Beyond Y2K: E-Business & Enterprise Computing

By Win Quigley

E-business is more than just the latest word buzzing about the boardrooms of corporate America. It is real. It is the future of business and economy, here in the United States and globally. Electronic business-to-business interaction will require new kinds of network hardware and software to present a seamless experience to consumers.

 fter January 2, 2000, software developers and consultants around the world will recover from the holiday parties or stare at some beautiful blue sea during a well-deserved vacation or pause in the ski lift line to confront a disturbing question: How in the heck do I make a living now that Y2K has finally arrived? Where do I find business now that I've installed all the patches, tested all the applications and rewritten the broken code?

If the answer doesn't include electronic business, it might be time to start thinking about retirement. Electronic business is not the business schools' flavor of the month. It is here and now and is changing everything. We at BASIS believe electronic business offers BBx® and BBj™ developers remarkable opportunities to innovate and create new business opportunities, now that the mad rush to complete Y2K upgrades is drawing to a close.

And the opportunities are enormous. Consider:

- Giga Information Group, a market research firm, estimates global cost savings through business use of electronic commerce totaled $17 billion in 1998 and will grow to $1.25 trillion in 2002.
- According to Merrill Lynch, the average Internet transaction costs a bank one cent versus $1.07 in a bricks-and-mortar branch and 27 cents on a teller machine.
- International Data Corp., a computer industry market analysis firm, says daily e-mail traffic in the United States will grow from about 3.5 billion messages this year to 8 billion messages in 2002.
- Pfizer says it cut its approval time for Viagra by six months just by filing electronically with the U.S. Food and Drug Administration.
- An electronic ordering system established by electrical parts manufacturing industry cut labor and telecommunications costs by 50 percent.

The software developer who can help deliver effective electronic business solutions is going to have little trouble earning a living in 2000 and beyond.

What exactly is electronic business? It is evolving so rapidly any definition we can offer today will probably be obsolete before you know it. But its focus is business-to-business information, goods and services exchange, all transparent to an end purchaser or user. Here are a couple of examples that might help illustrate the e-business phenomenon.

A small business in Albuquerque, a water pump distributor, was introduced to electronic businessby its customer, Phelps Dodge. The distributorhad the pumps Phelps Dodge needed to empty its copper mining pits in southern New Mexico.The price was right, too. But to secure the deal, the distributor had to set up a computingenvironment so Phelps Dodge buyers couldaccess the distributor's database to trackinventory, delivery and place orders. The deal would double the distributor's business. The hardware and software were installed.

Another example is Cisco Systems, the world's largest network equipment supplier. Cisco receives 78 percent of its orders over the Internet and never actually handles half of the orders. Of the 30 plants that manufacture Cisco equipment, only two are operated by Cisco. Cisco established the manufacturing practices and designed the products. Contractors build and deliver $4 billion worth of Cisco products. Orders come to the Web site. Software helps the customer configure the system required. When the order is placed, software sends the order to the contract manufacturer. Cisco monitors all of the contractors' operations, again using software and the Internet.

Cisco is not alone in using this kind of business model. Hambrecht and Quist, a market research and investment company, estimates 15 percent of American companies farmed out their manufacturing in 1998; 40 percent will do so in 2000.

Electronic business will ultimately mean connecting the entire enterprise and all of its constituencies, from suppliers to customers, and even competitors. Let's take a hypothetical example now. Imagine World Wide Widget Company (WWW). The trucking company WWW uses taps into the WWW ordering system to schedule pickups more accurately. WWW parts suppliers need to provide widget components just in time, so they tap into the ordering and inventory systems to plan and schedule delivery of parts. Customers come onto the WWW Web site not only to order but to check on delivery, check their bills and apply for an increased line of credit. When they place an order, it triggers the WWW factory - or WWW's manufacturing contractor - to schedule the build, pull the parts and build exactly the widget the customer wants. If WWW somehow can't deliver, its computers place an order with Widgets R Us, a major WWW competitor. Better the WWW customer get the widget through WWW, even if Widgets R Us gets the sale; that's how WWW builds customer loyalty.

The possibilities are endless. The opportunities are boundless.

Can BBx and BBj developers really compete in that arena? Absolutely. They already have the customers and the credibility built by years of successful software development. Applications written with BASIS products are in virtually every industry imaginable. They are running the most essential components of every conceivable enterprise. Beginning in 2000, this incredible installed base will be leveraged by imaginative developers who want to grab a share of the greatest business opportunity since the coming of the railroads.

As the enterprise expands, it faces many challenges. Among them are how to process, warehouse and mine company data across vast physical distances and among multiple branch

locations, and finding new and efficient ways to manipulate massive amounts of data. Enterprise Computing will require new kinds of data access technologies.

It is always dangerous to generalize about BBx® applications. There are at least tens of thousands of applications written with BASIS software, operating in one-person retail operations and multibillion-dollar banking environments.

However, the heart of the market for BBx-based applications is in the small to middle-sized business. Many of the applications were designed for some specific need an enterprise had at some specific point in the life of the enterprise. Certainly, some applications were designed to operate the entire enterprise. But many others were written to solve a specific business problem.

The beauty of BBx applications is that, year in and year out, they do the job. Reliably and transparently, the applications keep serving up the invoices, or tracking the shipments or handling the insurance claims. In many businesses, a variety of other applications have sprouted around the old reliable BBX program, rather like a housing development suddenly sprouts up around a prosperous farm.

In short, the enterprise is changing. The businesses where BBx applications chug away are growing, becoming more complicated and including much more software from many different vendors, all operating in increasingly complex hardware and networked environments.

BASIS sees this as a major opportunity for BBx and BBj™ programmers in the next century. With the Y2K business tapering off, tackling enterprise computing is another way BASIS resellers and developers can prosper.

What do we mean by the term enterprise computing? As Justice Hugo Black once said, you know it when you see it. BASIS is seeing changes in end users' requirements and in the way developers are starting to deal with these requirements.

An example of enterprise computing and these changing requirements is found with one BASIS end user who operates about 200 nursing homes around the country. The company first bought BBx code to run individual nursing homes several years ago. As the company added nursing homes, it added more BBx programs. The company also added a corporate headquarters and corporate overhead. The enterprise now consisted of many local operations being managed by a BBx-based software package and a non-BBx-based corporate computing structure operating in one location. The corporate software package came from a company describing itself as a "provider of enterprise-wide, client/server business application solutions, specializing in accounting, human resources, healthcare, and distribution and materials management." Unfortunately, the "enterprise-wide" package relied entirely on information generated at the nursing home level by BBx code; the corporate

software could not communicate with, understand or manipulate any of the BBx data it depended on to create answers.

This particular enterprise-wide solution is, in fact, no solution at all. It is a collection of incompatible programs. A real enterprise solution would include a corporate information system - whether it is a BASIS solution or not - seamlessly connected with the data and processes available at the local level. An Internet connection between corporate and local operations and among all of the local operations would be the beginning of a solution. Transparent access to data, wherever it is generated, would bring the enterprise together. Allowing processes executed at the local level to service processes needed at the corporate level would make a big difference. Finally, allowing vendors, insurance companies, customers, physicians and employees the ability to access information they need within the enterprise, wherever that information resides, would complete an enterprise-computing solution.

Another BASIS developer has a different sort of enterprise-computing challenge. The developer's transaction processing package, built on BBx, has been very successful. As end users' businesses have grown, they demand more and more of the software. One end user processes an average of 50,000 complicated transactions every day using the package. The developer now sees an opportunity to sell its package into much bigger enterprises. But along with that, the developer has also recognized that with so much data generated, there is a wealth of important market information buried in the files if only the information can be mined and evaluated.

In the 21st century, BBx developers can become BBj developers equipped with the tools to tackle these kinds of enterprise-computing challenges. Improved data management, faster development, three-tier architectures, Web and Internet computing will all be available. But these are only tools. As always, it is the use to which BASIS customers put these tools that will make the difference.

An Approach to Enterprise Computing

As you think about your business in 2000 and beyond, consider how your existing applications have helped your customers in the past. Then think about how your customers' business has changed while you were busy saving the world from Y2K disasters. You will probably find the customers' businesses have grown larger and more complex. There are software packages among your customers' businesses that could benefit from the data your application generates.

Think about the total enterprise. Where does the enterprise interface with the customer? At a cash register? By phone? By fax or e-mail? What sorts of business processes does that contact trigger? How does that customer interface connect with downstream operations? How do those downstream operations connect with the outside world? How does your customer connect with its vendors and suppliers? What reports are generated?

Think of every process and every interface between processes as a software opportunity. Maybe you can provide the glue between processes using BBx® sockets or BBj™ applets. Perhaps the data your application generates is the fuel another process needs. Perhaps the presentation of information you've created for the accounting department is exactly what the sales group needs to implement an e-business solution.

It will take imagination and it will take selling to create true enterprise-computing solutions. The good news is that with the BBX legacy and BBj, the developer has the tools required to take on enterprise-computing challenges that lie beyond Y2K.