

'Near Field' technology' may change the way we use cell phones

by Jonathan Sidener

At last year's World Cup soccer matches in Germany, spectators entered by waving an electronic card near a reader.

Once inside, they could get directions to their seats by holding the card near another reader.

While the high-tech tickets were part of a demonstration of a technology called Near Field Communications, or NFC, the little wireless chips that made it all work were familiar to many of the fans.

WIRELESS WALLET - NFC, also known as Near Field Communications, takes its name from its extremely short-range wireless transmissions. The technology is beginning to pop up across the country. CNS Illustration by Cristina Martinez Byvik.

In many parts of the soccer-loving world, consumers also embrace cell phone technologies. In much of Europe and Asia, people use NFC-enabled cell phones to buy snacks from vending machines, pay for public transit and replace paper tickets for movies and other events.

In the part of the world where we prefer the oddly shaped American football, we reach for pocket change, not the cell phone, when we want a bag of chips or a candy bar.

That may be about to change.

NFC, which takes its name from its extremely short-range wireless transmissions, is beginning to pop up across the country. Cell phone manufacturers and carriers along with credit card companies are beginning to do more than talk about the technology:

- In New York, MasterCard and Citibank are testing NFC as a replacement for paper tickets.

- Cingular is testing Nokia's 6131 NFC phone, which it plans to offer to consumers. Cingular hasn't announced a timetable for the new phone.

- Northern California's Bay Area Regional Transit is wired with NFC readers that will let owners of enabled phones bypass the ticket booth.

- In Dallas, Nokia and MasterCard have given 500 consumers NFC phones to test at local 7-Eleven convenience stores.

- In January, HSBC Credit Card Services gave 200 of its employees NFC-enabled phones that work at any New York City PayPass location such as McDonald's and 7-Eleven.

"NFC in the U.S. is at a turning point," said Gerhard Romen, the marketing committee chairman for the NFC Forum, an international group of more than 100 companies interested in the technology.

"Everyone is getting ready - Cingular, MasterCard, Visa, Bank of America, Citibank," said Romen, who is also head of NFC market development at Nokia, the world's largest cell phone maker.

NFC was jointly developed by Sony and Philips, and the two companies founded the NFC Forum to promote the technology. The group's membership has grown to resemble a who's who of cell phone manufacturers, chip makers and credit card companies.

Almost all of the world's cell phone manufacturers have NFC-enabled phones in the works, Romen said. The technology probably will become available about the same speed as Bluetooth wireless, which took about five years to go from an obscure feature found on one or two expensive phones to a common technology found on most new phones today.

"We started a test on Jan. 10 in the middle of Manhattan. There are 600 merchants with contactless credit card readers where you can buy things by waving your phone. You can go to McDonald's, Starbucks or the CVS Pharmacy. You can pay your fare on the subway."

NFC transmissions have built-in security because a smart card or phone has to be held within an inch or two of a reader to complete a transaction, Romen and others say. Putting the technology in a phone adds more security than a smart card, Romen said.

The phone allows the NFC feature to be turned off when it's not in use. It also provides for password protection and user approval before a transaction is completed.

"Think of it as a credit card with a display, a keyboard and a secure Internet connection," Romen said.

Romen said Nokia sees NFC as a natural progression of cell phone technology, after such enhancements as Web browsers, advanced operating systems such as Java, high-speed data transmission and memory cards that store photos and music.

He said that for many people, the cell phone has replaced wristwatches, alarm clocks and digital cameras, so replacing the wallet is a logical next step.

NFC technology is off to a good start and should have strong growth over the next several years, according to ABI Research.

ABI analyst Jonathan Collins expects the technology's hardware and software sales to grow from \$260 million worldwide last year to \$870 million by 2011.

The marketing research firm expects that by 2011, the number of NFC-capable cell phones will grow to 500 million.

Japanese and South Korean consumers lead in the use of NFC technology, particularly with payment-enabled cell phones, Collins said. Europeans use the technology primarily for ticketing systems. American consumers have embraced NFC credit and debit card payment systems.

Last year, San Diego baseball stadium, Petco Park, added NFC readers at concession stands, allowing fans to pay for beer and hot dogs with a wave of a card. The wireless readers will work with NFC phones when they become available.

Consumers will have to be confident in the security of contactless payments before mainstream use of NFC cell phones in the United States and Europe, Collins said.

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