

Speed development and improve the reliability of your data management

Have you considered moving from homegrown data management code to a proven, off-the-shelf database system? When you need to roll out reliable embedded software quickly, it is hard to beat the advantages of commercial database software in reducing time-to-market and improving system reliability.

Quadros Systems has partnered with McObject to provide an “in memory” database solution that is consistent with the attributes of the RTXQ Quadros real-time operating system: small, extremely fast, and highly efficient. McObject’s *eXtremeDB* delivers faster embedded software performance, improved reliability, and a shorter development cycle – powerful benefits that are driving its adoption in data-hungry embedded devices like consumer electronics, industrial controllers, and telecom/netcom gear, among others.

McObject’s *eXtremeDB*: ‘In-Memory’ is the Fastest Possible Database

Looking for the fastest possible execution for embedded software? A database system hosted entirely in memory could be the answer? *eXtremeDB* in-memory embedded database system can reside in as little as 50 KB of ROM. And the streamlined, all-in-memory design eliminates disk access, caching and other overhead, resulting in lightning-fast data access, sorting and updates. Typical read and write accesses are at the level of a few microseconds, or less. The engine is reentrant, allowing for multiple execution threads, and *eXtremeDB*’s ‘real’ database features include support for transactions, multi-user concurrent access, and a high-level data definition language. In addition, *eXtremeDB*’s High Availability sub-system meets stringent fault tolerance demands.

A Database Designed for Embedded Systems

As these characteristics suggest, *eXtremeDB* was designed expressly for real-time embedded systems – it’s no enterprise or desktop DBMS that’s been ‘shoehorned’ into an embedded space. It is also a far cry from homegrown database code, which can bog down in endless QA and testing when faced with growing volumes of complex data. The key word for *eXtremeDB* is ‘proven’ – manufacturers credit McObject’s database with slashing developer-months from their embedded software projects.

Build Better Software, Lower Manufacturing Costs

With the performance and flexibility described above, *eXtremeDB* combines perfectly with the RTXQ Quadros RTOS as a foundation for meeting tough technological challenges. And consider the pairing’s powerful business rationale: both *eXtremeDB* and RTXQ Quadros operate with exceptional efficiency, delivering the needed performance even with limited memory and CPU cycles. The result: less costly hardware components in products ranging from MP3 players to networking devices. This manufacturing cost advantage drops straight to the bottom line to allow for more competitive pricing.

Trap Code Errors Before Product Release

Manufacturers tell us there’s no bigger headache than a bug emerging after product release. Fortunately for developers, both *eXtremeDB* and RTXQ Quadros include features to drastically reduce software errors. Quadros’s VisualRTXC application design tool produces tailored, error-free source code, representing your specification. *eXtremeDB* provides numerous traps in the run-time code, which can be progressively disabled as development and testing progress. It also has a unique application

programming interface (API) that exploits the type-checking ability of every ANSI C/C++ compiler, preventing errors in data-typing and assignment.

Hardware Changes, Your Code Endures

Both *eXtremeDB* and the RTXC Quadros support a wide range of processors and provide exceptional resources for porting. Through embedded code re-use, consumer electronics innovators manage costs and leverage new opportunities quickly. *eXtremeDB* and RTXC Quadros enable development of high value applications with exceptional portability, which is critical in *preserving* your code investment across evolving platforms.

***eXtremeDB* Special Editions Go Above and Beyond**

McObject offers special editions of the *eXtremeDB* embedded database, to meet specialized application needs. *eXtremeDB* High Availability (HA) delivers fault-tolerance by maintaining multiple identical embedded database instances within separate address spaces, with automatic failover. The *eXtremeDB* Fusion hybrid embedded database system combines on-disk and in-memory data storage, enabling developers to fine-tune their applications for speed, persistence, cost, and form factor. Other special editions and add-on modules support transaction logging, 64-bit processing, and the widely-used SQL database interface.

These special editions are another way the *eXtremeDB* in-memory embedded database works with the RTXC Quadros RTOS to make sure your embedded development goes smoothly – and your application thrives in the marketplace!

About McObject

Founded by embedded database and real-time systems experts, McObject offers proven embedded database technology that makes intelligent devices smarter, more reliable and more cost-effective to develop and maintain.

Information about the *eXtremeDB* in-memory embedded database can be found on McObject's Web site at <http://www.mcobject.com/extremedbfamily.shtml>.

Information about *eXtremeDB* for consumer electronics can be found at <http://www.mcobject.com/consumerelectronics.shtml>.