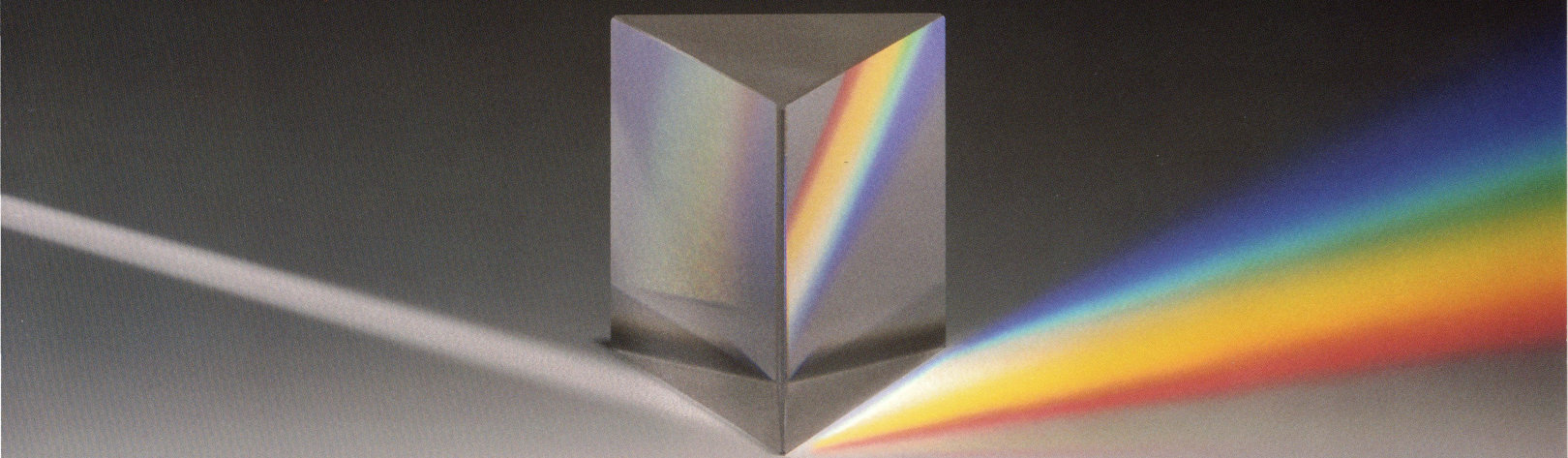# Discover a Whole New Way to Look at EIS

*T*oday's organizations and workers face an unprecedented volume of information in their daily activities. The challenge is clear: what's the best way to sift through this expanse in order to understand the critical issues and make the right decisions?

Traditional Executive Information Systems (EISs) attempted to solve this challenge by giving the boardroom an easy way of viewing critical corporate information with colorful graphs and menus. Unfortunately, to get your own EIS you had to be willing to spend a lot of money, be pretty good at telling the future, and be willing to work with rather restrictive limits. Why? Because once a traditional EIS was programmed and hard-wired to show you certain information in a certain way, it was, to put it mildly, somewhat set in its ways.

Today, a new generation of technology—including advances in client-server computing, graphical user interfaces, and suites of cooperative desktop applications—makes possible a powerful new generation of EIS.

Rather than closed, expensive systems for the few, consider an EIS that delivers information in a flexible, graphical format to a large number of decision makers throughout the organization—a cost-effective EIS that takes advantage of familiar applications on standard PCs.

This is the Microsoft® Open EIS solution—the power and flexibility of mainline graphical applications for Windows™ and the Macintosh® operating environments combined with special tools to help you create your own EIS.

INTRODUCING THE MICROSOFT OPEN EIS SOLUTION

It's a whole new way to look at your corporate information, for executives as well as managers and analysts throughout the organization. It's an EIS that is better defined as an Enterprise Information System.

The benefits of such an EIS are significant. Because the system uses Microsoft applications, all of the rich, powerful features of these programs are available to the EIS. The users enjoy consistent functions and familiar graphical commands. Plus, much of the software you'll need may already be used by people throughout your organization. As a result, the EIS becomes a readily available resource that's part of your everyday computing tools, rather than a separate, specialized system.
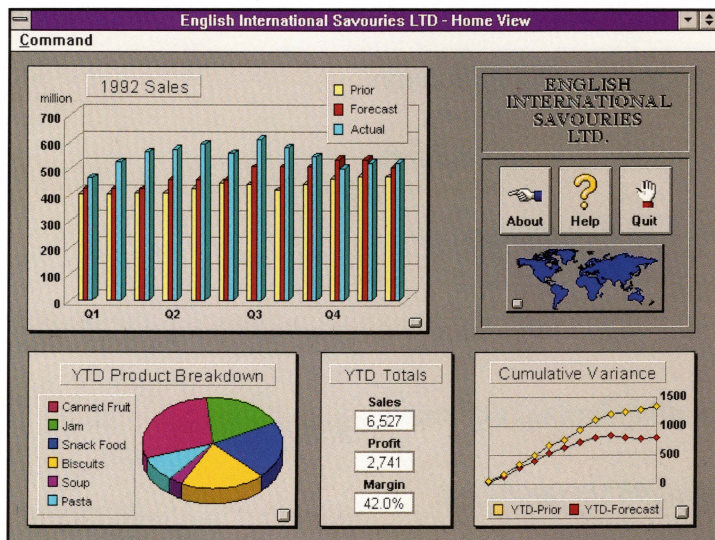
The Microsoft Open EIS solution applies to both the Windows operating system and the Macintosh running System 7™. Whether in a Windows-based PC or Macintosh environment, MIS staff will appreciate how much easier it is to build the EIS on the desktop. For example, the Microsoft Excel EIS Builder actually generates your application after you tell it what you want displayed and what actions are available to the user.

In addition, Microsoft's open architecture gives you a wide choice of tools, including database, spreadsheet, word processing, electronic mail, project management, and presentation graphics software—all contributing their powerful features to your EIS.

Best of all, Microsoft software products are designed from the start to work together. Microsoft applications are programmable, with powerful data-sharing capabilities built in. For example, you can pull sales projections into Microsoft Excel, automatically analyze and chart the projections versus actual sales, report the results in a Microsoft Word document, instantly send the report to a worldwide sales staff using Microsoft Mail, and then present the final chart and supporting text with the PowerPoint® presentation graphics program. You'll never have to manually re-enter data, because all of these programs seamlessly share information with each other. As a result, you can leverage your staff effort and your information for maximum impact throughout the organization.

Now you can deliver an Enterprise Information System with all the power and flexibility of mainstream desktop applications.

Giving your organization better tools for better decision making is an integral part of our ongoing commitment to make information easier for people to access and use. It's a natural extension of our vision for computing; a vision we call *Information At Your Fingertips*.

The Microsoft Open EIS solution. It really is a different way of looking at an EIS. And a whole new way to get information working for *you*. The way it should be.

EIS: FROM *EXECUTIVE* TO *ENTERPRISE* INFORMATION SYSTEMS

The Microsoft Open EIS solution takes advantage of today's advanced computing technologies to provide benefits throughout the entire organization. It represents the latest evolution in executive information systems.

The first EIS efforts were developed primarily to make it easier to get at mainframe-based data, while shielding the busy nontechnical executive from computer complexities. These early EIS applications were targeted only at senior management and were like *slide shows;* they simply projected a series of static screens. The executive's viewing choices were strictly determined by the system programmer.

EIS applications became more sophisticated and useful as they evolved from the passive slide-show model to what can be called *proprietary data browsing*. That is, the executive now had some control in exploring the levels of information. Unfortunately, these systems were typically based on

proprietary database software and did not allow dynamic access to a variety of data sources.

In both these stages, the EIS suffered from several shortcomings. The systems were typically very expensive to create and costly in time and labor to change or upgrade. In addition, these systems usually could not share information with other computer systems and used specialized software with a nonstandard graphical interface to display features and menus.

A new generation of technology has made a third stage possible in the evolution of the EIS. With the advances in local area networks, graphical operating systems, data access, client-server architecture, workgroup technologies, and suites of cooperative, programmable applications, there is now an opportunity for the EIS to become a far more valuable and less costly tool throughout an organization.

Microsoft's Open EIS model is a new, more customized approach to enterprise-wide information management that takes advantage of recent connectivity advances and the power and cost-effectiveness of mainline applications for graphical operating systems. Yesterday's Executive Information System has become today's Enterprise Information System.

WHY OUR EIS APPROACH IS DIFFERENT

Microsoft's Open EIS approach distinguishes itself from the old EIS models of proprietary, inflexible systems in three key areas.

Flexibility and power to build your best solution.
We don't make a one-size-fits-all EIS. Or any EIS for that matter. Instead, we give you the tools to design your own custom EIS solution, using powerful applications that may already be sitting on your employees' desks.

Microsoft offers a complete line of cooperative, programmable applications that can provide you with far richer features and flexibility than any traditional, stand-alone EIS product. From spreadsheets to presentation graphics software, Microsoft products work together to give you the full range of EIS functions: data access, analysis, reporting, and graphics. Plus, we provide you with development tools to help you easily create your best EIS solution.

Industry standards keep your system open.
Since you develop and control your own EIS system using off-the-shelf Microsoft products that support industry standards for connectivity, you are freed from the constraints of one vendor's proprietary solution.

On the PC, our EIS tools support the Windows Open Services Architecture (WOSA) standards for database access, messaging, and more. WOSA standards provide a sure foundation for powerful, open workgroup computing solutions that link users and information across an organization. These WOSA standards, supported by vendors worldwide, give you truly open options in connecting any Windows-based applications and data sources to your EIS.

On the Macintosh, Microsoft Excel and forthcoming versions of other Microsoft applications support the open architecture components of the System 7 operating system.

For both the Windows and Macintosh systems, Microsoft applications support the open database connectivity (ODBC) standard that allows dynamic access to information stored on a variety of back-end servers, using software "drivers" that are easily loaded onto the desktop.

Microsoft Open EIS lets you view information from every angle. You can even move data easily from one application to another.

Your EIS reaches everyone who needs it.

Microsoft believes that EIS should be a widely available, integral part of corporate information systems, not a specialized, dedicated product for only a few top-level executives. In today's competitive environment, managers, analysts, and others also require easy, instant access to critical information. Our approach of using mainline applications on desktop PCs, combined with built-in access to a variety of data, opens the benefits of EIS to key personnel throughout the organization.

DISCOVER THE BENEFITS OF THE MICROSOFT OPEN EIS SOLUTION

It's not enough just to be different; there has got to be a good bottom-line reason for change. Our EIS approach delivers significant benefits to any organization.

Easy to learn and use.

Because the EIS is developed with state-of-the-art graphical applications that are already in use, you can be confident that the system will be easy to use, both for developers and for everyday users. And because the applications are familiar to so many users, training and support efforts can be drastically reduced. Instead of being a distinct, incompatible application, the EIS is a readily available part of your everyday computing tools. As a result, your EIS becomes a resource that actually gets used, helping people make better, more informed business decisions.

Uncompromising features.

The same graphical features that make Microsoft applications so easy to use also provide you with the dynamic functions required of an advanced EIS.

For example, an open EIS built with Microsoft Excel gives the user a colorful, graphic screen with drill-down (from summary to detail) and stoplight (highlighting priority data) capabilities. However, you also get power that no traditional EIS can provide; namely, access to the full spreadsheet features for ad-hoc analysis and reports when needed. The EIS users are given tremendous freedom and power to both analyze their information and communicate their findings to others in the organization, using the rich features already built into Microsoft applications.

And because all Microsoft applications are designed from the beginning to work together, an EIS developed with these programs is more than a simple collection of individual programs. Their cooperative features create a result that is truly greater than the sum of its parts.

Fast track for development.

Microsoft Open EIS makes it easy to see both the big picture and the details.

Developers using our EIS approach can reduce EIS development time and costs by taking advantage of the capabilities already built into Microsoft products, including strong analysis, graphics, and programming features. For example, by relying on the rich calculation features that exist in a spreadsheet such as Microsoft Excel, developers can spend more time designing an EIS front end to meet the needs of different audiences rather than struggling with the code to actually produce the analysis.
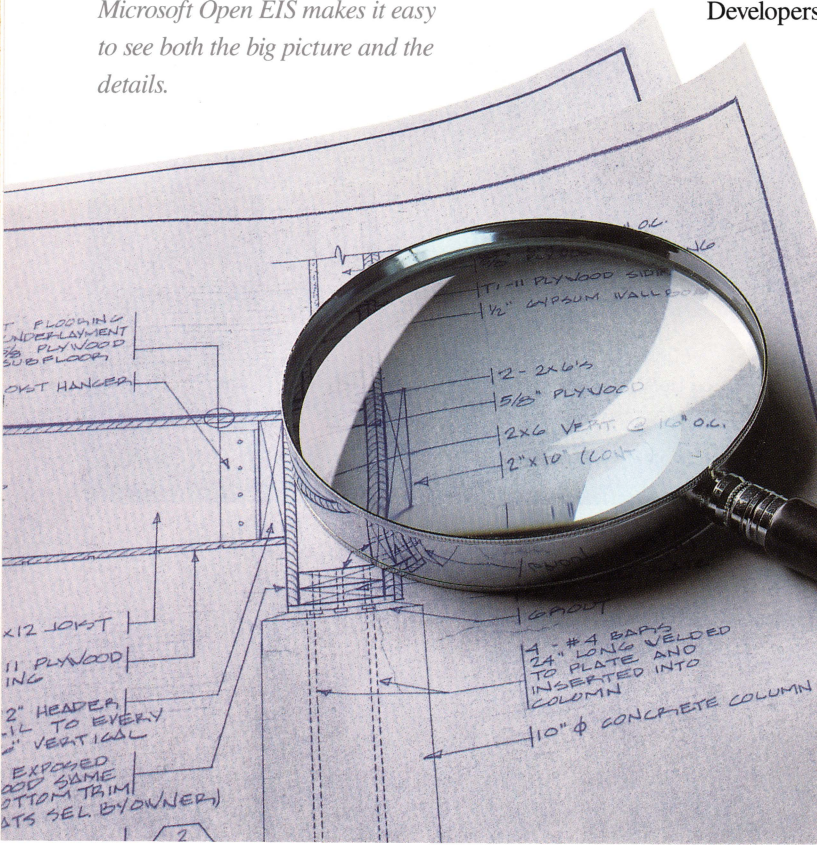
Microsoft's applications are both programmable and cooperative. Developers can use and extend different features from each program into a single custom EIS and be confident the programs will work together smoothly.

To make it all come together easily, we've created the Microsoft Excel EIS Builder. This Microsoft Excel add-in enables EIS developers to create applications

without writing any macro code. Each EIS screen or "view" of information is first built using the powerful analysis, charting, and graphics capabilities of Microsoft Excel. Once these worksheets have been created, the Microsoft Excel EIS Builder ties the views together by adding navigation controls, custom menus, user prompt dialogs, and more.

At the heart of the Microsoft Excel EIS Builder is a rich array of predefined macro scripts that can be incorporated into your system without writing a single line of code. Using the Microsoft Excel EIS Builder, developers can design, prototype, and implement an EIS application in a fraction of the time that would be required to write an application using traditional EIS products or macro languages.

For even greater flexibility in designing an EIS, developers can choose from the power of other Microsoft tools such as the Visual Basic™ programming system for Windows. Visual Basic gives developers the option of easily creating more sophisticated custom user interfaces for their EIS. Other EIS building tools include standard APIs, custom C programming, and more—all working together on industry-standard graphical platforms.

An EIS that changes with your future.

In the past, committing your organization to an EIS usually required you to take your best guess at the company's future. And, given the expense and inflexibility of traditional EIS solutions, the pressure to guess right was enormous. The Microsoft Open EIS solution can give your system the flexibility to change and grow with your company's future. As the needs of the users and organization change, making incremental changes to your EIS system is simplified by using the developer's tools mentioned earlier.

But we also give you more than "big picture" flexibility. With our open EIS approach, your staff can have the option of jumping out of the predefined EIS screen and accessing the full analysis and reporting features of a program such as Microsoft Word or Microsoft Excel. That's flexibility with both power and purpose.

In addition, because your EIS is built on off-the-shelf applications, your entire EIS system is automatically enhanced with new features when you upgrade the software with future versions.

The freedom of an open architecture.

An open architecture means the freedom to connect to the resources you need. The Microsoft Open EIS solution is divided into four layers, each providing a crucial piece of your custom EIS system. These four layers are listed below, with a sampling of the applications available from Microsoft for each.
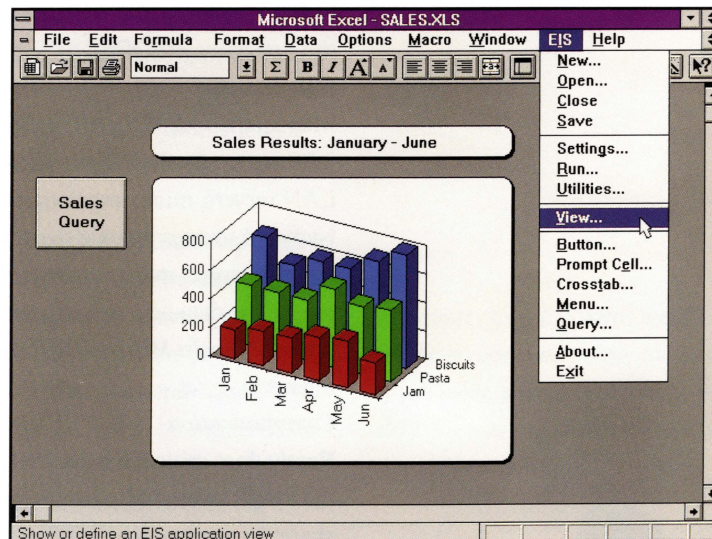
User interface

The only part of the EIS most users will see is the *user interface* layer. The desktop is open to the full features of any Microsoft application, maintaining a familiar look and easy-to-use commands. This EIS layer not only gives the user the option of viewing information, but of manipulating it, such as doing ad-hoc analyses and reports, or copying the results of the EIS into another program. For example, the user can cut a chart from the EIS screen and paste it into a Microsoft Word document.

Open EIS tools: Microsoft Excel, Microsoft Access™ relational database management system, Microsoft Project, Microsoft Word, Microsoft PowerPoint, and the Microsoft Visual Basic programming system.

Data access

The *data access* layer provides the tools that move information to the EIS front end from the applications that are storing and compiling the raw data. Industry-standard APIs allow connection to a

The Microsoft Excel EIS Builder lets you develop an EIS quickly— without writing any macro code.

variety of back-end products from multiple vendors, while the Microsoft applications themselves have sophisticated built-in abilities for sharing information with each other. These powerful tools tie the various applications and data sources into a cooperative system. The result is an integrated EIS in which the total features and benefits are far greater than those provided by each individual application.

Open EIS tools: Dynamic data exchange (DDE), object linking and embedding (OLE), open database connectivity (ODBC), messaging applications programming interface (MAPI), open collaborative environment (OCE).

Data sources

Microsoft's open EIS architecture takes an innovative approach to this layer that acts as a source of information for the EIS presentation. A *data source* in the Microsoft Open EIS model includes PC LAN servers, minicomputers, and mainframe systems. However, not only can these traditional back-end sources provide the raw data, but so can front-end client applications, such as word processors, project management tools, and spreadsheets. Virtually any application that can take advantage of the data-access tools mentioned above can serve as a source of information for your EIS.

Open EIS tools: Microsoft SQL Server, Microsoft Access, Microsoft Project, Microsoft Word, and Microsoft Excel.

Communication

Rarely does critical business information affect just one person in an organization. That's why the fourth layer of Microsoft's open EIS architecture is *communication*, where workers can easily share the results of their EIS analysis with others who need to know. For example, a user can send a copy of a Microsoft Access report as an e-mail attachment to coworkers. Or, the EIS could use the e-mail system to automatically send an alert message to a group of managers when, for example, a sales figure drops to a certain level. From within the EIS system, users can have access to all of the features of powerful e-mail applications such as Microsoft Mail.

Open EIS tools: Microsoft Mail, Microsoft LAN Manager.

In today's computing environment, the freedom of an open architecture is a necessity for any enterprise-wide EIS solution.
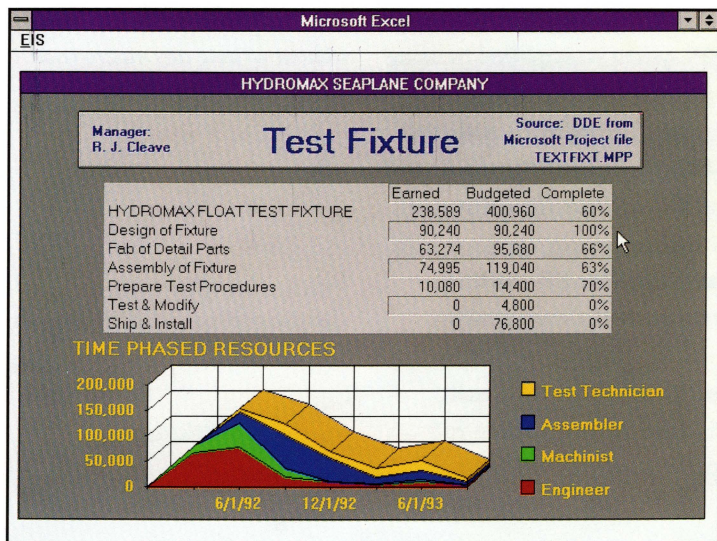
We take the work out of working together.

Interoperability is simply another way of saying "working together." Microsoft's open EIS architecture backs up its claim to interoperability with cutting-edge technologies that have proven track records on literally millions of desktops. We offer several different ways to share information throughout your EIS.

Dynamic data exchange (DDE)
and object linking and embedding (OLE)

DDE is an effective tool for exchanging numbers or text, such as budget or sales figures, between different applications. For example, DDE allows information to be transferred from a database into the EIS screen and updated automatically as changes to the database occur. DDE links can be triggered through macros or custom programming, allowing sophisticated links between programs. From a Microsoft Excel macro, for example, a DDE command can launch Word for Windows, open a file, update it, and print it.

OLE allows users to link objects such as tables, charts, graphics, text, or even voice messages in different applications without doing any programming. A single object such as a chart from Microsoft Excel can be placed in both a Microsoft Word document and a slide created in PowerPoint. From any one of these locations, the chart can be edited, and the changes are automatically reflected in the other locations.

Using DDE, OLE, and data access capabilities Microsoft Open EIS provides a seamless interface for data from a variety of sources.

Both DDE and OLE provide powerful ways for applications to share information with each other. For an EIS, they provide the "glue" that ties together a variety of Windows-based applications into a single, cooperating system.

Standard APIs for database and messaging

The open database connectivity (ODBC), messaging applications programming interface (MAPI), and the open collaborative environment (OCE) are standard APIs designed to give applications seamless access to the back-end database and messaging systems from multiple vendors. As part of Microsoft's open systems architecture, these standards help ensure that EIS developers can make simple, flexible connections to both information sources and to other users.

ODBC allows applications for Windows and the Macintosh to connect to many different databases on different platforms. The EIS user sees only the graphical displays and menus and is shielded from the differences among the back-end information sources.

MAPI allows EIS users of Windows-based applications to easily share information over different messaging systems without regard to the underlying system complexities. To give users flexible, open messaging capabilities from within their EIS screens, EIS developers can either write their own MAPI solutions or choose from a variety of off-the-shelf e-mail and messaging products.

OCE is the forthcoming Macintosh messaging standard that allows Macintosh messaging applications and various messaging systems to smoothly share information. OCE will be supported in the next generation of Microsoft products for the Macintosh.

More information on how these technologies work together for your EIS is available in the document "Building Enterprise Information Systems: A Guide to EIS Development with Microsoft Applications," included in the Microsoft Open EIS Pak (see below for more information on the Microsoft Open EIS Pak).

Support when you need it.

Microsoft has some of the strongest customer support resources in the industry. If you are using Microsoft Excel, Visual Basic, Word, or any other Microsoft product in your custom EIS, the full product support resources for those products are available to you as a Microsoft application customer. In addition, we offer a wide range of fee-based consulting, training, and support programs to assist you in implementing your open EIS solution.

HOW TO GET THERE FROM HERE

To help you give your organization the advantages of a new generation of EIS, we've created the Microsoft Open EIS Pak. In the Pak, you'll find the following resources:

- *"Microsoft Open EIS: A New Approach to Corporate Systems":* a video that features an introduction to building your custom EIS with Microsoft graphical applications and interviews with customers who discuss the design and benefits of their open EIS solutions.

- *Microsoft Excel EIS Builder:* a utility add-in for Microsoft Excel that enables EIS developers to create custom applications without writing any macro code. The Microsoft Excel EIS Builder includes a rich array of predefined macro scripts that tie your application together with navigation controls, custom menus, user prompt dialogs, links to other applications, and more. Using the Microsoft Excel EIS Builder, developers can design, prototype, and implement an EIS application for either the Windows or Macintosh operating systems in a fraction of the time that would be required to write an application using traditional EIS products or macro languages. The *Microsoft Excel EIS Builder User's Guide* is enclosed for reference. Developing an EIS has never been easier.

- *EIS Examples:* working models of complete EIS applications that demonstrate the use of Microsoft Word, Microsoft Excel, the

Microsoft Open EIS helps you focus on the precise data points you need. If you want, your system can let you drill down to additional detail by just clicking a button.

Visual Basic system, and Microsoft Project, in custom EIS solutions. The sample applications demonstrate how these products work together to deliver a powerful and attractive EIS for your organization.

- **_Building Enterprise Information Systems: A Guide to EIS Development with Microsoft Applications:_** a document that provides more detailed information on how to build your open EIS by taking advantage of the strengths of Microsoft applications. Intended for people who are designing and implementing EIS solutions, the guide discusses some of the approaches you can take with your custom EIS. Readers should be familiar with the Microsoft Windows or Macintosh operating systems and should understand the basics of graphical software applications such as spreadsheets and word processors.

- **_Information on Microsoft products and services_** suitable for EIS applications is also included.

Keep in mind that building a complete EIS system for your organization can take a serious development commitment, especially to coordinate your back-end sources of data. The guide to EIS development can help identify the scope of your "data staging" needs.

Combine Microsoft technology with your own corporate knowledge and see how easy it is to design a system to suit your exact needs.

Each organization requires different levels of work to create its own EIS system, depending on the mix of host, minicomputer, LAN, and other data storage systems. However, one thing is certain: no matter where your information comes from, there is simply no better way to bring it all together on the desktop than with the Microsoft Open EIS solution.

Discover for yourself the benefits of the Microsoft Open EIS solution. More information on the Microsoft Open EIS Pak is available by calling Microsoft Inside Sales at (800) 227-4679. If you require TDD/TT (text telephone) services for the deaf and hard of hearing, call (206) 635-4948. For information outside the United States, contact your local Microsoft subsidiary.

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