide developers a wide variety of powerful programming options and functionality.

Key Features:

- Multi-Core Scalability
 - Distributed Architecture
 - Portability/Multi-Platform
 - Enhanced SQL Optimization Support
 - Shared Memory Protocol
 - New Data Types
 - Fast!
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The database engine utilizes multi-core processors, runs within limited memory, and supports both in-memory and on-disk storage. Security is provided through encryption. The database becomes an embedded part of your applications when implemented as a linkable library. RDM Embedded SQL has been designed for embedded systems applications, and as such it is suitable for running on a wide variety of computers and embedded operating systems many of which have limited capacities.

Standard Package—Performance Features

- **Multi-Core Support**—Efficiently distribute processing to take advantage of multi-core parallelism.
- **Multi-Versioning Concurrency Control (MVCC)**—Implement read-only transactions you can read a virtual snapshot of your embedded database while it is being concurrently updated. Avoid read locks to improve multi-user performance.
- **Bulk Inserts**—Insert an array of record contents in one call.
- **True Global Queries**—Connect an application to one or more databases and query them as if it is a single database. *Union* view of databases allow queries with no regard for where the data is located.
- **Pure and Hybrid In-Memory Database Operation**—Configure your database to run completely on-disk, completely in-memory, or a hybrid of both; combining the speed of an in-memory database and the stability of on-disk in a single system.
- **Multiple Indexing Methods**—Use B-Trees or Hash Indexes on tables. Hashing on large volumes often provides faster access to data than b-tree indexing methods. Hashing enhances speed by using buckets to store the index information.
- **Non-repeatable reads** — Reduces concurrency and locking issues through lockless reading. Significant performance improvements are possible in applications with read-only or read intensive requirements.

Plus Package—Connectivity Options

- **Master-Slave Database Replication** - Replicate changes in a master database to one or more slave databases.
- **Selective Replication**—Select the tables and columns that are to be replicated.
- **Client API**—Request, read and interpret replication logs for special purpose processing, e.g. search engine.
- **3rd Party Replication** - Move data from native RDM to SQL databases. Aggregate multiple RDM databases into one. The result is the ability to provide live operational data necessary to make timely business decisions at any level of an organization.
- **Master/Slave Mirroring** - Data redundancy without sacrificing performance! Master-Slave mirroring creates data redundancy by automatically copying changed database pages locally or across a network.
- **Synchronous or Asynchronous Mirroring** - Designed for carrier grade systems mirroring engine is designed to remove any single point of a failure in your fault-tolerant system.
- **High Availability (HA) Notifications** - With synchronous mirroring, build HA management using HA Notifications that call your scripts upon selected conditions.

Multiple APIs for Enhanced Usability

- **Navigational Network-Model C API**—The “classic” API. For well over 25 years developers have been using RDM’s low-level C API of over 200 functions for ultimate control of the database.
- **Navigational Cursor C API**—A modern cursor view of the network-model structure. Allows multiple independent positions on the same data set—much like a multi-window view on the same list.
- **Comprehensive SQL API**—RDM’s SQL is accessed internally through an easy-to-use API designed by Raima. This non-standard API is simpler than ODBC. In fact, our ODBC API is based on this one. It is made available for developers as well.
- **Standards Based ODBC API**—Following the ODBC standards, Raima developed the ODBC API to provide developers with a familiar way to RDM database engine from a C/C++ program.
- **Object Oriented C++ API** - was designed with ease of use as its primary requirement while still providing developers with full access and control to both RDM’s network and relational functionality.
- **Objective C**—For the Apple systems, iOS and Mac OS.
- **ODBC, JDBC, ADO.NET**—Drivers for access from 3rd party tools.

Try it!

Download a trial version:

raima.com/downloads

Database Specifications

- **Security**—Rijndael/AES encryption with 128, 192 or 256 bits.
- **Max. Databases Open Simultaneously:** No Limit.
- **Maximum Records Per Database:** No Limit.
- **Maximum Size of Database File:** Limited only by file system.
- **Maximum Tables Per Database:** No Limit.
- **Maximum Records Per Table:** No Limit.
- **Maximum Keys Per Database:** No Limit.
- **Max. Record Size:** 32K (excluding BLOB or VARCHAR).
- **Maximum Fields Per Table:** No Limit.
- **Maximum Size of Keys:** No Limit.
- **RAM Requirements:** Minimum 50K, User configurable.
- **Code Footprint:** Starting at ~270K depending on OS and database features.

Data Types

- **Integer**—8, 16, 32, 64 bit, signed or unsigned.
- **Character**—single or string, fixed length, variable or large variable
- **Wide Characters**—single or string.
- **Double, float.**
- **Date, Time, Timestamp.**
- **BCD**—precision 32, scale 16 digits.
- **GUID/UUID**—128 bit representation.
- **Binary**—array or blob.

Supported Platforms

- Windows, Windows Embedded Compact 7 (formerly CE), Windows Mobile
- Linux, Embedded Linux (ARM)
- Mac OS
- Solaris
- HP-UX
- Green Hills Integrity
- QNX Neutrino
- Wind River VxWorks
- iOS
- Android

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