TECHNICALBRIEF

Rocket Visionary™ is a powerful solution for developing and deploying visually intuitive, process-rich, analytic applications that enable decision-makers to view dense, complex information about their businesses. Using standard graphical layouts and wizards, Visionary transforms data into information that decision-makers can use. With the help of a browserlike interface, decision-makers can make business-critical decisions—based on the most current data available—faster and more accurately than ever before.

Today's executives have at their fingertips unprecedented amounts of information from numerous and varied sources. With so much potentially critical information to consider, decision-makers need more sophisticated solutions than those offered by traditional charts and tables. They need methods to graphically explore their enterprise to obtain an immediate analysis of trends and other information critical to growth. Visionary provides just such a solution. Fast to build and deploy and easy to maintain, the Visionary solution enables decision-makers to cross department and division boundaries and create intuitive, high-level overviews of their business that can be customized to meet their unique requirements.

Visionary represents a new dimension in analytical applications development and deployment—a business solution such as an executive dashboard for your vertical business, e-commerce, and Web analysis needs. A Visionary solution can do more than just provide a mechanism for ad hoc review—it provides the capability to intelligently analyze and monitor your business success. Visionary allows you to capture your business processes, in an intelligent and visual fashion, so that they are available for your business users. In addition, a Visionary solution is easy to modify so that it can grow with your business needs.

Benefits

- **Enables faster, more-effective decisions** Visionary's highly visual applications display information helps executives understand and respond to data quickly. Users can zoom in on charts and graphs to see details or they can use dynamic, hyperlink-like wormholes to jump immediately to additional data displays.
- **Simplifies** data gathering and analysis Visionary wizards allow domain experts to build no-code queries to access and visualize data without knowing SQL. As users navigate a Visionary world, new queries are dynamically executed, providing "detail on demand."
- **Increases productivity.** With Visionary's highly intuitive graphical layout and its drag-and-drop authoring environment, graphical applications that once took months to deploy can instead take weeks—or even days. With Visionary, time formerly wasted sifting through data can be devoted to using that information to improve business processes. With Visionary, IT departments can accomplish far more with fewer staff. Because Visionary is easy to learn and deploy, even inexperienced programmers can tackle complex tasks.

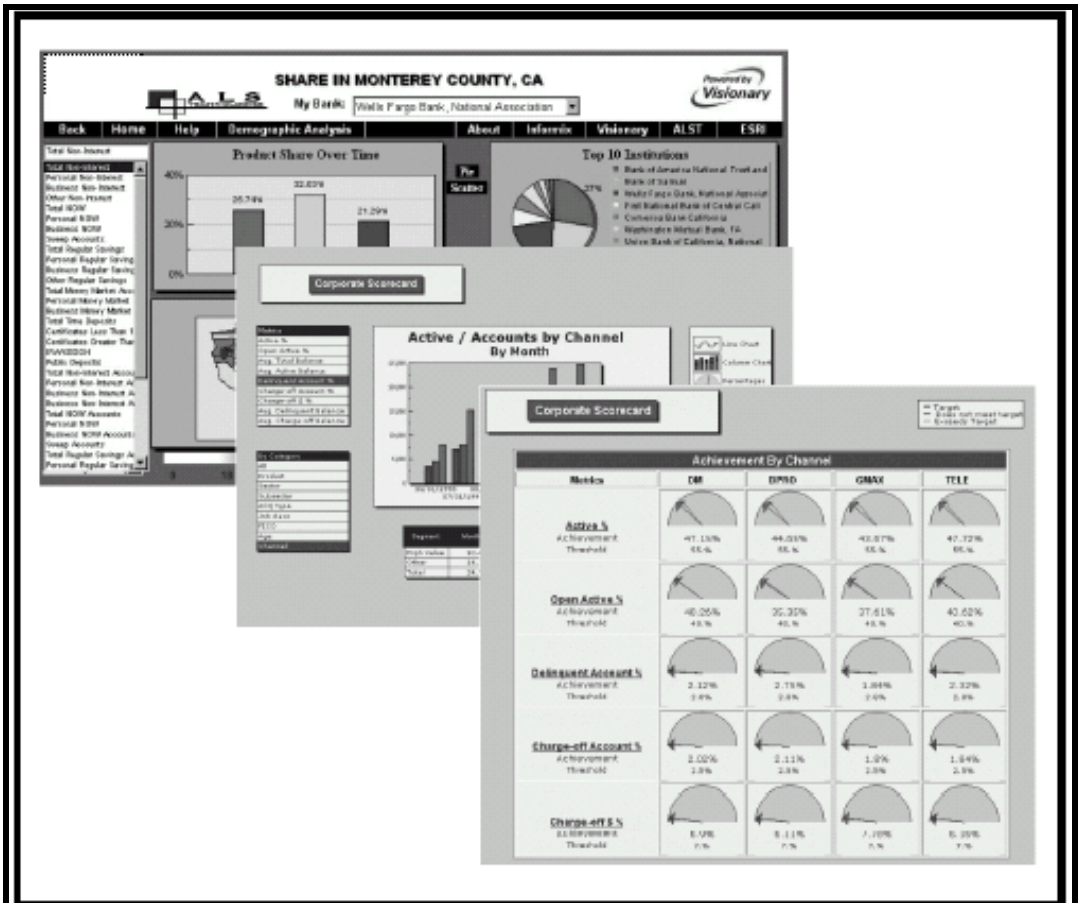

Figure 1 Visionary provides a visual overview of business operations.

- **Reduces Costs**
  Visionary reduces maintenance time and costs because solutions are easy to build and modify.

Features

- Fully Web-enabled
- Provides access to ODBC-compliant databases and data sources
- Allows simultaneous connections to multiple data sources
- Supports metadata
- Enables no-code development
- Comprises standardized interface components (slider controls and drop-down lists, for example)

Visionary is a product for rapidly building custom analytic solutions, called Visionary *worlds,* for analyzing business data visually. Within a Visionary world are scenes that contain graphical representations of values resulting from a query. Variable information can be passed from one scene to another using parameters that are dynamically set as the end user navigates through a world.

- **Scenes**

  Central to Visionary is the concept of a scene, which is a visual display of information similar to a presentation slide, but a Visionary scene may be linked to data stored in a database. Objects in a scene can be assigned actions triggered by events such as clicking, viewer proximity, and mouse location.

- **Queries**

  Visionary provides two query wizards for simplifying the creation of SQL-3 queries: a simple query wizard for retrieving unfiltered data from a single table, and an advanced query wizard for performing complex, multi-table joins that optionally involve filtering the returned data. Both wizards support built-in and user-defined functions. Visionary also includes a text editor for directly entering SQL statements and a Query Diagram editor for creating queries via a drag-and-drop interface.

- **Global parameters**

  Parameters allow the developer of a world to dynamically set specific properties for objects or events. These parameters are subsequently available in all scenes within a world. Global parameters can also be made public at runtime so they are available to the end user. As the user navigates through a world, parameter information passes from one scene to another, customizing the display in real time.

- **Wormholes**

  Visionary provides portal objects called wormholes that link two scenes. Wormholes can carry context information from one scene to another.

- **Layouts**

  Layouts are graphical arrangements of data resulting from a query, with a set of axes or labels. Layouts can be placed anywhere on a scene. Some layout types, such as maps and scatter charts, support more than one data template, thus allowing layering of information. In this case, a magnification level can be assigned to each data template, enabling more information to be presented as the magnification levels increase.

Layout types

Visionary layouts are organized into five categories:

- Charts present series information to compare quantities
- **Maps** present data across a geographic space
- **Hierarchies** show dependency relationships
- **Patterns** show data in an ordered pattern, but without quantity or dependency relationships
- **Forms** display a single record of data

Workbooks

A workbook is a view of a database that helps the user create queries to use in Visionary worlds. Visionary can create a default work-book that shows all of the database contents, including system tables, or the user can create a custom workbook that contains only specific tables, views, synonyms, functions, and procedures. Workbooks allow developers to create subsets of the tables in a database instead of querying the system catalogs. Having data readily available makes it easier to develop against databases that have many tables, such as enterprise resource planning (ERP) databases, which can have thousands of tables. Visionary workbooks allow users to:

- Work with a manageable subset of the total set of tables and fields within a database
- Define groups of functionally related tables and manage those groups
- Rename tables and fields with easily recognized names
- Explore additional attributes of database objects (owners, data types, procedures, and other descriptive elements)
- Import and manage table relationships
- Support multiple, simultaneous database connections within a world

Data Access

Visionary supports database access through open database connectivity (ODBC) data sources. The Microsoft ODBC Data Source Administrator is used to configure these data sources, and the Microsoft ODBC Driver Manager acts as an intermediary between the application and the ODBC driver. The Manager routes calls from the application to the ODBC driver and returns results from the driver to the application.

Auto-configuring Data Sources

Visionary provides a way, during the design process, to automatically configure ODBC data sources for all the databases located on a server. After a connection has been established to one database, Visionary can determine which other databases reside on that server. The user is prompted to select an ODBC data source before proceeding with automatic configuration. Data access in Visionary is via ODBC.

Visionary Components

Visionary contains an authoring environment, an application server, a set of browser plugins, and a standalone client viewer.

Visionary Studio—the authoring environment used to build, test, and publish Visionary worlds. Worlds can be published for viewing either in client/server mode or via the Internet using Visionary World Server.

Visionary *World* Server—provides all of the components necessary to enable Microsoft Internet Information Server (IIS) to display worlds to Web clients, both inside and outside a firewall. The World Server provides a middle tier that extends the Web server to allow access to scenes, data, and other world components without database drivers being installed on the client machine. The Visionary Java World Server supports the leading eBusiness application servers, including: iPlanet Web Server, Apache HTTP Server with Tomcat, IBM WebSphere Application Server, and Oracle Application Server.

Visionary Viewer—a set of browser plugins for viewing published Visionary worlds inside Microsoft Internet Explorer, Netscape Navigator, or another container application. The Visionary Viewer plugin for Netscape comes with a Java class for enabling JavaScript communication with the plugin. Visionary Viewer can be embedded as an ActiveX control in any container applications. The viewer control has a COMbased programming interface so it can be integrated with container applications.

Visionary WorldView—a standalone client application for viewing and navigating Visionary worlds.

Visionary Packages

Visionary Developer

Visionary Developer consists of the following components for developing, building, testing, and publishing Visionary worlds:

- Visionary *Studio*
- Visionary World View
- Visionary Viewer

Note: Worlds published to the Internet also require Visionary World Server.

Visionary World Server

Visionary World Server consists of the following components for deploying and viewing Visionary worlds on the Internet:

- Visionary *World Server*
- Visionary *Administrator*
- Visionary Viewer
- Visionary Web *User*

Visionary End User

Visionary End User provides the following components for viewing worlds in client/server environments:

- Visionary WorldView
- Visionary Viewer

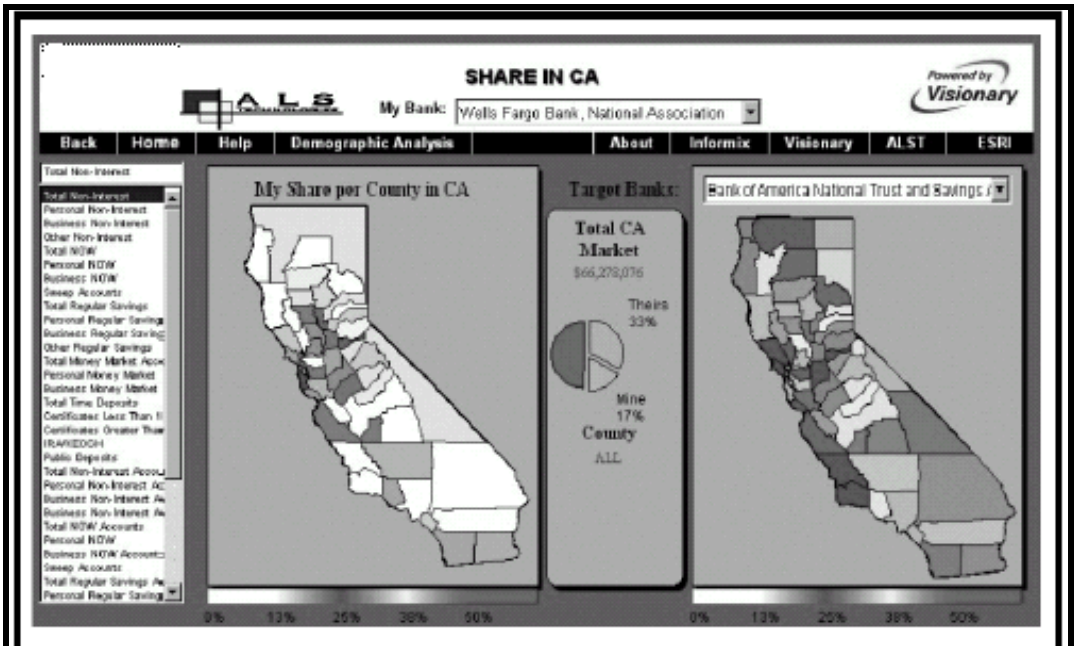

Figure 2. Visionary supports many datatypes, including geospatial.

Simple-to-Build Applications

Visionary worlds are simple to build. Building a Visionary world is similar to constructing a Web site. The following basic four-step procedure explains the process:

Step 1. Create a storyboard.

A Visionary storyboard is the equivalent of a functional specification for an application. With Visionary, however, the storyboard is a visual representation of the content, level of detail, and navigational flow rather than a lengthy specification that must go to an experienced programmer for implementation.

Step 2. Compose a query.

Visionary uses SQL queries to retrieve data from a database. Visionary provides four methods of composing a query:

- Simple Query wizard—creates a query to select fields from a table in the database.
- Advanced Query wizard—creates a query to select fields from multiple tables in the database and, optionally, to specify filtering of the returned data.
- Query Diagram editor—creates a query by constructing a block diagram that is the visual representation of an SQL query. The Query Diagram also contains a query design grid that allows users to set information such as sort type and sort order. SQL Text
- editor—for copying and pasting existing queries, or for expert SQL programmers who want to enter SQL manually.

Step 3. Create a scene and map the data to the layout.

After the query is composed, the Layout wizard offers a choice of layouts and then guides the user through the process of associating data with the layout to determine how the data will be displayed in the scene.

Step 4. Add details.

Users can add design details such as headings, fonts, and colors. The Object Inspector enables the user to set these properties statically or dynamically.

MARKETS

- Manufacturing Visionary can show parts explosion (bill of materials) problems as hierarchical charts of parts and their components. By zooming in on these components, the entire structure is easy to visually navigate.
- Financial Visionary can display stock-ticker data and other time series using standard graphical techniques.
- Telecommunications With Visionary, users can implement a dashboard solution analyzing the buying or usage patterns of customers to view the success of various marketing programs.
- Geographical Information Systems Visionary can plot points, lines, and polygons describing geographic objects and display them within a scene (see Figure 2).

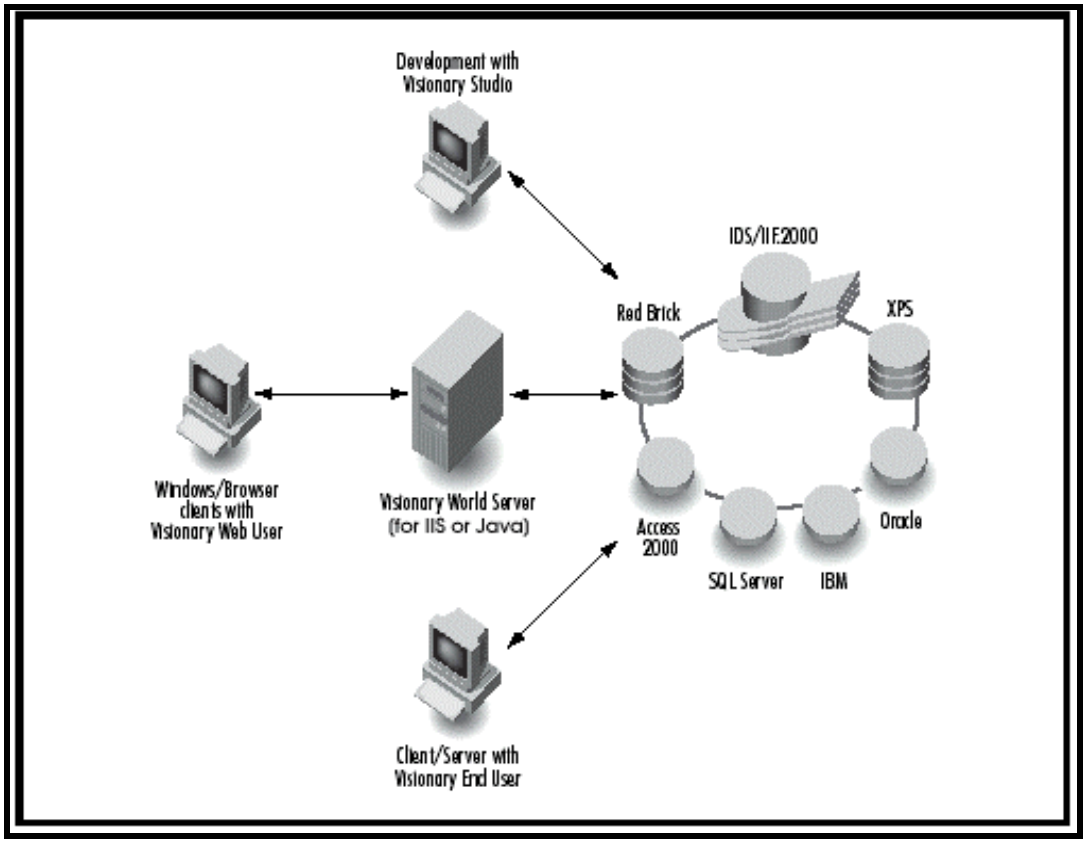

Figure 3 You can deploy Visionary worlds in two-tier (client/server) or three-tier (application/Web server) configurations.

System Requirements

Visionary Developer/End User

Visionary client products require an Intel Pentium-based system running one of the following operating systems:

- Windows 95
- Windows 98
- Windows NT Workstation 4.0 (with Service Pack 4 or higher)
- Windows NT Server 4.0 (with Service Pack 4 or higher)
- Windows 2000 Professional or Server
- Windows XP

In addition, the Visionary Developer and End User packages require the following software:

- ODBC version 3.510.4202.0 or later
- ODBC Data Source Administrator
- ODBC drivers for all database servers accessed by Visionary worlds

Visionary Developer requires at least 64 MB of RAM and 30 MB of available disk space. 100 MB of disk space is recommended for users developing Visionary worlds that include image and video content.

Visionary End User requires 32 MB of RAM and 10 MB of available disk space.

Visionary World Server

Visionary World Server has the following system requirements:

- At least one CPU running at 400 MHz or above
- 256 MB of RAM
- 5-GB hard drive with 250 MB storage for temporary files

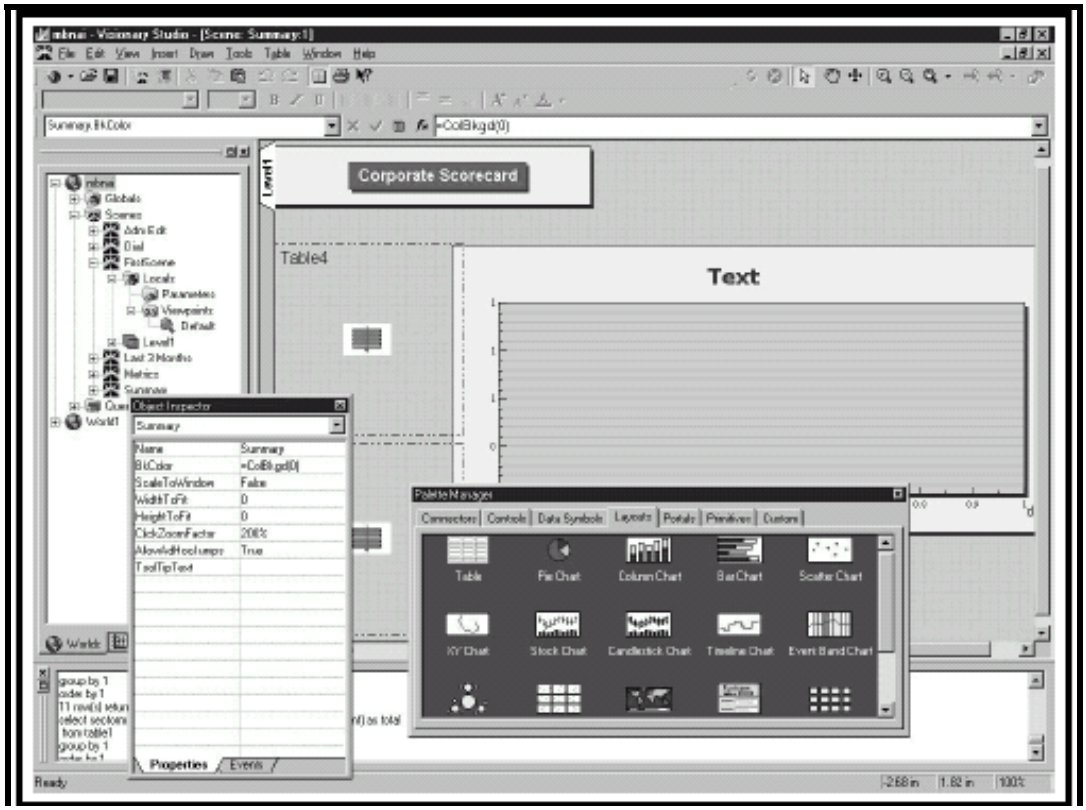

Figure 4 Visionary Studio provides all the tools necessary to build, test, and publish a Visionary world.

The Visionary World Server for IIS package requires one of the following operating system and Web server combinations:

- Windows NT Server 4.0 (Service Pack 4 or higher) plus Microsoft Internet Information Server 4.0
- Windows 2000 Professional or Server plus Microsoft Internet Information Server 5.0
- Windows NT Workstation 4.0 (Service Pack 4 or higher) plus Microsoft Personal Web Server
- Windows XP/.Net Server (all editions)

In addition, the Web server computer must have the following software:

- ODBC version 3.510.4202.0 or later
- ODBC Data Source Administrator
- ODBC drivers for all database servers accessed by Visionary worlds

- The Visionary World Server for Java supports any platform capable of running a J2EE application server, such as:
  - iPlanet Web Server
  - Apache HTTP Server with Tomcat
  - IBM WebSphere Application Server
  - Oracle Application Server.
  - JDBC drivers for all database servers that are accessed by Visionary Worlds.

Browser Support

Visionary supports the following Web browsers: Netscape Navigator 4.x, 6.x and above and Microsoft Explorer 4.x and above.

Visionary includes native support for the WebBrowser and ActiveMovie ActiveX controls from Microsoft Internet Explorer 4.0.

Supported Database Servers

- Informix Dynamic Server 7.x and 9.x
- Informix Extended Parallel Server, Version 8.3
- Informix Red Brick® Decision Server™, Version 5.x and 6.x and above
- **IBM** DB2 6.x and above
- Microsoft Access 2000, XP, and above
- Microsoft SQL Server, 7.0, 2000, and above
- Oracle 7 and 8i and above

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