

The Internet, once a government-sponsored research network, is now a serious contender to support commercial EDI applications. With the advent of new software technology, electronic data transfer on the World Wide Web may be a mouse click away. Although security issues seem to be solved, questions still remain about network performance and integrity.

EDI Over the Internet Is Here

BY MARTY WEIL

At its essence, electronic data interchange (EDI) is the electronic transfer of business documents from one computer application to another. Using this simple definition, the ballyhooed Internet, therefore, should be a viable mechanism for the transport of EDI messages. It's true: Internet-based store-and-forward mailbox services are suitable for EDI transactions, and according to BIS Strategic Decisions of Norwall, MA, Internet access providers are offering access at one-third to one-tenth the price that traditional value-added network (VAN) providers sell their EDI services. However, before manufacturers rush to join the millions of wannabe web-surfers, they should carefully weigh the pros and cons of using the Internet for their mission-critical EDI applications.

"The price difference between the Internet and VANs is misleading," says Torrey Byles, director of electronic commerce at BIS Strategic Decisions, "because Internet access providers don't provide the security, the level of network performance and integrity, or the customer support that the VANs do. Such features are mandatory for mission-critical applications such as EDI. A company attempting to use the Internet for EDI transmission will save on telecommunications expenses but will pay in extra labor cost (for troubleshooting EDI system problems) and run the risk of lost, intercepted and/or corrupt EDI messages."

From Byles' comments, it would seem that the

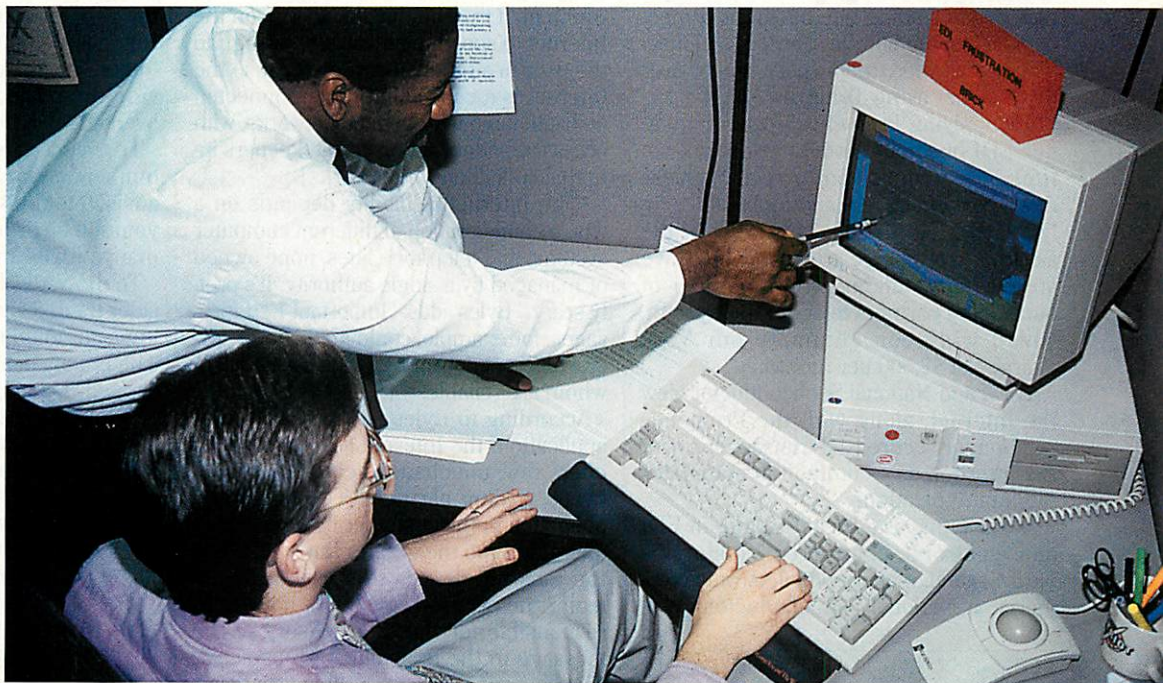
savings isn't worth the risk. However, several leading EDI-using companies in the U.S. are considering using the Internet for the transmission of their EDI documents. Perhaps that's because some of the traditional problems associated with using the Internet are being solved by new software technology that is just now coming to market.

Last year, RSA Data Security of Redwood City, CA, and Premenos Corp., based in Concord, CA, joined forces to bring RSA encryption and authentication technology to the world of EDI. Premenos, a leader in the EDI market, worked with RSA to bring sophisticated public key cryptography and digital signatures into the next generation of EDI software. Shortly after its agreement with RSA, Premenos introduced Templar, an electronic commerce solution to enable secure EDI over the Internet. With this new level of security, EDI on the Internet clears one of the major obstacles.

"The traditional EDI environment is changing rapidly," says Lew Jenkins, chairman and founder of Premenos. "Our customers want the flexibility to change trading partners, platforms, carriers and networks at will—and the only way to provide that flexibility is with RSA's airtight security technologies. We used to set up secure networks—now, with RSA, it's the transactions themselves that will be self-authenticating and secure."

In fact, with RSA, Internet transactions may be even more secure than transactions across VANs, according to Rebecca Young, vice president of marketing for Premenos Corp. "When you remove the VAN and do EDI end-to-end over the Internet, you need to replace the trusted third-party model with a strong authentication, non-repudiation and security/privacy process."

In other words, using Templar software provides the user with a level of authentication unmatched by VANs, since VANs can only provide authentication and non-repudiation of originator for who sent the



Steve Hinds (standing) and Troy Winsett (seated) are responsible for the EDI on the Internet project at AVEX Electronics, which estimates a \$2,500 monthly savings using the Internet for EDI transactions.

SECTION

NETWORKING

Photo courtesy: Premenos Corp.

document, while Templar provides a "receipt" for both the originator and the receiver (know as "non-repudiation of recipient"). "In the VAN world, they can verify that they sent it on to the receiver, but they cannot verify that it was read and complete. With Templar, there is no doubt. This is a big advantage," says Young.

BIS's Byles concedes the security issue, but he doesn't totally endorse the idea of using the Internet for EDI just yet. "Premenos' Templar product allows for secure transmissions on the Internet," says Byles. "I agree that it is on par or even more secure than a VAN. Where we disagree is not in the technology—it is in the area of customer support and reliability. In a VAN environment, the VAN takes care of all the problems, setting up the program, testing the program, etc. It is basically a turnkey approach. The Internet is more of a do-it-yourself approach.

"It is not a cut-and-dry decision to use either the Internet or a VAN; it depends on what the company wants and needs," Byles continues. "If the company has a lot of in-house UNIX expertise, it can build its own Internet platform and use Templar software and do EDI on the Internet. On the other hand, if the company does not have the expertise, it is probably better to turn to a VAN and have them do the nuts-and-bolts networking."

TAKING THE PLUNGE. Two trading partners who are taking the chance on EDI over the Internet, and have the in-house capability to do it, are AVEX Electronics Inc., headquartered in Huntsville, AL, and National Semiconductor Corp. of Santa Clara, CA. Recently, these two companies began trading key business components including purchase orders and functional acknowledgments peer-to-peer over the Internet using Templar.

"By applying Premenos' technology to our EDI business model, we are able to run our electronic commercial business more cost-effectively and more efficiently," says Mike Gordon, manager of the electronic commerce group at AVEX. "We are currently talking with a number of our trading partners to adopt this system, which will soon eliminate our VAN charges of \$2,500 per month."

AVEX and National Semiconductor view the Internet, along with the Premenos solution for secure EDI transactions over the Internet, as a common denominator for communications.

"We see this as a breakthrough in EDI and electronic commerce," maintains Neal Casteel, manager of electronic commerce at National Semiconductor Corp.

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Templar software provides users with a level of authentication unmatched by VANs, since VANs can only give authentication and non-repudiation of originator for who sent the document. Templar provides a receipt for the originator and the receiver.

"This technology delivers increased security and allows even the most sensitive information to be confidentially transmitted over the Internet."

With Templar, information may be transmitted over the Internet with confidence, but serious questions remain about the Internet as a viable EDI vehicle. "From a reliability standpoint, the Internet has a way to go," says Byles. "For instance, if a company operates in a just-in-time environment, it may not be able to rely on the Internet to speed the message through to the user in a timely manner, because the Internet is a collection of interconnected and autonomously operated networks, with access providers acting as gatekeepers into that collection [of networks]."

"The Internet reliability depends on a whole confederation of different computer systems and telephone lines, none owned or managed by a single authority. It's pretty scary," Byles adds. "Important EDI messages, for example, could go through several different network providers—not all of whom are reliable."

According to Byles of BIS, for an EDI application, the Internet access provider offers raw, unenhanced connectivity between trading partners. The provider's obligation to the customer is to relay EDI messages into the greater Internet. Once the message leaves the provider's domain, the access provider is no longer responsible for the safe delivery of the message to the recipient. Because each operator runs its computer network according to its own standards of performance, the Internet's performance is lim-

ited by the lowest common denominator.

A commercial value-added network, in contrast, owns (or leases) the entire network. It's wholly responsible to the customer to ensure the safe delivery of messages. Furthermore, according to Byles, today's VANs offer extensive customer support in the form of 24-hour, 7-days per week help desks. Help desks are a critical component in EDI network services. The major EDI VANs today hear from two-thirds of their customers every month for routine customer-support requests. Customer support involves being able to provide the customer with comprehensive oversight of the entire network operations.

To the EDI user, Byles makes this recommendation: "EDI user companies are advised to think of the Internet as a do-it-yourself environment for EDI. There are many pitfalls and perils."

To the VANs he offers this advice: "Consider the Internet access business as making a commodity out of raw connectivity. The era of cheap, plentiful bandwidth has arrived. Data network service providers can no longer justify prices on a limited supply of public network services. Thus, the VANs differentiation and the value-added is in the application-level services it provides. A new name for VAN needs to be invented—the network part of the name is now irrelevant." MA

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