*eXtreme*DB™ Fusion

Hybrid in-memory / on-disk database system for maximum performance and data durability.

Product Datasheet

"eXtremeDB simplifies development and testing, especially in situations where the database must coordinate multiple processes."

- Tyco Thermal Controls

Overview

In-memory database systems (IMDSs) offer superior performance and the possibility of very small RAM, CPU and storage demands. IMDSs boost speed by eliminating mechanical disk I/O, multiple data copies, and redundant logical processes, such as caching. This streamlined design can also dramatically reduce system footprint.

In contrast, on-disk databases cache frequently requested data in memory, for faster access, but write database updates, insertions and deletes through the cache to be stored to disk. Byte-for-byte, disk storage can be cheaper than memory, and can also take less physical space: RAM chips canôt yet approach the density of an 80GB micro-drive, for instance. So for small form-factor devices with large storage needs, such ñspinning memoryò can be better.

*eXtreme*DB Fusion provides the best of both worlds, marrying in-memory database technology with the traditional disk-based database system. The result is a hybrid database for resource-constrained and high performance systems that affords developers the ultimate in flexibility.

McObject's *eXtreme*DB

Since its introduction, McObjectôs *eXtreme*DB has set the standard for small footprint, in-memory embedded database systems, offering:

- Tiny code size, starting from just 50 KB
- Blazing speed: micro-second transactions even on modest hardware
- Developer ease, with a type-safe, intuitive API with extensive checking to speed development
- Optional SQL and XML interfaces
- High Availability Edition, with replication based on a time-cognizant, two-phase commit protocol, for applications requiring complete fault tolerance
- Available source code, for porting to new platforms and ultimate control over development

*eXtreme*DB Fusion: Best of Both Worlds

*eXtreme*DB Fusion extends McObjectôs core technology, enabling the developer to combine *both* database paradigms ï in-memory and on-disk ï in a single database system. Specifying one set of data as transient (managed in memory), while choosing on-disk storage for other record types, requires a simple database schema declaration, as shown below.

```
transient class classname {
      [fields]
};

persistent class classname {
      [fields]
};
```

The resulting system retains in-memory strengths (speed, small database footprint, intuitive native API, etc.), yet leverages the potential cost savings and built-in durability of an on-disk database.

Key On-Disk Database Features

*eXtreme*DB Fusionôs on-disk features are uniquely configurable, including:

- Three levels of transaction logging ï Undo, Redo and No Logging ï to meet the target systemôs footprint, performance and durability needs
- Developers can specify the maximum database size, which is especially important when the ódiskô is actually a flash memory file system
- Database cache can be saved and re-used across sessions ï for example, so a user can resume some activity when a device is switched back on
- The database exists in one file, to simplify maintenance, limit I/O and reduce size

With these tools, the developer fine-tunes the database according to the speed, footprint and other runtime requirements of the operating environment and target system. *eXtreme*DB Fusion puts the developer in charge.

McObject LLC
22525 SE 64th Place
Suite 302
Issaquah, WA 98027

Phone:+1 425 888 8505
Fax: +1 425 888 8508
http://www.mcobject.com