

## The New UNIX Market: Communications

Where should the UNIX reseller focus now? According to Ted Davis, President of Dickens Data Systems, the answer is best summed up in one word: Communications.

These days it's hard to dodge the news and hype about the Internet and Intranets. But amid all the static, a very real revolution is taking place--one that will profoundly change how we share data, communicate information, and transact business.

The major hardware and software vendors are rushing to support the open standards of the Internet, and Davis believes this spells tremendous opportunities for resellers. "With today's communications explosion, customers are demanding the ability to provide and receive information from anyone, anywhere, and quickly. Tools are already there to build systems to let your customers do this."

Three Internet communications standards are the keys to this wide-open new world. The first is HTTP (HyperText Transport Protocol) which governs how messages are sent on the World Wide Web. Second is HTML (HyperText Markup Language), the language used by web browsers to format and display documents. Finally there is TCP/IP, the physical communications protocol of the Internet. The challenge for resellers today is to integrate their applications and systems with these three standards, thereby enabling communications anywhere within a business--or anywhere in the world.

Of course, there are issues that must be addressed before this vision of an open communications channel can be fully realized for business: Security is the first and most important: the communication of data and any transaction processing must be secure. Also critical is the reliability of connections and of data transfer over the channel. Then there is the matter of timeliness, the speed of communications. Finally, there is the quality of "seamlessness," of providing a transparent interface between applications and the channel.

Davis lists three areas of opportunity where resellers should focus as they address these challenges:

1. The ability to publish data and reports on the Internet/Intranet channel.
2. The ability to receive and process transactions over the channel.
3. The ability to mine and analyze data received over the channel, both from within the business and across the world, to discern customer requirements and plan business strategies.

The first area, electronic publishing over the Internet, is simple with today's tools. All documents that can be output to ASCII can already be converted easily to HTML. According to Davis, "Everyone should look to support this standard in their applications. To do so now is an advantage. Later it will be a necessity."

Providing transaction processing and security are more complex problems. But the industry has been hard at work to solve them, and there are already plenty of toolkits and application frameworks on the market. Netscape is a prominent force here. They offer modular software components--Netscape Merchant System and Netscape Commercial Applications--for creating online sites for shopping and electronic commerce. They have also formed a joint venture called ACTRA with GE Information Systems, a leader in Electronic Data Interchange services, to provide software for business-to-business electronic commerce over the Internet and Intranets. IBM is another major player, offering Net.Commerce, an application framework for electronic commerce, and Domino, an Internet/Intranet platform based on Lotus Notes.

In terms of transaction processing, applications do not have to be rebuilt from scratch, but simply be able to access existing databases in a new way. Software can still execute transactions in the native database application, but add a new layer to submit the transactions and retrieve them using the open standards. Says Davis, "What we're really talking about is a new interface to the same information, plus the ability to combine data from many sources."

On the subject of Internet commerce, Dr. Irving Wladawsky-Berger, General Manager of IBM's Internet Division sees "a mountain of opportunity...and vast challenges." In a recent address in London, he explained how the Atlanta Committee for the Olympic Games offered tickets over the Internet. Using a Web server connected to the Net via the IBM Global Network, the Committee had sold some 45,000 tickets as of the date of his talk. Wladawsky-Berger also described a service that allows car buyers to purchase an automobile on credit in a matter of minutes. "The customer goes to the dealer, decides on a car, and fills out a loan application on a workstation with a touch-screen. The information is encrypted and fed over the Internet to a server where it's decrypted and fed into the bank's system. The loan application is processed and the decision is transmitted back over the Internet in minutes."

A third major opportunity area is data mining. While traditional decision support systems let you retrieve and analyze data stored in the your database, how much more helpful would it be to have information from other customer sets as well as your own? Web-based search engines already allow you to go out to the world to search for data. The near future will see these combined with automated applications, using software agents, that both search and analyze. HNC Software of San Diego already markets a product, called Convectis, which reads and categorizes large volumes of documents and is based on neural network technology. They have also turned up an opportunity from the inverse of this equation by creating SelectCase, a web site advertising server that presents visitors with "intelligently-placed, individually-tuned advertising and promotions."

Davis sees object-oriented programming (OOP) as an another enabling technology for the open systems of the future and another opportunity area for resellers. This is because OOP places the command functions and controls in the data itself. A natural

extension of this approach is applications that broadcast specific data to other systems, using the standard Internet protocols.

For example, suppose you have a spreadsheet that you need to send to a coworker named Fred. Today, you would typically need to choose the print command, choose fax as the output device, choose Fred's fax number from a menu, and then choose OK. Tomorrow, you might just instruct the spreadsheet object to send itself to the object known as Fred, and the system will handle the rest--whether Fred is in the office down the hall or in Singapore.

An open systems world, based on universal communication standards, where all applications can fully transmit data to the appropriate people (that we name), and do it securely and efficiently. "That is where we are heading," says the President of Dickens. How soon will we get there? "A lot sooner than people may think."

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