

# 4th Dimension 2003: An Executive Overview



## 4D TECHNOLOGY WHITE PAPER

### AUDIENCE

This white paper is designed to give business executives, who currently work with 4th Dimension technologies, an overview of the new 4th Dimension 2003. The paper will focus on the particular relevance of 4th Dimension 2003 to business needs, most notably cost savings and productivity.

### THE CURRENT STATE OF BUSINESS TECHNOLOGY

At the turn of the millennium, businesses witnessed the glories of the Internet "bubble" change starkly to a more reality based economy grounded in viable business models and tangible revenue growth.

Accompanying this change was the realization that individuals, whether online or offline, were gaining more power as customers. By freely garnering information about products from various sources, such as the Internet, customers were now able to make more informed purchasing decisions about products and services than they ever were before. As a result, businesses have been forced to act accordingly; no longer could they make lofty assumptions about customer behavior. Such behavior needed to be fortified by solid data and statistics in order to be worth analyzing and pursuing as valuable information.

Now a few years into the new century, businesses are still dealing with the previously mentioned scenario, however, they also find themselves suffering from the effects of a bad economy and an overall lack of consumer confidence. Today, targeting the best customers has never been more crucial, and focusing on the best revenue generators is absolutely essential. Moreover, businesses need to focus on their own internal efficiencies as well in order to stay profitable and competitive in their markets. Is data being managed and accessed as efficiently as it could be? Are business processes running as smoothly and cost-effectively as possible, or are sacrifices being made at the hands of outdated technology systems and solutions?

Considering the drastic changes that have taken place

in less than a decade, and more importantly, those changes that could occur in both the near and far future, where does this leave the state of technology in businesses today?

### EVOLVING BUSINESS NEEDS, EVOLVING TECHNOLOGIES

The past twenty years have witnessed a revolution in how businesses work with information (*Figure 1*). Computers promised to streamline business operations, eliminate paper, and improve the efficiency of businesses both small and large. Early business applications provided rudimentary tools for automating familiar tasks; the word processor replaced the typewriter, and the spreadsheet replaced the paper ledger. For the most part, these applications have remained virtually unchanged since their debut over twenty years ago.



*Figure 1: The Evolving Technology Needs of Businesses*

However, the database, arguably the most influential of all business applications, has undergone the most changes over the same time period – and not always for the better. As businesses began to adopt databases to house their critical information, databases grew in complexity, while taking on more of the day-to-day tasks of modern business. Essentially, businesses had only two choices for their data management needs: low-end database solutions, which handled simple tasks such as customer lists and mailing labels, and high-end solutions, which often required the expertise of a programmer or full-time database administrator (DBA). Often the cost of hiring a professional developer to create a custom solution put the capable, but hard to use products out of reach for the small- to medium-sized business. Furthermore, for the businesses that bought into the

# 4th Dimension 2003: An Executive Overview

idea of automation, they quickly realized that integrating new technologies into their existing applications often required major redevelopment efforts, adding to an already expensive endeavor.

When the world embraced the Web, businesses were forced to extend their technology offerings to establish a Web presence. Many different tools and technologies (often from different vendors) were required to produce solutions that were both usable and cost-efficient, but this simply added to the maze of options that was already too costly. No single tool was able to accomplish all of a business's needs. This led to the creation of systems that were and continue to be hard to develop, debug, deploy, and maintain. Business owners are fed up with the lack of power and flexibility in low-end solutions, and frustrated with the difficulty and exorbitant costs of high-end solutions. Fortunately, there is an answer (Figure 2).



Figure 2: Finding a Solution that is Both Cost-Effective and Flexible

## A STRONG HISTORY OF TECHNOLOGY AND INNOVATION

For over eighteen years, businesses of all types and sizes, from single-person operations to Fortune 500 companies, have used 4th Dimension technologies to build better Web applications quicker, more securely, and with greater ease and accuracy than with other products on the market. From Hewlett-Packard and General Motors to United Airlines and Apple Computer, scores of businesses have benefited from 4th Dimension's comprehensive and complimentary development technologies. With 4th Dimension, users can produce complex Web sites without purchasing additional tools, and migrate easily from single-user to client-server to Web-based, and now to Web service enabled applications. This translates into versatile solutions created quickly and easily, giving businesses the edge they need to stay profitable and competitive.

## REAL-COST SAVINGS THROUGH SHORT DEVELOPMENT TIMES

Whether your business needs a relational database management system (RDBMS), a Web presence, or a setup that allows numerous workstations or clients to simultaneously access the same data over a server, 4th Dimension can accomplish all of this. Furthermore, this can all be done within a short development time. What does this mean for business executives? The seamless integration that simplifies application development and maintenance lowers development time and more importantly, decreases lifetime costs for businesses while contributing to real-cost savings. In fact, in a recent Ventera study, 4th Dimension was the only Web application environment studied that earned a perfect score for development time. The same 4th Dimension system can be deployed as a single-user, multi-process application, a client-server application, or a widely distributed application (Figure 3). Switching between single-user and client-server is typically as easy as relaunching the program. Web applications share the same language, RDBMS, data, and business logic as other environments, so that the need to hire a developer is reduced and in some situations, eliminated entirely.



Figure 3: 4th Dimension can be used for single-user and multi-user setups.

## 4TH DIMENSION 2003 - INCREASE OVERALL PRODUCTIVITY

4th Dimension 2003 is a powerful tool for creating professional database and Web applications. The legendary, end-user capabilities brought forth by previous versions of 4th Dimension now culminate into 4th Dimension 2003, one of the strongest, most flexible tools to benefit the data management needs of businesses yet. Moreover, 4th Dimension 2003 has been designed to seamlessly extend any existing 4th Dimension solutions, which means taking advantage of the latest features is both easy and affordable.

## New Report Engine - More power to the user

The new report engine in 4th Dimension 2003 enables users to generate more customized reports independently of any outside development expertise. This power

translates into considerable savings since there is less need for users to rely on developers in order to obtain the desired results from data. Moreover, there is no longer any need to wait for a developer to finish other projects, so businesses can count on getting the data they need immediately.

The latest features in the report engine also save time and increase business productivity. An enhanced Quick Report Editor provides a number of versatile ways to generate different reports quickly (Figure 4). One of the most notable new features is the ability to create cross-tab reports, which provide both horizontal and columnar summations. An example of this would be the ability to total revenue by both product and by sales period within the same report.



Figure 4: The New Quick Report Editor in 4th Dimension 2003

New business opportunities are just around the corner with 4th Dimension 2003. Whether a business needs to analyze product performance or understand their customers' purchasing patterns, 4th Dimension 2003 ensures that users have the capabilities to garner the most useful data, allowing them to focus on the most important customers while gaining new ones.

4th Dimension 2003 also ensures that business technologies are up-to-date with the latest standards of transferring data. XML, or eXtensible Markup Language, is fast becoming the de facto standard way of transferring data from application to application. For example, with support for the XML format, 4th Dimension 2003 data can be transferred into Microsoft Office™ in a native format.

**Application Integration - Error-free data management**  
Many businesses find themselves utilizing a wide variety of applications to handle data, applications that were developed in response to a number of specific, often short-term business needs. But what happens to

business processes when the information needed is stored in a large number of different applications? Identifying customers and relevant information becomes difficult, time-consuming, and costly.

A major enhancement in 4th Dimension 2003 is support for application integration through Web services technology. Simply put, Web services technologies give applications the ability to integrate and "talk" with each other, regardless of platform, programming language, or vendor (Figure 5).

Different applications that were once not operable with each other can now reuse each other's data and functionality. This means there's less need for the duplication of data, data re-entry, and any inconsistencies that may

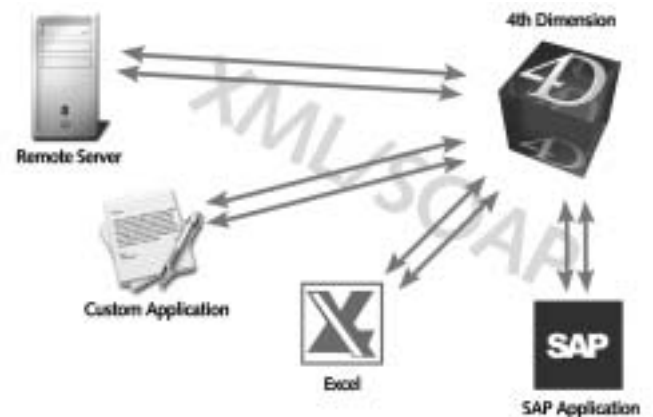


Figure 5: 4th Dimension 2003's support for Web services enables it to reuse both data and functionality from other applications.

result from such processes. Now executives can spend less time worrying about costly, time-consuming errors and more time on strengthening their businesses. In addition, Web services provide the ability to generate reports from 4th Dimension to any other Web service enabled application such as Microsoft Excel™ (Figure 6, page 4), dynamically create customized Web pages, or create customized e-mail in HTML. Application integration results in increased productivity, quick ways to generate a variety of results, and more efficient business processes overall.

**New Printing Features - Printing your way**

Developers can now customize solutions so that users can choose printers and printer trays. For example, when printing a customer letter, you may want to print labels from one printer tray, while printing a data-driven letter from another tray. 4th Dimension 2003 allows you to

# 4th Dimension 2003: An Executive Overview



Figure 6: Generate reports from 4th Dimension to Microsoft Excel.

perform these tasks with ease. In addition, through new and enhanced printing capabilities, 4th Dimension 2003 also gives more power and control to business users. New commands such as determining "best object size" eliminate any printer surprises from occurring, enabling even more control over the positioning of items on printed pages (Figure 7).



Figure 7: 4th Dimension 2003 features enhanced printing capabilities.

## CONCLUSION

As a business's needs evolve, so should the technologies that are used to handle these needs. 4th Dimension 2003 makes securing your technology investments for the future an easy and cost-effective process, bringing business executives a number of significant benefits. Virtually no re-development is required to make existing 4th Dimension applications Web service enabled, and for those that do have to be changed, just a single line of code will allow the technology to be called as a Web service. Developers can work more quickly when creating customized solutions, and as a business executive, you can rest easy knowing that your 4th Dimension application will integrate with any current or future applications in a manner that is both easy and affordable. With its powerful feature set, 4th Dimension 2003 gives you more ways to improve productivity and efficiency, guaranteeing that your technologies and your business will stay competitive for the future.