PowerBuilder Journal
DEVELOPER'S

By John Olson, Editor-in-Chief

The Coming Revolution

Prior to the very late '80s, most of the enterprise-level software was written for mainframe systems. Only medium and large businesses and governments could afford to have custom enterprise-wide software. As PCs became more affordable and their power grew dramatically, people began to realize that enterprise-level software could be written for and run on PCs. Client/server and networking technologies rose up to meet data and file-sharing needs, but there was a clear lack of serious PC-based software development tools. Suddenly everyone could afford a PC. A new market sprang up and hundreds of companies scrambled to capture the billions of dollars flowing into it. PowerBuilder was one of many tools that put serious development power in the hands of small businesses and individuals for the first time. Powersoft's tools and Sybase's database were instant hits and they grew from start-ups to billion-dollar companies in only a few short years. Both companies had a vision about where technology was heading. They created superior technologies and they marketed their products well.

Nearly 10 years later, history is about to repeat itself. The current Internet tools market can be compared to the software development market of the mid-'80s. Only medium to large companies are performing hard-core component, Java or Web development. Small companies have static Web sites, but only medium and large companies have the money to use this new technology for development of enterprise-wide Internet and intranet applications.

Just as affordability kept smaller businesses from developing serious software 15 years ago, so now does it keep them from developing broadly featured dynamic Internet applications today. To provide dynamic content, you need to have your own Web server with constant Internet access. It's inexpensive to have an Internet Service Provider host a static Web site, but it's difficult to find an ISP that will provide e-commerce abilities and dynamic page generation, as well as host a database server and a component server. If you can find one that will, they'll charge you a bundle. Large companies don't need an ISP because they can afford $2,000 a month for a T-1 for dedicated Internet access. Plus they can afford to spend over $100,000 dollars for an HP box on which to run servers.

Technology is certainly headed in the direction of providing inexpensive, powerful servers, but what about inexpensive, high-speed, full-time Internet access? And will the software tool companies provide component servers, Web servers and development tools cheap enough for small companies and individuals to afford?

The incredible growth in the number of Internet users is hard to believe, but all you have to do is look at the stock values of Internet companies to see that there's a lot of focus and money going into the Internet. Why is Internet use growing so fast? The answer is access. As Internet access technologies have improved, ISP costs have come down, becoming affordable to small companies as well as individuals. That's not exactly breaking news, considering the sharp and steady rise in ISP subscribers in the last few years. However, only three years ago few in the mainstream public could afford to pay ISP prices and could find a suitable ISP in their area. Most subscribers were companies, though there were also some individuals from urban areas. Now the cost has become low enough, and the availability of ISPs across the U.S. broad enough, for almost every household to afford Internet access. According to a recent survey, as of March 1999 there were 107 million Internet subscribers worldwide. That is a huge market.

High-speed Internet communication services are taking the U.S. by storm. One new service is Digital Subscriber Link. Its million-plus subscribers in this country could go up to 10 million by the end of 1999. Like ISDN, DSL uses standard phone lines to provide high-speed data communications. Though the transmission speed of ISDN is limited to 64 kilobits per second, DSL technology can send at speeds of 640 Kbps and receive at speeds of more than 6 megabits per second. DSL uses the portion of a phone line's bandwidth not utilized by voice, allowing for simultaneous voice and data transmission on a single phone line. Basic services begin for only about $30 per month, but do not include ISP services.

For an affordable monthly price, DSL, cable modems, ISDN and other technologies are bringing high-speed constant Internet access to businesses of every size as well as millions of homes. This opens the door for anyone to host a complex dynamic Web site. Now that affordability and access are conquered, the challenge that remains is for software companies to put inexpensive component servers, Web servers and development tools in the hands of millions of people. The market is just as large as the client/server market in the late '80s and early '90s…maybe even bigger. Billions of dollars are to be had by the companies smart enough to meet the needs of this market.

Who will provide tools and servers to the hordes of people who will host their own Web servers? Will Microsoft rule the day by having MTS run on every machine on the planet? There are two ways to profit from the current and rising markets: profit through high markup but low volume or through low markup and high volume. Microsoft has brilliantly used the low-price, high-volume method to achieve unrivaled market penetration and a company value higher than any company in the history of the world. They rightly calculate that big profits come through the high-volume horizontal markets.

I think the new Enterprise Application Server is the best all-around application server there is. Sybase's front-end development tools are very competitive with other tools, but aren't clearly superior, as EAS is. However, even for the best technologies, there is a price line above which mainstream consumers will not buy. In 1994 Powersoft began selling PowerBuilder Desktop for $295 so they could get into the low-end market. Recently Sybase began offering PowerJ 2.5 for only $295. Will Sybase price their development tools and application server to capture the hundreds of thousands of small businesses, or will they be content to focus on the high-end market? Get your DSL and stay tuned…. ◆