

db4objects



db4objects
**The Business Case for the
Open Source Object Database**

Christof Wittig
Sydney, January 18, 2006



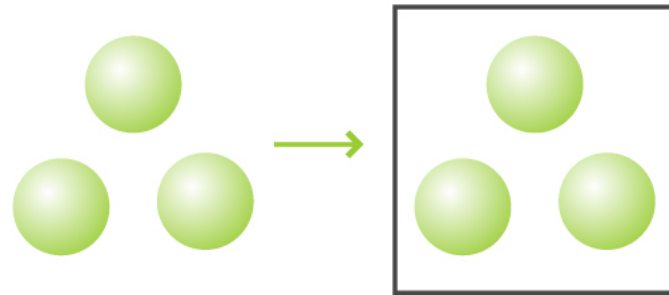
db4o | Open Source Object Database | Questions

Introduction

The Opportunity

The Business Model

The Market



- | Object-oriented databases? Aren't they dead?
- | Database? How can they compete with Oracle & Co.?
- | How do you make money with free software?



A Real problem | The OR Mismatch

| “Building Java applications that use relational databases is perhaps the single most underestimated challenge in enterprise development today. More projects are delayed, under-featured and difficult to maintain because of this underestimation. The problem lies with the use of fundamentally different technologies. [...]

The object world and the relational world do not match up.”

Oracle Corporation



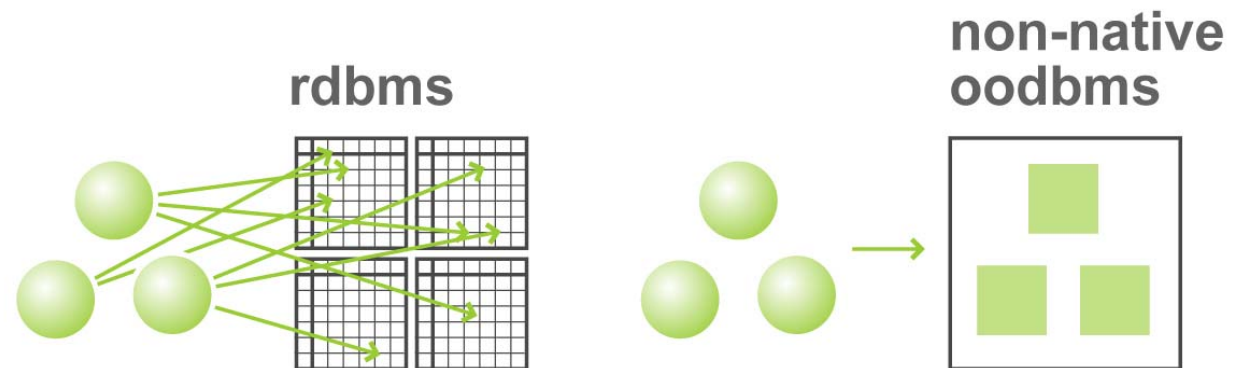
A Real problem | The OR Mismatch

| “Using tables to store objects is like driving your car home and then disassembling it to put it in the garage. It can be assembled again in the morning, but one eventually asks whether this is the most efficient way to park a car.”

Esther Dyson



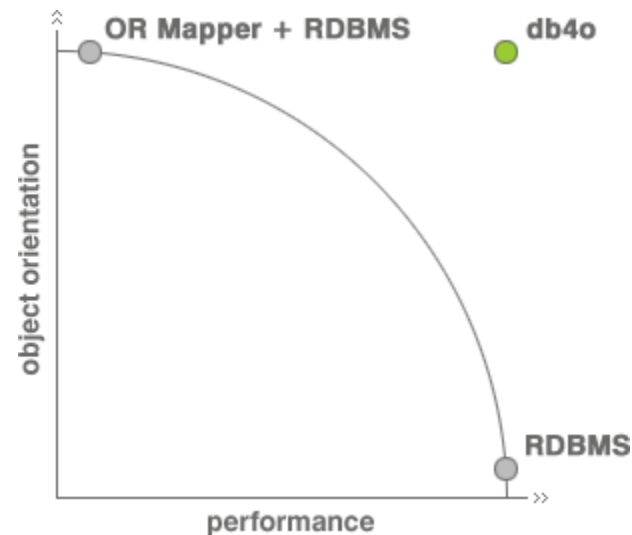
Time has Come to Solve a Major Industry Problem



- | Object oriented programming (Java, .NET) and relational databases do not match up
- | Early, non-native OODBMS were a solution but failed in the market in 90s
- | What about object-relational mappers (Toplink, Hibernate)?



Object-Relational Mapper – a Solution?



- | ORM - a great OO persistence solution on the server side
- | ORM fall short in client-side, zero-admin environments
- | db4o is **up to 44x faster** than Hibernate+MySQL!
- | The growth of object-relational mappers (**ORM**) prove the magnitude of the OR-mismatch problem



db4objects Takes Advantage of Three Major Shifts

Today

Prior



A viable **open source** business model emerged

No differentiation to incumbents through business model



Target market **embedded systems** (client side persistence)

High switching cost in enterprise DBMS created huge barrier to entry



Majority of new projects use **OOP** (Java, .NET)

Use of OOP languages was <5% in early 1990s

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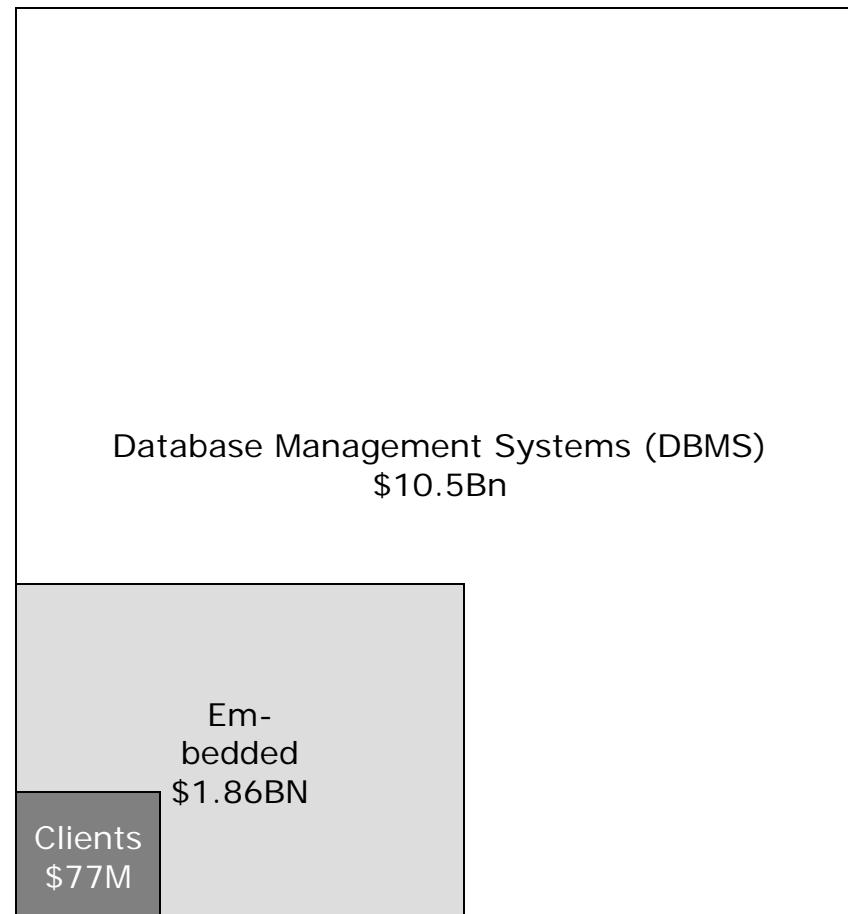
The Open Source Dual License Model





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- The Market

The Market | DBMS | Embedded DBMS | Client-Side



Embedded DBMS market grows 15% annually
.NET/Java Subsegment grows 25-35% annually

Source: Gartner
IDC
VDC



The Market | Analysts Confirm db4objects' Vision

| “Object-oriented DBMSs could well enjoy a second growth period as embedded DBMSs due to the efficient and flexible data management they offer object-oriented applications, and open source DBMSs are also attractive as embedded DBMSs because of the technological control they offer ISVs as well as flexibility in licensing. db4objects is in the interesting position of offering the benefits of object-oriented DBMS technology and open source licensing, making its value proposition appealing on two fronts.”

IDC director Carl Olofson



The Market | Analysts Confirm db4objects' Vision

“Especially on the client side, such as in stand-alone devices and other zero-administration environments, engineers look for innovative persistence solutions that meet their immediate specifications and help them outrun the competition. As a result, more than 50% of embedded and device software developers still build their own database tools today. With the advent of standardized object-oriented platforms, such as embedded Java and the .NET CompactFramework, we expect object databases to become a universal solution for OO persistence - with db4o's open source offering leading the charge.”

VDC director Chris Lanfear

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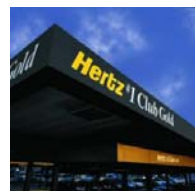
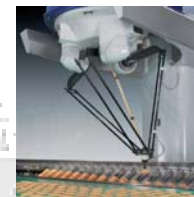
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The Market | The Customer has the Last Word!



All examples run on Java/.NET in zero-admin environments

... show the broad applicability of db4o off the shelf

... and are testimony to the global reach of open source businesses!

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Thank You!

| Download db4objects' **Business Backgrounder**

| www.db4o.com/about/company/backgrounder/