

How is Rockall-DB Special

Rockall-DB Version 16.1

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Contents

1. Introduction.....	3
2. Let's Cut to the Chase.....	3
3. Conclusion	4

1. Introduction

The babble and hype in today's Information Technology market sometimes makes it hard to find great new technology. What we would like to do here is to give a short and straight-forward explanation (i.e. in about 2 pages) of why Rockall-DB is such a radical new concept and product.

2. Let's Cut to the Chase

Almost all professional developers are very familiar with the concept of memory management (i.e. functionality such as 'new' and 'delete' or 'malloc' and 'free'). What Rockall-DB does is to take this well-known programming concept and extends it to include full support for transactional databases. Consequently, any data structure that historically could be built in main memory using a memory allocator can now also be stored within a transactional database at the same time.

Let's stop and think about this for a moment. The memory allocator is now also the transactional database. Obviously, the implications of this concept are a little shocking and arguably revolutionary.

Clearly, a large number of new and existing commercial applications could be dramatically simplified using this methodology. Moreover, in many cases the entire database layer of an application essentially evaporates. Furthermore, because the database is now part of the application it's also common for performance to go through the roof as the transactional data is now typically just a few microseconds away from the code that processes it (i.e. a few millionths of a second). Gone is the need for Database Administrators (DBAs), Database servers, networks, SQL and all the related paraphernalia. Consequently, the resulting applications are typically much smaller, faster, easier to manage and cheaper to run.

A common problem with Rockall-DB is that it's so revolutionary that it's sometimes a little difficult to immediately see how to apply it. A number of historical architectural concepts simply buckle and collapse and often need to be completely reconsidered. A key conceptual change is that the classical centralized database usually gives way to a 'Software as a Service (SAAS)' model where the historical centralized transactional database melts away into a number of application services. These application services may be as simple IIS front-ends, custom application logic and Rockall-DB back-ends or may be highly optimized custom services.

Going further, another surprise about Rockall-DB is its size. The heart of the product is a single 'Dynamic Link Library (DLL)' that is less than a megabyte. This means that it's now possible to have fully transactional databases in very low-end devices (i.e. laptops, tablets or watches). These low-end devices can communicate with other transactional databases at convenient times. This is a far more robust application model in situations where there is limited or unreliable network access and typically offers much better offline data access and transaction support. The transactional data stored in Rockall-DB can be kept secure using the optional custom encryption functionality. Consequently, even sensitive information (i.e. health records) can be

safely carried around on small devices without fear of compromise and kept up-to-date during periods where there is reliable network access.

3. Conclusion

Hopefully, this has been enough to encourage the reader to investigate Rockall-DB further.