# Near Field Communication the Next Mobile Boost?

You may not have heard of it, but near field communication (NFC) is the technology that major companies are betting will become a central part of every mobile phone user's life.

Interested in digital wallets, gaming, or social media? You'll soon be acquainted with NFC — which could transform the way we shop, pay, save, and interact with other mobile device users and even with physical objects.

NFC is the technology that enables smartphones and other devices to establish a radio connection by touching them together or coming within close proximity.

NFC technology has not been heavily adopted in the U.S. yet, but according to some analysts' estimates there will be a greater push for mobile users to adopt the technology in the next few years. John Devlin, a NFC analyst at ABI Research, said that he expects the number of NFC handsets to increase from about 34 million this year to about 80 million next year. Mark Hung, an analyst for Gartner, sees the growth in handsets exceeding 100 million in 2012.

There are many ways NFC technology can be put to use, but according to those who work in the industry and industry analysts, there are a few specific ways they expect the technology to be most widely adopted.

Here's a look at how NFC is catching on and some of the companies expected to be major players in the space.

Mobile Wallets

Using NFC technology to pay for goods is one of the ways companies are experimenting. The technology works by allowing consumers to use their NFC-enabled phone to pay for goods by tapping their phone at the point of checkout.

Currently, Google is one of the major players in this field with its Android mobile application Google Wallet, which the company launched earlier this year.

Google partnered with Citibank, Mastercard, First Data, VeriFone, Samsung and Sprint among other companies, to make the wallet possible. Currently, though, consumers can only pay with Citi Mastercards and the app is only compatible with the Nexus S 4G by Google, available on Sprint. But Google intends to support more cards and phones eventually.

Although Google got its foot in the door first in the U.S. with its payment platform

Google Wallet, competition is coming.

AT&T, T-Mobile, and Verizon have partnered to create Isis, a virtual wallet and payment system, set to launch in 2012. ISIS will be open to all merchants, banks and carriers, according to its website. Isis aims to "eliminate the need to carry cash, credit cards and debit cards, reward cards, coupons, tickets and transit passes," the website states.

Verifone has also recently completed its acquisition of Point, a company that provides payment services that make NFC technology possible.

"The acquisition gives us a great footprint with European merchants to introduce and integrate NFC in alternative payments with existing infrastructure," said Pete Bartolik, a spokesman for Verifone. "We have an intense focus on mobile payment at this point in time. We are working with all traditional and alternative players in the space to find ways to utilize mobile techonology and payments."

With mobile operators and financial institutions pairing up to make mobile wallets a reality via NFC, companies that provide the hardware and provide the security management services for payment transactions over NFC are seeing a greater demand for their products and services.

Gartner estimates that 50 percent of smartphones will have NFC capability by 2015, and the NFC semiconductor revenue will be more than $1 billion.

"There is a real explosion in the handsets coming out," said Jeff Miles, vice president of mobile transactions for NXP Semiconductors "We're going to see the number of handsets reach critical mass in the next year or two."

NXP provides the "secure element," or the encrypted chips that store the users' personal information to make payments. NXP is one of the major providers for secure elements and NFC chips, said Hung.

NXP chips can be found in Google Wallet, the Nexus S, Microsoft's Windows 8 tablet coming out next year and future smartphones from Sony Ericsson.

Another major player in providing the secure element for NFC enabled devices is Inside Secure, said Devlin.

Inside Secure announced in mid-December that it would provide its NFC products and services to Intel In October the company also said it would ship more than 10 million NFC chips; however, the company did not report who the recipients are.

Other companies that are major players in the NFC technology space are Gemlato and Oberthur, which are trusted service managers (TSM) that provide digital security for the secure element. Isis announced in December that Gemalto will provide TSM service for the mobile platform.

Although mobile wallets are being hyped lately, they probably won't be the first way

NFC technology is adopted, Devlin said. That's because companies are still developing business models for mobile wallets and because there is a lack of infrastructure needed to implement mobile payments.

"The technology is there, but it's also an issue of control, influence and branding," Devlin said. "There are additional security requirements and different business relationship issues as well for mobile payment to work. There are the issues of who controls it, who manages it, who owns the customer and who can charge for part of the service."

One way NFC technology could potentially be adopted first is in gaming because it does not require the secure element required for payments, Devlin said.

Gaming and Entertainment

NFC technology in games is an untapped market, but it could catch on quickly, Miles said.

One way NFC could change the way gamers use mobile devices is by allowing them to interact with one another and with physical objects that have NFC tags.

Rovio Entertainment Company, the maker of the game Angry Birds, is already using this technology on Nokia's NFC enabled phones.

Gamers playing Angry Birds Magic with the an enabled Nokia C7 device can open new levels by tapping on another gamer's NFC-enabled phone. Rovio is also working on putting NFC tags in its Angry Birds toys so that new levels can be unlocked when gamers taps their phones on the toy.

NFC technology can also be used for 'pairing,' Hung said. In gaming, 'pairing' consists of joining a game with another player, either playing with or against them by tapping the phones together.

NFC could also be used to pair mobile devices with accessories, such as speakers with NFC tags in them or even a TV with NFC technology, Hung said. Once the mobile device is tapped to another NFC enabled device the media streaming on the phone, such as music or other media, would play on the accessory that's tapped.

Social Media and Marketing

Facebook, LinkedIn , Foursquare, and other social networking sites are likely to use NFC technology in the realm of location-based services, Devlin said.

Instead of running an application on a mobile device to "like" something on Facebook or "check in" on Foursquare, mobile users will be able to tap their phones on a NFC tag wherever they are and the task will be complete, Devlin said.

Mobile users could also "friend" people on Facebook or share personal content by tapping each other's NFC-enabled phones together, Hung, said.

Foursquare has already rolled out this technology to some degree. Foursquare on the Symbian operating system for Nokia smartphones is NFC-enabled and allows for quick check-ins by tapping the phone to a NFC tag where available.

"It becomes a more convenient way of interacting with objects," said Miles. "It also becomes a way for people to interact with brands."

Mobile users could soon be able to tap on a product that has a NFC tag on it with their NFC-enabled phones while inside a store and receive information instantly about the product. Mobile users could also interact with brands by tapping a tag to "like" a product.

"The best way to think about NFC is as if it's a physical 'cookie' for the real world," Hung said. "You know cookies keeps track of where you go online, you leave a footprint, you can be tracked. NFC allows merchants to see a physical cookie in the real world. It can identify who you are, what your interests are based on where you go. It provides an incentive for a retailer when you check in at a physical store because it lets them know a little bit about you so that they can better target your interests."

Besides "check-ins," when a consumer makes a purchase with NFC technology via a mobile wallet, the retailer can also treat the mobile device as a loyalty card, offering the consumer deals.

Using NFC technology at the point of sale for marketing purposes could also be a saving grace for mobile wallets' struggling business model, Devlin said.

"There may not be huge money to be made on payments itself right now, but loyalty, retail and marketing may generate revenue," said Devlin. "What people are searching for and how they are searching — that is a strong way to target them in advertising, which they effectively select, that gives them a much more valuable service that they can offer to a potential partner."

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