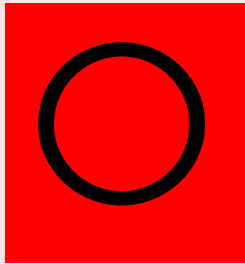


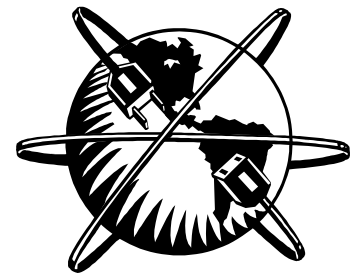
The Influence of NetVAN on E-Commerce



Over the last 20 years, Electronic Data Interchange (EDI) has improved trading cycles, reduced paperwork and sharpened the competitive edge for companies ranging from manufacturing to tourism, from transportation to government statistics. In the beginning, EDI was dependent upon a direct connection to a proprietary Value Added Network (VAN). But that climate is changing as more businesses, schools and even homes are becoming connected to the vast network of the Internet.

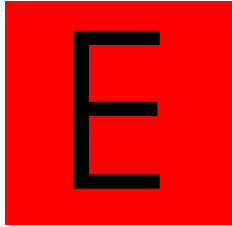
The ubiquitous nature of the Internet makes it inevitable as a channel for electronic commerce. At this moment, millions of e-mail messages, documents and graphics are hurtling through its servers and routers, on their way to their business connections. But the easy accessibility that makes Internet commerce so attractive to small businesses is precisely the problem when it comes to EDI. Can an increasingly public forum like the Internet provide the features and security of traditional VANs?

Now it can. NetVAN from Electronic Commerce Systems (ECS) combines the best of both worlds – the specialized features and security of a traditional VAN and the fast implementation, ease of use and low cost of an Internet connection. Transmitting data via encrypted FTP, the NetVAN solution protects the mission-critical relationships between EDI trading partners while allowing small businesses to gain EDI compliance quickly and cost-effectively.



*Electronic
Commerce
Systems, Inc.*

The What and Why of EDI



Electronic Data Interchange, or EDI, evolved more than two decades ago as a way of automating paper- and labor-intensive business

processes such as procurement and other trade-related activities. Transactions that once took hours or even days can be reduced to minutes. This faster process elicits faster response, speeding up the trading cycle and enabling new business processes such as Just-In-Time manufacturing. A faster trade cycle also means improved cash flow. Other benefits include reducing overhead associated with paper forms, postage and the manpower to key and re-key information, as well as a reduction of human error.

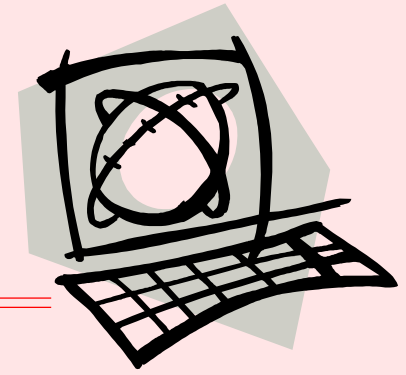


In the past, Value Added Networks (VANs) provided an exclusive structure for EDI technology. Organizations such as IBM, GEIS, Sterling and Harbinger built their own proprietary networks, each supporting its own trading community. Because of the number of companies involved, standards are continually evolving. But in general, each VAN offered a number of features considered crucial to its business community, including mailboxing, security and audit control. Interconnections between the major VANs are a recent development, allowing companies to communicate with trading partners on any network without joining each network.

The speed and convenience of EDI revolutionized business-to-business processes, but these benefits come at a cost. Most VANs charge by the kilobyte for data transfer, with higher rates applied during traditional business or "peak" hours. Start-up costs of software and the VAN connection, combined with ongoing per-transaction charges put EDI out of reach of some small businesses, closing the door to large retailers or other trading partners who demand EDI compliance.



The Influence of the Internet



Meanwhile, business-to-consumer industries from financial institutions to fly-fishing shops were finding an e-commerce venue of their own – the Internet. As the daily volume of business communication and sales transactions over the Internet increases, the inevitability of the Internet as an EDI channel becomes clear. Connections are inexpensive and easy to obtain, with no surcharges for transmissions sent during “peak”

hours. As a public forum, however, the Internet itself offers little security, no reliability guarantees and no possibility of an audit trail for messages.

While e-mail might be the preferred form of communication among many business professionals today, the medium is not sufficient for the demands of mission-critical EDI. To the layman, both types of e-commerce may seem equivalent, but EDI requires a much higher standard in a number of areas.

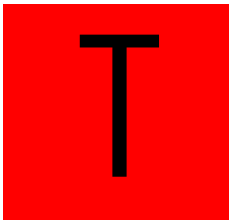
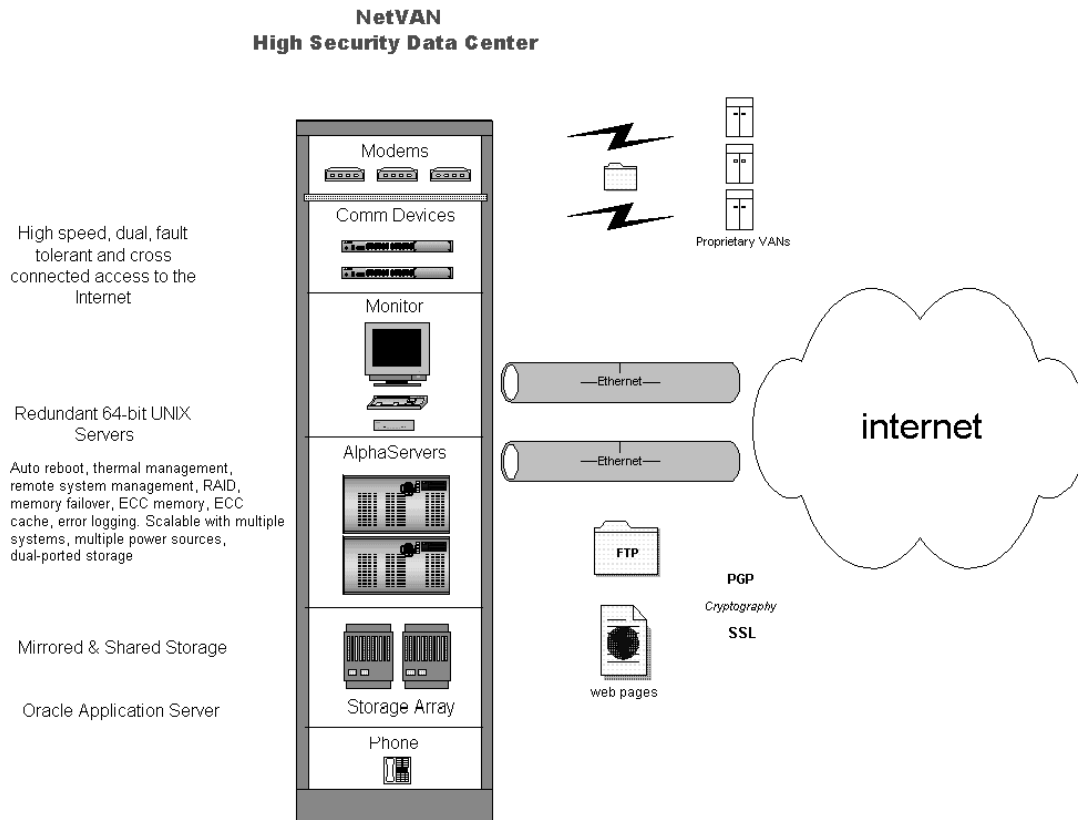
First, EDI messages are structured to be automatically processed by the recipient’s computer system. A purchase order sent via EDI can automatically generate a warehouse packing slip and an invoice, for example.

Each EDI message sent travels directly to the recipient’s mailbox. Compliance checking, error notification and the existence of an audit trail are all critical to maintaining the integrity and security of the business transaction. Simple e-mail can’t provide any of these features, or even ensure that messages will be received in the order they were sent.

Several companies have been working to resolve these problems and provide the critical features of EDI via the Internet’s low-cost channel. Of the solutions available today, Electronic Commerce System’s NetVAN addresses all of these concerns in a reliable and cost-effective way.



Internet EDI with NetVAN



The ECS approach to Internet EDI is deceptively simple. It is built around FTP, a tool recognized by almost every Internet user.

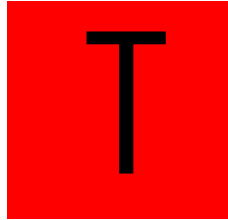
File Transfer Protocol, or FTP, has existed since the earliest days of the Internet. It allows the user to access a remote computer and copy files to (upload) or from (download) that computer. The software is built into recent Microsoft Windows® operating systems and is freely available from any Internet Service Provider (ISP). Its use as a standard for file transfer speaks to its reliability.

The second piece of NetVAN's approach is security, provided by PGP. Developed by Pretty Good Privacy, Inc., PGP is used for an estimated 95 percent of encrypted Internet traffic. Trusted by industry and government agencies with the highest security standards, PGP is the strongest cryptography commercially available.

Finally, NetVAN provides interconnections with the major VANs, ensuring that messages sent from an Internet front-end can be efficiently and accurately delivered to any trading partner.



Lower Start-Up, Lower Overhead



Thanks to innovative use of proven Internet technologies, NetVAN delivers all the features of a traditional EDI connection – mailboxing, sequential delivery, compliance checking, security

and an audit trail – with a standard ISP connection. NetVAN users can connect with trading partners on most major VANs regardless of the EDI software being used by that partner. The speed and volume of transactions are limited only by the speed of the user's Internet connection. Even today's standard 56K baud modem connections deliver data exponentially faster than the traditional 9600-baud EDI hook-up.

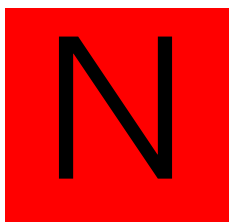


The bottom line benefit is cost. Implementation costs are lower, since NetVAN relies on the company's existing Internet connection. But the real savings are realized in day-to-day overhead. Internet EDI transactions via NetVAN represent a 30 to 50 percent savings *per transaction* over traditional EDI. Better still, there are no surcharges for doing business during actual business hours. The "peak" hours for VAN transactions don't apply to NetVAN users.

NetVAN even saves money after the transaction is completed. Traditional VANs charge a fee to archive documents for more than 3 days. NetVAN automatically archives every transaction for 30 days at no charge.



The Question of Reliability



etVAN represents a quick, cost-effective way for small businesses to achieve the EDI compliance demanded by many preferred trading partners. Even companies with existing EDI systems are exploring the option because of the substantial cost savings. The stumbling block for those firms is the question of reliability. Can the Internet provide the secure, reliable service users pay top dollar for with traditional EDI?

There are a number of Internet EDI solutions available, and with some of these reliability is a valid concern. Many of the current offerings are based on a technology known as Secure Multipurpose Internet Mail Extensions, or S/MIME. Several problems are inherent in this implementation.

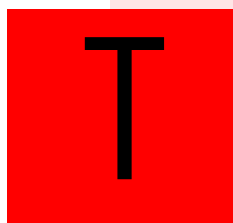
At a time when most corporations are moving toward open systems, the security within the S/MIME protocol often requires both trading partners to use the same software. This presents a problem in that larger trading partners are unlikely to install specialized software for individual vendors. Another drawback is that the structure of a S/MIME message prohibits automatic compliance checking.

Unlike a direct FTP connection, S/MIME messages are delivered in the same manner as standard e-mail, using best available routers and paths. This prohibits maintenance of an effective audit trail, and prevents the guarantee of sequential delivery. Using this delivery method, it is possible to receive revisions to an order before the original order.

If the S/MIME protocol is the only solution reviewed, the potential user is right to be skeptical about the feasibility of the Internet as an effective channel for EDI. The architecture of NetVAN, however, fully addresses these concerns.



Proven Components, Proven Performance



Two proven technologies -- FTP and PGP -- form the basis of NetVAN. FTP is the industry standard for file transfer, and gives NetVAN users the control

they need to assure reliable, sequential delivery of mission-critical messages. Sixty percent of Fortune 100 firms, as well as government, defense, financial and other top-security implementations use PGP. We are confident this platform offers the highest commercial standards of security along with reliable deliverability.

NetVAN customers are confident, too. ECS currently has more than 500 NetVAN implementations, including financial institutions and trading partners for IBM, Dell and Motorola.



The Internet: The New Channel for EDI



With the correct technologies in place, it is possible for small to medium-size companies to achieve the EDI compliance necessary to grow their businesses – quickly, easily and cost-effectively. NetVAN demonstrates that a standard Internet connection can be used to provide the same security, reliability, features and benefits of a traditional EDI connection, at a fraction of the cost. The next few years will see the Internet become a major channel for EDI transactions, just as it has for other business communications and types of e-commerce. Companies seeking to build new EDI relationships or save money on existing ones should definitely consider the benefits offered by NetVAN and Internet EDI.

NetVAN is a product of Electronic Commerce Systems, Inc. ECS is dedicated to enhancing electronic commerce by enabling cost-effective, high-security transactions between consumers and/or business partners. In addition to NetVAN, its solutions include on-line catalogs with integrated EDI capabilities, pre-configured EDI software and multiple solutions to simplify EDI document creating and handling.

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