In August 2002, Wal-Mart, the world's biggest retailer, told its suppliers they would have to start sending and receiving electronic data over the Internet. Today, more than 98% of Wal-Mart's EDI exchanges with suppliers are done over the Internet using AS2, a software package from Isoft Corp., Dallas, that suppliers must purchase and install if they wish to continue selling to the chain. (The package can cost as little as $300 if the supplier wishes to connect with only Wal-Mart but can cost six figures for links to more than 100 companies.)

In October 2002, Wal-Mart told Mr. [Bob Beachler] that he had about six weeks to get his AS2 infrastructure up and running. In anticipation that other retailers would follow Wal-Mart's lead, he chose a system that cost about $22,000 -- and in the six months that he has been using it with Wal-Mart, he says, it has almost paid for itself, reducing long-distance fees between $1,000 and $5,000 a month.

WAL-MART STORES Inc. doesn't dictate what software its suppliers must use for exchanging documents over the Internet, though it requires them to use software certified to meet the AS2 standard. A Marketplace article Friday on Wal-Mart's adoption of electronic data interchange over the Internet incorrectly stated that all Wal-Mart suppliers must purchase an AS2 software package made by iSoft Corp. and incorrectly characterized AS2 as a software package.

TWICE A DAY, using a system called electronic data interchange, the sock buyers for Wal-Mart Stores Inc. send electronic files to Candor Hosiery Mills Inc., telling the Robbins, N.C., company such things as how many pallets of white and multicolored crew socks to deliver to stores, pronto.

Receiving the data from Wal-Mart, based in Bentonville, Ark., used to take Candor employees six hours a day, sitting at desktop computers hooked to a dial-up modem. If the connection was disrupted, the whole transmission would have to be sent again, taking even longer.

Then Wal-Mart decided to shoot the electronic messenger -- a clunky 1960s-era communications technology that carried packets of data via a slow modem and expensive long-distance telephone line or a third-party service provider called a value-added network, which was slow and expensive as well.
In August 2002, Wal-Mart, the world's biggest retailer, told its suppliers they would have to start sending and receiving electronic data over the Internet. Today, more than 98% of Wal-Mart's EDI exchanges with suppliers are done over the Internet using AS2, a software package from Isoft Corp., Dallas, that suppliers must purchase and install if they wish to continue selling to the chain. (The package can cost as little as $300 if the supplier wishes to connect with only Wal-Mart but can cost six figures for links to more than 100 companies.)

The change at Wal-Mart underscores the way the Internet and simple off-the-shelf business software are overhauling the retail-distribution system, making transactions cheaper and faster for both retailers and their suppliers. With razor-thin profit margins that recently have been pressured further by deflationary prices and rising costs, these industries find saving even a few hours a day and a few thousand dollars a month important to their bottom lines.

"We have more time to prepare and get orders together," says Dorenda Kidd, chief information officer for the closely held Candor; that time bonus, in turn, gets goods out quicker and allows the company to ship more merchandise.

All that helps as retailers ask more of their manufacturers. For example, Wal-Mart asks Candor to mix about 40 different styles and sizes of socks into a single pallet for direct-to-store delivery. "That means a lot more people are touching the product, and it costs us an additional 15 cents a dozen in labor," Ms. Kidd says. "But we still get the same $2 a pair for the socks."

Candor has seen several of its customers adopt Internet EDI, including Meijer Stores LLP, a closely held superstore chain based in Grand Rapids, Mich. Kohl's Corp., the fast-growing discount department-store chain, told Candor it expects to have an EDI Internet system functioning by the first of the year.

Isoft says sales for its AS2 software have increased 900% in the past year, and it now has more than 1,000 customers. Both Lowe's Cos. and rival Home Depot Inc. require suppliers to use AS2 systems.

Isoft's competitors include Cyclone Commerce Inc., Scottsdale, Ariz. The rise of these companies and their business-to-business Internet technologies threatens the traditional EDI heavyweights, which provide third-party transmission networks: Sterling Commerce, a subsidiary of SBC Communications Inc.; closely held Global Exchange Services Inc.; and International Business Machines Corp. Prices for their traditional EDI services have fallen to about three cents to 10 cents per kilocharacter -- from as high as 20 cents per kilocharacter four years ago, according to Frank Kenney, analyst at Gartner Inc.

"Clearly there's been downward pressure in the pricing," says Terry Noreault, senior vice president at Sterling Commerce, the largest U.S. provider of EDI. But, he says, Sterling launched its own Internet software last year, and its sales have exceeded the company's expectations.

Wal-Mart has been in retailing's vanguard of technological change before. In the 1970s, it prodded change-averse consumer-goods companies and other retailers to adapt the burgeoning bar-code system. A few months ago, the chain became the first major company to require its largest suppliers to install radio frequency identification display tags -- the souped-up successor to the bar code -- on all its pallet shipments by 2005.

In adopting EDI via Internet was equally cutting-edge. "The purpose of the conversion was to provide a cheaper, faster and more accurate method for our current suppliers to connect with us," Wal-Mart said in a written response to questions submitted by The Wall Street Journal. AS2 also secures the EDI exchanges over the Internet.

Bob Beachler, logistics manager at Coty Inc., was investigating AS2 technology for the cosmetics and fragrance company last summer before Wal-Mart issued its mandate. Wal-Mart represents 30% to 40% of Coty's business, and Mr. Beachler's Sanford, N.C., manufacturing and distribution facility annually processes more than 400,000 purchase orders in total.

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Mr. Beachler says he has encouraged the companies he supplies to switch to AS2. He says three other customers recently have converted to Internet EDI, and grocery chain Kroger Co. has been researching it. It costs Mr. Beachler about $1,000 for each company that installs AS2 to exchange data with Coty, but the price declines as more companies join. ISoft also charges a yearly maintenance fee of several thousand dollars, he says.

"Not everyone has caught on yet," says Mr. Beachler. "But I think it's been a good deal."

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Corrections & Amplifications

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