

A CBSI WHITE PAPER

# From Chaos to Order— Winning the Information Management Game

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**Oracle Application Express delivers an easy, fast, and free way to manage your  
business information**

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A CBSi white Paper highlighting Oracle APEX

## Introduction

Sometimes getting the information you need to make important business management decisions is like looking for a needle in a haystack.

Surely somebody has this business critical information, but who are they, where are they, and where's the information?

In businesses and organizations that have departments and multiple locations, the question often is not "where's the needle," but "which haystack?"

This is a common problem, and there are several reasons for it. With a proliferation of business and operational data, and hosts of tools for collecting and reporting it, it's no wonder valuable information can be scattered around so that we don't always know where to look for the information we need.



Take the customer database, for example. When many businesses start out, the owner relies on an Excel spreadsheet to track and store customer data. As the company grows, sales people use their individual Blackberries and Outlook files to store customer information. Then, the marketing department implements the holiday gift program and begins using a departmental database to manage this and other campaigns. Before you know it, customer service has another database with records of incoming orders and complaints, and the webmaster has yet another.

Not one of these data silos are connected or integrated, and before long, no one is sure who is responsible for keeping the "real" data—or system of record. In a crunch, such as an audit, year-end reporting, or a disaster recovery situation, it becomes almost impossible to discover the truth about customers. But even in normal day-to-day operations, where is the definitive information you need to make basic operational decisions? If the customer informs you they have changed their key contact or phone number, how do you make sure everyone has the latest details?

Sometimes valuable information is in a legacy system that is hard to use. Sometimes the people who originally designed the system move on, leaving behind a limited application that is difficult to change so that it meets new operational needs.

Businesses and organizations of all sizes have experienced situations like this at one time or another. Typically, the options available for addressing this problem involve either a very expensive and time consuming investment in state-of-the-art systems, or a new jury rigged solution that temporarily solves the problem.

Now, however, there is a better way. This paper explores how businesses can capitalize on a free, easy-to-use, rapid web application tool for the Oracle Database that will help consolidate personal databases, spreadsheets, and other data to create a single point of truth for everyone in the company.

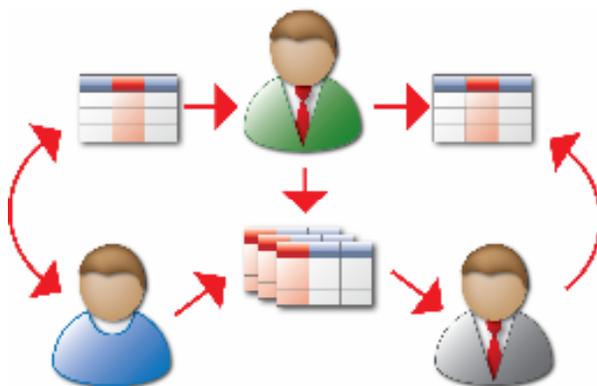
## Fighting Data Proliferation

Information is the heart of all decision making. In the recent CDW Small Business Driver's Seat Report, small business owners ranked the top challenges for their businesses, as shown in the following illustration. From monitoring the competition's moves to managing sales teams and controlling supply chains, each of these critical functions requires informational input and analysis.



Figure 1. The most significant challenges to growth ranked by business owners and executives - **CDW Small Business Driver's Seat Report – April 2008**

From the start, many companies and organizations rely on distributed spreadsheets and personal databases because it is the easiest, least expensive way to go. As time goes by and the data volume and complexity grow, the number of spreadsheets and databases grow with it.



### The problem with spreadsheets:

- Multiple sources of the "truth"
- Manual collation from different sources
- Reports generated from partial slices of data
- No control over who sees the information



### The problem with personal databases:

- **Fragmented**
- **Platform dependent**
- **Web unfriendly**
- **Vulnerable**
- **Easily copied**
- **Inconsistent backup**
- **Scattered locations**
- **Inefficient use of IT resources**

The issue is even more difficult when it comes to departmental or workgroup databases that spring up to address specific projects such as a direct mail campaign or customer support issues. For example, a growing international telecommunications firm was surprised to find that it had more than 18,000 individual Microsoft Access applications across all its businesses units. Not only was information increasingly difficult to find, but downloads from all these databases severely bogged down the company's network and vastly reduced network performance. On top of that, the IT resources needed to maintain all these databases was becoming untenable.

But even after a "data crisis," it can be difficult for businesses and organizations to make the transition from their cobbled-together processes to an enterprise solution. This kind of change normally requires big investments in expensive hardware, application development, data entry, training, and upgrades and maintenance; it typically implies an operational change that broadly effects the organization.

Although the need is great, the cost is also great, and that reality often wins out, sometimes to the regret of operations managers. The CDW report cited earlier also found that 65

percent of the respondents agree that capitalizing on technology is important to their business's ability to succeed and grow, and in looking back on their experiences running a business, these same owners and executives rate "not capturing the full advantage of the technology they own" as their biggest IT mistake over the years.

## A New Information Management Strategy – One Haystack & Magnetic Pitchforks

Imagine a tool that lets you quickly develop web-based applications that import data from multiple sources, structure the data in a common database, and present the data in easily designed and built web interfaces. It even comes with themes to expedite web application development. And the tool is free with an Oracle Database license.

That tool is Oracle Application Express (APEX), and the best way to show what it can do for you is to tell the story of how Momentum Technologies helped a Canadian transportation authority meet a critical public obligation.

Following a public announcement that they would produce a community, web-based portal that tracks spending on maintenance, security, and infrastructure development, a Canadian transportation authority found that it was "easier said than done." With the information scattered across many different systems throughout the authority, the in-house development team estimated it would take no less than six months to complete the project—not the one month promised to taxpayers.

As good fortune would have it though, Bruno Cloutier, president of Momentum Technologies, heard about the problem, through his consultants, while working on another project for the transportation authority, and he knew he had the solution—Oracle APEX.

“Their in-house team uses Microsoft .NET, which is good for traditional development, but they could not meet the deadline doing all that manual coding. They needed an agile approach to get it done in one month, and Oracle APEX gave us the flexibility to meet their requirements—graphs, charts, and a mini-warehouse to maintain the data—with a good look and in a portal for public access to create an environment of transparency and disclosure,” explains Cloutier.

With a team of two people assigned to the project, Momentum Technologies was able to develop a prototype of the portal in just one week using static data. Throughout the process, they consulted with the authority’s business team to make sure the site met their needs. “We would have working sessions and someone would say, ‘that should be moved’ or ‘can you change the color’ and we were able to do it with them sitting there watching,” says Cloutier. “Oracle APEX makes it easy to show and modify a prototype before going into a fully live environment.”

The next step was to create the tables and pull in the data from the authority’s Oracle databases, and put in the logic to create the graphs and charts. Just three weeks following the presentation of the prototype, the transportation authority’s website was ready for launch.

According to Cloutier, the quick turnaround for the transportation authority is typical when using Oracle APEX, which can cut development time to one-third of a traditional Microsoft .NET approach. “With APEX, you can quickly and easily deliver so much more while saving time and money. We’ve been very successful with this approach,” he says.

So what exactly is APEX?

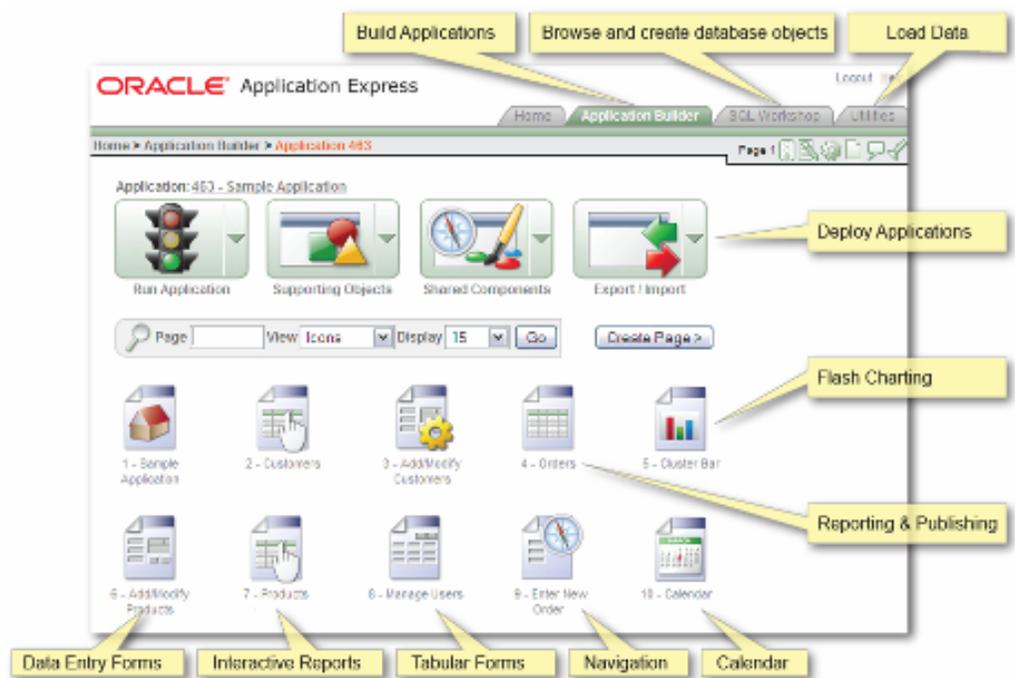
## Oracle APEX: A Complete Web Application Developer’s Toolbox

Oracle APEX is free and easy-to-use, yet because of its features and capabilities, it is in the same league as other professional application-development tools. It offers interfaces to PL/SQL, SQL, and HTML to create rich applications. It also works seamlessly with Oracle Real Application Clusters and regular database backup and recovery procedures. Finally, it allows integration with advanced database features such as Oracle Text, OLAP, spatial and fine-grained access control, and auditing to offer a comprehensive application development environment. Oracle APEX key features and functionality include:

**Reporting** – Build Interactive Reports that provide extensive end-user data manipulation and formatting options out-of-the-box. Quickly generate HTML reports that display results of SQL queries or download and print reports in HTML, PDF, RTF, and XLS formats. Link reports to provide drill-down reporting and customize appearances using templates.

**Forms** – Use wizards to create forms on tables or on a stored procedure, provide automatic management of insert, update, and delete, and rearrange form fields to quickly achieve the layout you want.

Oracle APEX is designed to easily build web-based applications for superior performance. The browser-based design, declarative programming, and simple wizards make Oracle APEX a natural replacement for multi-user desktop database and spreadsheet applications.



**Charting** – Create HTML, SVG, or Flash charts that let users drill down from one chart to another chart or report. Configure a chart to refresh at defined intervals or even take advantage of report column templates to add simple HTML bar charts to any report.

**Migration support** – Upload Oracle Forms or Microsoft Access applications and generate first-cut application designs, review all the code within the source files loaded, and manage the conversion process. Quickly transform Microsoft Excel spreadsheet data directly into a fully functioning Oracle APEX application and store the data in a new database table using a built-in wizard.

**User Interface Themes** – APEX separates application logic from presentation (HTML rendering) so that you can create presentation designs that are unique to different organizations. You can also create a unique theme and use that as a common theme for all your APEX applications.

**Packaged applications** – Choose from more than 30 preconfigured, fully functional point solutions that you can use and customize. The packaged applications illustrate interesting examples of Oracle APEX applications and provide immediately useful business applications. Packaged applications are ready to run and include project tracking, people search, discussion forum, bug tracker, document management, online store, ask the expert, issue tracker and more.

**Security** – APEX gives you complete control over creating public applications or secure applications that require login and authorization. You can control selective authorization so that some people can see data that others do not see. Increase the security of your applications using features such as session-state protection, session timeouts, field encryption, etc.

APEX gives you the benefits of a personal database (ease of use and flexibility) combined with the sophistication and rigor of an enterprise application (scalability, security, availability), all through an easy-to-use application built for the web. With Oracle APEX, businesses gain the benefits of centralized data management while leveraging options in technology they already own, minimizing the cost of consolidation. Rather than the chaos that comes with people not being on the same page, you have data that is:

- Reliable
- Compliant
- Secure
- Accessible

## **Solving a Legacy Application Problem for the California Legislative Data Center**

Until recently, the California Legislature used a legacy client-server system built in the mid-1990s to track applicants and appointments to the boards and commissions for the state of California. The mission-critical “Senate Rules Appointment System” housed 350,000 records dating back to 1969. Then the inevitable happened. The two key staff members with the system domain knowledge both announced their retirements—departures that would leave a serious gap in the state’s ability to update and maintain the system.

With just a few months to develop a replacement system, the California Legislative Data Center called in Linsonic, a database and architecture consulting group specializing in Oracle databases. Linsonic worked closely with Data Center staff to define the requirements, including the short development time of six months. They all agreed that Oracle APEX provided a lighter, faster solution than other options.

“Another challenge in the development process was simply that the Senate Rules Appointment staff had very little time to support the project. Oracle APEX allowed us to deliver some very precisely targeted early releases of the new system, so we were able to get their input with minimal disruption to their business,” says Don Neithinger of Linsonic. “Using a phased-in approach, we were able to show them that we understood their business and that the proposed solution would work. One of the nice things about Oracle APEX is that it was remarkably stable right out of the gate. There was little frustration on the users’ end in making the transition.”

Launched in January 2009, the new Senate Rules Appointment System has a simpler user interface, performs better than the legacy system, and allows for quick response on requests for formatting changes to reports and other items. There also is no need to worry about system obsolescence because the business rules are in the database, separated from the application front end. In addition, because it is web-based, users can work remotely to manage the 325 boards and 2,000 active positions.

According to Neithinger, the development project came in on schedule and on budget. “We believe that Oracle APEX has almost unlimited capability. The newest version has achieved a certain maturity, and it continues to gain momentum, making it appropriate for mission-critical applications,” he says.

## Conclusion

Businesses and organizations possess enormous amounts of knowledge, information, and wisdom about the work they do, often even more than they know. The real challenge is in finding the information they need when they need it.

APEX is a powerful tool for getting the most out of the information you need to make good operational and management decisions. These are some of the key benefits that come with Oracle Application Express:

**Build it yourself** – Centralized data management may conjure up images of armies of systems analysts, programmers and project managers—not to mention hundreds of professional services hours. But that is no longer the case. Even people with limited programming experience can quickly learn to develop and deploy professional applications that are easy-to-use, fast, and secure. The tool uses a web browser, declarative coding (i.e., no code is generated), wizards, and property sheets to perform customized, organization-specific tasks.

**Change with the times** – Oracle APEX helps create scalable and flexible applications that give organizations room to grow and change. Because it is web-based, when you add new employees or need to give someone access to information, there is no need to purchase additional licenses or upgrades. Employees simply access applications via an Intranet or Internet for flexible accessibility and familiar user-interfaces.

**Protect your data** – Minimize the threat of data being tampered with or confidential information being exposed. With Oracle APEX, you can create secure applications that require authentication using a number of built-in authentication tools including Single Sign On, Lightweight Directory Access Protocol (LDAP), Database Account Credentials, and an easy-to-use user management system. You can also create public applications that do not require a user login for company-wide use and reference.

**Save time and money** – Traditional application development and deployment is time-intensive and expensive. In just days, you can create an application with Oracle APEX. The ability to rapidly create web base applications increases the value of your Oracle Database. Business owners can learn to create applications that are specific to their business without hiring expensive consultants or purchasing additional software and hardware.

**Become more productive** – With centralized management, administration and security of business data, and reliable, up-to-date information, employees no longer waste time searching for information on individual desktops or risk using potentially out-of-date information. Instead, critical data is integrated with other related information sources in a single repository for quick and easy access.

 **Oracle Application Express**






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**APEX Community**

- ❑ Application Express has a Project on [SourceForge.net](#). Visit and contribute.
- ❑ Application Express [Packaged Applications and Sample Code](#). Applications produced by the Oracle APEX Development Team.
- ❑ Application Express [Studio](#). Applications produced by the community.
- ❑ Application Express [Wiki](#).
- ❑ [AmChart](#) is used for the flash charting solution in Oracle APEX 3.0. You can read more about it [here](#).
- ❑ German [Community Page](#).

**Get the help you need –**

Whether you are new to Oracle APEX or have years of experience, the resources Oracle provides to help with application development sets it apart from the competitors. On Oracle Technology Network (OTN), you can download the latest releases, get tips from Oracle by Examples, and access documentation and tutorials. With a strong community focus, Oracle provides a discussion forum and blogs and lists of companies that consult on Oracle APEX.

**For More Information**

To learn more about Oracle APEX, visit [otn.oracle.com/apex](http://otn.oracle.com/apex).

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