Digital cash offers prospect of cybercommerce

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In the next few years, a new technology called digital cash could make fumbling for change a thing of the past.

Digital cash combines some of the best features of conventional payment systems, making it possible for consumers to make purchases by telephone or computer – as they can with credit cards today – while allowing them to retain their privacy. And unlike credit cards, digital cash is resistant to fraud: Stolen numbers cannot be used to bill the consumer's account for fraudulent purchases.

At least two digital cash systems have already made their debut on the Internet. Earlier this year, DigiCash BV, the Dutch company created by digital cash visionary David Chaum, announced that it would be giving away $100 in "Cyberbucks" to the first 10,000 Internet users who downloaded the company's "e-cash" software. The Cyberbucks – which are not convertible into currency – can nevertheless be used to purchase electronic photographs, songs, articles, and even things like T-shirts and bumper stickers.

Another digital cash contender is First Virtual Holdings of San Diego, which has leveraged its technology off existing credit card systems. When a consumer makes a purchase with a First Virtual account, they do not type their credit card number and expiration date. Instead, they type a PIN consisting of letters and numbers, up to 16 characters long. The merchant's computer then sends the PIN to First Virtual's computer system in Westlake, Ohio, and sends the consumer an electronic mail message asking them to confirm the transaction. The customer replies to the message with one of three words: "Yes," to accept the payment, "No," to deny the payment, and "Fraud," to indicate that their PIN is being used without their permission.

"We can match that" PIN "to a credit card, and we at First Virtual will know who you are, but the merchant doesn't know," said Lee Stein, First Virtual's
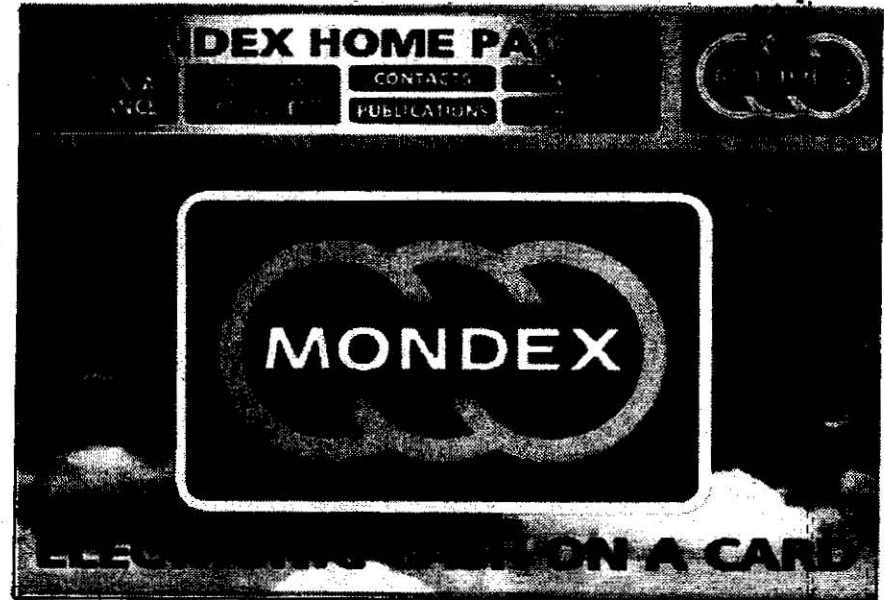
Digital cash systems, which make it possible for consumers to make purchases by telephone or computer, are becoming a booming business.

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president and CEO. "If the merchant ever wants to speak to the customer, the merchant must send e-mail to that PIN name at First Virtual, and we will relay it to the customer."

Digital cash is not just limited to the information superhighway. Indeed, the biggest use of electronic payment systems might be for locations that are decidedly off-line, such as parking meters, vending machines, and highway toll collection.

Next summer, Visa International plans to unveil its Visa Stored Value Card at the 1996 Olympic games in Atlanta. The Visa card is the size of a standard credit card, but instead of having a magnetic strip, the card is equipped with a tiny microprocessor and a set of gold-plated contact pads the size of a dime. Consumers will purchase the cards preloaded with a certain amount of cash; when placed in a special reader, a specified amount of the digital money will be transferred from the card to the merchant.

But despite all the advantages, digital cash might create some unique problems of its own.

Michael Nelson, the Clinton administration's special assistant on information technology, is concerned that criminals could use digital cash to get around the mandatory reporting requirements that exist for large sums of paper currency. One way to solve this problem would be by placing limits on the use of digital currency.

"It may be in the future you will have digital cash that you can use for small purchases, but there will be some way to assure that you can't buy very large items" so "you can't buy $500 or $1,000 of digital cash without creating a record," Nelson said. Those records, Nelson said, would make it "easier when you are trying to trace people who buy large quantities of fertilizer," the raw material used in the Oklahoma City bombing.

Nelson is also concerned about the risk of digital counterfeiting. "The Secret Service has to be very concerned about people being able to generate their own dollars. If someone finds the key or finds the way to counterfeit the program or the card, we are in big trouble."

Later this summer, the US Treasury will be forming a task force to study the questions raised by digital cash, and to see if any regulation is necessary. The American Bankers Association has asked the Treasury for word as to what those regulations might contain.

But other digital cash players say that it is far too early to think about regulation. "You regulate an industry in its nascent stages like this and you will arrest its development," said David Melancon of Visa. "This technology is only just coming into being. You can't slap a regulation on it until you know the parameters of it."

Business for digital cash companies is booming. "For the first two weeks of June, the growth has been over 400%," said First Virtual's Lee Stein. "It seems to be growing more rapidly as more people are coming onto the net. Part of that was AOL getting their web browser up and running."

Meanwhile, more than 9,000 people have opened Digicash accounts and gotten $100 in cyberbucks.

Ironically, digital cash father David Chaum said, for many people the real allure of digital cash might not be the chance to buy things but to sell them. "With things like electronic cash, it is guaranteed that if you are able to spend money, you are able to receive money. If you are on the Internet, yes, you can buy stuff, but you can open your own store on your home page."