

optimized **DATA MANAGEMENT**
in a small footprint database

Birdstep RDM Embedded 6.0

(formerly Raima Database Manager)

Birdstep RDM Embedded is a fast, cross-platform database that has been built into thousands of applications for developing C/C++ language database applications. By combining the network and relational model technologies in a single system, Birdstep RDM Embedded lets you organize and access information efficiently, regardless of the complexity of your data.

With the growing complexities of real-time embedded systems, use of a commercially developed structured database is required. To meet the performance and reliability demands, the database engine must be small, high-performance, flexible, and maintenance free. Birdstep RDM Embedded is designed to meet these requirements. Discover why customers like Bloomberg, HP, Johnson and Johnson, 3Com, and Nortel have chosen to use Birdstep's database engine for their transaction processing and auto-recovery applications.

Why Developers and Managers choose Birdstep's RDM Embedded

- **Proven and Established:** Contains over 20 years of program application development with several million real time applications in mission critical verticals like finance, telecommunications, healthcare and more. Developers concentrate on product rather than in-house database development.
- **Industry Standard APIs:** Provides a rich set of APIs including Native and SQL interfaces with simple administration.
- **Developed for Embedded Systems:** Birdstep RDM Embedded is a small footprint, high-performance, embedded database engine. Applications developed with the database are fast and easy to support.
- **Full Data Protection:** Provides data security, integrity and availability with data mirroring, transaction processing and automatic crash recovery.

Advanced Features for Modern Developers

Sophisticated applications demand fast, seamless, integrated data management. For developers and end-users, embedded database systems are the preferred data management solution. Modern high performance business and industrial applications require data management that is reliable, scalable, and flexible. Developers look for ease of use that speeds time to market, proven solutions that cut development costs, and product reliability to minimize support.

Birdstep RDM Embedded is Fast

Developers select RDM Embedded when real-time or system critical performance is required. From the ground up, RDM Embedded database has been designed to achieve high-speed performance. The combination of the Network-model, efficient memory usage, and caching allow our database to operate at unparalleled speeds. We do all of this with the industry's smallest footprint across multiple operating systems.

Key Features:

- **High Speed**
- **Small Footprint starting at 225KB**
- **Data Mirroring**
- **SQL API**
- **Network and Relational models**
- **Transaction Processing**
- **Reentrant runtime supports multi-threaded application support**
- **Multi-user support**
- **Database Crash Recovery**
- **Multi Platform Support**
- **More than 150 Native API functions**
- **ActiveX Interface**
- **Zero Administration**

Maximize Database Control

With RDM Embedded 6.0 we have added more flexibility. In addition to our high performance native API, we have implemented a set of SQL APIs.

The SQL APIs have been implemented to ensure an optimized code base while supporting common database queries and updates. The users can still use our Native API for their high performance needs.

Our comprehensive library of C functions, enable extensive database control and manipulation. It manages the majority of C data types, including arrays and structures.

With these APIs, the database allows the combination of two proven database models -- the relational and the pointer-based network -- giving developers the ability to easily model complex data and achieve high performance. Users have the choice of utilizing either database model, or a combination of the two.

The Integrity of Your Data is Paramount

RDM Embedded's multi-user synchronization uses an advanced lock management system to synchronize access by concurrent users. The unique timestamp system accurately records changes by each successive user ensuring data integrity.

Additionally, the Transaction Processing provides reliability by writing groups of related

database updates as a unit, first to the transaction log, and then to the database. The data can be regenerated automatically in case of system error.

Safety and Availability

Ensuring the safety and availability of your data is a high priority in the design of Birdstep RDM Embedded. The data mirroring system provides an integrated, engine level solution for mirroring that can be used to develop fault tolerant systems.

Optimize Application Performance

Birdstep RDM Embedded database manager has been designed to be highly resource-efficient, typically requiring as little as 225K of RAM, depending on the operating system and options used. Furthermore, it offers a sophisticated page and cache size configuration utility, maximizing performance by minimizing disk I/O operations.

Achieve High Predictability

The ability to predict the duration and disk space requirements of a database operation is critical to developers of real-time and traditional applications. These statistics should remain constant regardless of the size of the database.

With these features RDM Embedded continues to be the database of choice for embedded applications ranging from complex real-time systems to portable, reusable applications.

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: 225K (depending on operating system and features).**

Operating Systems & Compilers Supported

- **Microsoft Windows XP, NT, 95/98/Me with Microsoft Visual C++ (Compiler version 12.x)**
- **WinCE 3.1 with Microsoft Embedded Visual C++ 3.0**
- **QNX RTOS v6 (Neutrino) with gcc version 2.95.2**
- **WindRiver VxWorks 5.4 with Tornado 2**
- **WindRiver VxWorks AE with Tornado 3**
- **AIX 4.3 with C Set ++ for AIX**
- **HP-UX 11.00 with ANSI cc compiler**
- **Red Hat Linux 7.1 & 7.2 with gcc version 2.96**
- **Solaris (Sparc & x86) 5.5 & 5.6 with WorkShop Compilers 4.2**
- **Solaris (Sparc & x86) 5.7 & 5.8 with WorkShop Compilers 5.0**
- **Unixware 7.0.1 with Optimizing C Compilation System (CCS) 3.2**