Cybercash's Lesson in Web Survival

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In 1994, when the World Wide Web had no commerce to speak of, a group of computer and credit card-processing experts banded together and formed a company built around high-security technology for safely transferring money on the Internet.

The product failed to find a market. Yet, four years later, the company, Cybercash, has survived by adapting to the less sophisticated but far more flexible security technology that was eventually embraced throughout the Web. And though it is still in the red, Cybercash has managed to take its stock public and to grow by merging with a competitor.

The history of Cybercash offers a vivid example of how difficult it can be for any company to steer proprietary standards into the unpredictable currents of the Internet -- even when the technology in question is widely acknowledged to offer a superior product. It is also a lesson in survival.

That survival has exacted a price. When it became clear that revenue for the second quarter, which ended on June 30, would be lower than expected, the company, which is based in Reston, Va., laid off 20 percent of its staff, including one founder who volunteered to leave.

The remaining group of about 200 has sharpened its focus on areas that already produce revenue. It has moved development of more ambitious technologies for the next century to the back burner.

Cybercash's original product was a ''digital wallet,'' a piece of software intended for home computers, with the idea of keeping bank accounts and credit card numbers handy and secure. No one would need to enter a credit card number to buy something because the

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wallet would keep it encrypted.

To further reduce fraud, the wallet would hide credit card information even from merchants, making the system in some ways more secure than standard retail transactions.

But users shunned the product and gravitated toward a simpler, nonproprietary alternative known as Secure Sockets Layer, or S.S.L., a straightforward system intended to scramble all data passing between a customer and a Web site.

S.S.L. did not provide any of the digital wallet's sophisticated features for electronic commerce, but it did offer adequate security for most transactions. What is more, it was flexible enough to encrypt everything, including entire Web pages that held sensitive data.

In a nimble move, Cybercash modified its back-office processing software for merchants to handle orders generated by S.S.L. Although the company did not generate the revenue it had hoped to make with the wallet concept, it did grab a piece of the action for handling transactions between on-line merchants and their banks.

''It's very nice service,'' said Michael Salim, president of American Data, a North Carolina company that rents Web space to retailers and resells Cybercash's processing services to his customers. ''It really makes the use of credit cards easy.''

In contrast, Mr. Salim said, Cybercash's original wallet, which denominated deposits on hand as virtual coins, ''operated with some funny money; no one liked that.''

Maureen Loftus, a senior vice president of Cybercash, said the company was trying to build on that sort of response. But she said that instead of abandoning the wallet concept, the company would alter the wallet's design and purpose.

''In the past, it was a container for electronic cash,'' Ms. Loftus said. ''Going forward, we're going to concentrate on making the buying experience easy, consistent and secure.''

The new wallet, she said, would be more tightly integrated with the browser and would not require the customer to spend any extra time to install it.

Jim Condon, Cybercash's chief operating officer, said one important lesson in the company's evolution had been that the consumer generally was not greatly concerned about security because the banks and the merchants pay losses incurred in fraud or theft. The consumer, he said, was primarily interested in convenience and in saving time.

Merchants and credit card companies, on the other hand, are eager to reduce fraud. In an S.S.L.-based system, a user can type any credit card number, including a stolen one. In such cases, it is the merchant, not the credit card company, that sustains the loss.

For that reason, Cybercash will introduce a new generation of its wallet later this month. Designed to the greatest degree possible to be transparent to the consumer, it will also incorporate the new Secure Electronic Transaction standard, or SET, that is being pushed by the credit card industry.

All the sophistication is aimed at reducing credit card fraud by distributing electronic identification files known as certificates, which act like driver's licenses or passports. The certificates allow computers to generate digital signatures that the credit card companies hope will weed out the most common types of fraud.

Even so, introducing any new standard is filled with danger. In this case, the most serious challenge will be finding ways to distribute the certificate files to everyone's home computer. So, while the next version of Cybercash's wallet product will be engineered to use certificates, Mr. Condon said, the feature will not be built in.

In the meantime, the company is investing money and resources in the back-office software that generates most of its revenue. On April 30, Cybercash completed a merger with a onetime competitor, IC Verify, a company built on credit card services for brick-and-mortar merchants. IC Verify had recently begun expanding into cyberspace.

Nancy Goldberg, a former IC Verify executive who is now a Cybercash vice president, said that the goal of the companies' merged operations was to provide merchants with a single tool for transaction processing.

Today, she said, many traditional merchants are opening Web sites, and she expects that in the future, Web-only retailers like Amazon.com might open stores, in much the same way that J. Crew migrated from catalogues to shopping centers. The merged version of Cybercash is aiming to unify its product line to dominate both markets.

The company is also expanding its solutions for making it easier to pay recurring bills on time. The costs for companies to mail credit card, phone and utility bills each month is substantial, and Cybercash intends to provide a simple, one-step tool that will allow customers to go to a Web site, examine their bills and then authorize payments.

One of Cybercash's strongest assets is its perceived leadership in these kinds of secure transaction technologies. Michael Schneider, a vice president at IMC On-Line, an Atlanta-based company that rents Web space, said the availability of Cybercash was often crucial in persuading businesses to choose his service.

''People love the idea of the technology,'' he said, ''and they get all caught up in it.''

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But there is a catch: Most merchants, he said, discovered that their sites did not generate enough business to justify the cost. ''For four or five transactions, having a separate statement -- it just wasn't worth it,'' he said.

Still, Mr. Schneider predicted that more businesses would eventually adopt the technology.

''Merchants are scared about the transactions coming in and knowing whether they're bogus or not,'' he said. ''They're scared about the unknown.''

Fortunately for Cybercash, it is fear of the unknown that drives sales of security technologies.

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