

## Payments Go Mobile

BY KAREN EPPER HOFFMAN

### **Making payments via cell phone is starting to emerge in the U.S. What role will banks play as wireless carriers and non-bank third party developers push the market forward?**

*| SYNOPSIS | Payment by cell phone will alter the payments business, but how much and how soon is a topic of debate joined by banks, carriers and third parties. Will consumers opt to wave their mobile phone over a reader, as they would a contactless card, or will they initiate a payment via a text message? Industry insiders expect banks to begin stepping up their efforts for fear that wireless carriers may usurp their position in this emerging payments business. As banks and carriers forge new relationships, mobile payment faces other potential hurdles, including perceived security concerns, viability issues and consumer adoption.*

Fast on the heels of its most recent advance — the move from magnetic strip to contactless chip in cards — consumer payment is headed for yet another radical shift.

Banks, along with wireless carriers and third-party developers, are finding new ways to port the basic debit or credit functions from a plastic card to the cell phone. Using either the basic text-messaging feature of the phone or the emerging contactless payment technology that can be added to the device, consumers are able to pay for what they want by sending a short message or with just a wave of their phone.

[Celent LLC](#) anticipates the value of mobile payments worldwide will more than double in the next couple of years, jumping from an expected \$24 billion this year to \$55 billion by 2008. The growth will be fueled, experts say, as the number of cell phone users continues to grow and as people look for more utility—beyond making voice calls or downloading ringtones—from the phones that are becoming virtual appendages to them in their daily lives.

New York-based [J.P. Morgan Chase & Co.](#) has been on the forefront of this development in the U.S., recently completing a pilot in Atlanta of cell phone-based contactless payments. Other banks, such as New York's [Citigroup Inc.](#) and [Bancorp South](#) of Tupelo, Miss., are also testing the market. "I don't think banks should be asleep at the wheel," says Michael Lindsey, senior vice president of electronic delivery at Bancorp South. "We can't do it all ourselves internally. But we're picking our partners carefully."

Potential partners include wireless carriers, such as [Cingular Wireless LLC](#), which teamed with Chase on its pilot, and handset makers [Motorola Inc.](#) and [Nokia Corp.](#), both of which have introduced their own mobile "wallets" to hold financial information. Also eager to greet the new opportunities in the mobile market are a growing number of recent upstarts like [Obopay Inc.](#) and [Black Lab Mobile](#), as well as familiar players from the small value or peer-to-peer payments realm, like [PayPal Mobile](#), who are attempting to stake an early claim by porting their existing online-based solutions to the wireless world.

"In the United States, there's some very new interest and new ventures coming to market around mobile payments," says Gwenn Bezard, research director at [Aite Group LLC](#) of Boston, who adds that venture capital money has been "pouring" into new start-ups aimed at facilitating payment-by-phone schemes.

While mobile payment poses a rich opportunity for banks, the changes that it promises to bring to the existing payment infrastructure may force some significant adaptations. In other countries, where payment by cell phone is more established, it's typically the wireless carrier that is profiting from the transaction more so than the banks. This is because the carriers got out ahead of the trend and, in some countries, have firm control over every action a subscriber conducts over his phone.

"Ultimately, the carriers have a huge amount of control," says Mark Fitzgerald, managing director for London-based [MX Telecom](#), which has been working with the major wireless operators to offer text-based mobile payment to wireless subscribers in the United Kingdom, Australia and Ireland.

Based on the experience of financial firms in other countries and the influence that U.S. carriers have, it appears that banks will likely need to share more of the spoils of this emerging market with their non-bank partners. And impressive spoils they will be. [Juniper Research](#) of Hampshire, U.K., earlier this year estimated that the worldwide mobile payment

revenues will top \$10 billion by 2010, as consumers will be spending more than \$63 billion on mobile commerce by then.

### Payment Leaps From Wallet to Phone

The concept of mobile payment first came to the fore in the late 1990s and then faded in popularity as the dot-com community got trounced in the early 2000s. It's experiencing a resurgence now, according to Bezard at Aite Group.

Some of the renewed interest reflects the economy's comeback. But more important, experts like Bezard say, it's a reflection of the growth of all things mobile. There are already about 2 billion mobile phone users worldwide and Gartner Group expects nearly 730 million more cell phones to be sold this year, as adoption skyrockets in developing countries like China and India. The [Mercator Advisory Group](#) estimates there are already 200 million U.S. cell subscribers, generating almost \$120 billion in annual revenue. And then there's the thriving market for small-value mobile content, such as ringtones, songs and games, and even background designs for the screen that can be downloaded to the cell phone.

"The mobile phone is ubiquitous in most of the countries we're interested in offering our service initially," says Kevin Dulsky, senior director and general manager of PayPal Mobile, the peer-to-peer payments company's recently launched mobile division. "People are already using phones for more than talking. They're downloading games, buying ringtones ... Mobile commerce is there."

There are two basic means by which to offer mobile payment via the cell phone. One takes advantage of Near Field Communications (NFC) technology — NFC is a short-range wireless technology similar to the radio-frequency identification (RFID) — embedded into the handset to enable consumers to make a payment by waving their cell phone over a wireless reader or terminal. This is similar to the way that consumers use a credit or debit card that contains a contactless chip. NFC-based payments are often called "proximity-based," as the user needs to be within close range of the reader to make a payment.

Then there's text-based payment, where the payer would send a text or Short Message Service (SMS) communication to a third party, authorizing them to pay a particular merchant or person.

For wireless carriers looking to expand the range of services for which they can charge as the cell phone market becomes saturated and wireless voice becomes more of a commodity, mobile payment represents both a recurring source of revenue and a way to make subscribers' phones more useful to them. Banks hope that making it easier for their customers to make a transaction will raise transaction volumes, which is good for acquirers. Banks also may benefit because whichever payment account is connected to the phone is the one that is favored by the consumer.

Card issuers, including Chase and [KeyCorp.](#), have been building U.S. consumers' familiarity with the habit of "wave and pay" technology by issuing a total of about 10 million contactless credit and debit cards. Charlie Walton, executive vice president of sales and marketing for [Inside Contactless](#) of Aix en Provence, France, a major supplier of contactless chips, estimates that there are already at least 130,000 contactless payment-accepting terminals at more than 35,000 locations in the United States. While these terminals were installed initially to accept contactless cards, they can also be used to accept payment from cell phones.

Oliver Steeley, [MasterCard's](#) vice president of wireless payment devices, says "the phone can do a bunch of stuff a card cannot." By incorporating the payment instrument directly into the phone, Steeley expects that banks will be able to assure more security since they can set passwords into the handset that would make the mobile payment device harder to use than a stolen card. And, he looks for banks to tie in added services, like real-time alerts to let customers know how close they are to hitting their limit or if they are exceeding a pre-set spending allowance.

Eventually, Steeley adds, banks may be able to save significant expense by not having to issue a physical card to the customer. While banks still may have to bear the cost of issuing a Subscriber Identity Module (SIM) card or supporting a downloadable application for customers to use in their mobile phone, a large bank might save millions of dollars in the cost of buying plastic, printing and mailing cards.

Robert Wesley, president and CEO of [MobileLime](#), a Boston-based mobile payments start-up, says this combination of technology, market readiness and potential upside is creating "a sort of perfect storm for mobile payments."

### The Pioneers

The most noteworthy public effort by a U.S. bank so far in mobile payments has been Chase's test of payment-enabled phones at Philips Arena in Atlanta earlier this year. During the six-month trial, which began in January 2006, about 350 participants — season ticket-holders for the Atlanta Hawks basketball team and Atlanta Thrashers hockey team — were given specially outfitted phones to use to pay for purchases at concession stands at the arena. Chase's partner Cingular Wireless LLC provided the wireless service, and handset maker Nokia Corp. supplied the NFC-enabled phones.

There were about 170 points of sale in the arena where users could pay by phone, says Scott Rau, Chase's senior vice president for payment products. Rau would not disclose the cost or the specific findings of the trial, which wrapped up in June. He says the bank and its partners are still reviewing the feedback from participants. But Rau makes clear his bank's ultimate goal for its mobile payment efforts — meeting consumers' demands. "This starts and stops with how Chase's customers use it. This is a continuation of how we can extend 'blink,'" he says, referring to the bank's contactless card.

Moving the contactless payment capability to the phone, Rau says, is simply a matter of meeting customers' desire for "speed and convenience, as well as security" in their use of a payment instrument. He believes that younger consumers, who use their mobile phones more actively and are more comfortable using their phones for accessing data services like the wireless Internet or sending text messages, are likely to embrace mobile payments more quickly. "For younger people, the phone is more a part of how they do their daily business," he says.

Bank South's Lindsey also sees the opportunities that mobile payment offers in terms of captivating customers. The Tupelo, Miss.-based bank, which has \$11.8 billion in assets, is working with an unnamed partner to develop a mobile payments offering for its customers. The bank is currently testing a mobile banking application with employees, and will soon layer a payments application into that test, Lindsey adds.

While mobile payment is still in its infancy, Lindsey believes this is an area "where we'd much rather be early to market than not. Even though we're small, we want to stake a claim here."

Bank South is hoping to leapfrog the competition by skipping the step of issuing a contactless card and focusing instead on a phone-based proximity payment that would leverage the growing infrastructure of contactless readers. "Do we want to put money in a card-based product or look to the future?" Lindsey asks. "Even in our more rural markets, everyone has a cell phone."

MasterCard International, which has dominated contactless card issuance thus far with its PayPass product, will be working with many of its issuing banks to move contactless capability to the mobile phone within the next year, according to Steeley. PayPass issuers include [Bank of America Corp.](#), Chase, Citigroup, [HSBC Bank USA](#) and KeyCorp. While he would not offer specific details on pilots or plans for any of MasterCard's individual member-banks, Steeley says that the card association will work first on "putting PayPass into mobile handsets" and then on remote payments by text over the wireless network.

Banks seem more interested, at least initially, in proximity-based payments since "they can ride on the back of PayPass," meaning that contactless readers are already in place and consumers are becoming more comfortable using contactless payment, Steeley says. He predicts that more "small-scale pilots" will emerge in late 2006 and early 2007, leading to niche deployments later next year.

### **Mobile Payment Raises Consumer Issues**

The adoption of mobile payments hinges, in part, on whether its proponents will be able to allay the security concerns of consumers and address the more immediate issues of technological viability and consumer adoption.

Mobile payment supporters insist that using the phone makes payment more secure since users can lock up their payment capabilities by password. But consumer advocates like San Francisco-based [Consumer Action](#) have raised concerns, noting that with contactless payments, consumers aren't required to sign or enter a PIN code at the POS terminal to complete their payments; they merely need to wave their device. These concerns gained ground this summer as reports surfaced that software engineers easily can hack or copy the RFID tags used for the new electronic passports — technology that's similar to what is being used on the contactless payment cards and phones.

Lindsey says that his team has been "very conscious of addressing those security concerns from day one," but did not specify what solutions Bank South was pursuing. Chase is highlighting the security of its product by offering users the same liability and fraud protection with mobile payment and contactless cards as accompany magnetic strip-based credit cards.

A bigger issue for proximity payments — though not as much of an issue for SMS-based systems — is that few phones being sold in the U.S. today come with the NFC-capable shell that's necessary to conduct contactless payments. Nokia built the specially made handsets that were issued to the participants in the Chase trial in Atlanta at an unspecified cost. While handset makers are starting to add NFC to their phones, it's not clear when there will be a sizable base of U.S. subscribers with such phones, especially since many users tend to get a new phone only every two years, when they renew their wireless contract.

"It's difficult to imagine any substantial banking community subsidy of mobile phones," says Walton of Inside Contactless.

Yet, he does not believe carriers — who often give away phones as part of their service plans — will support these new payment-capable handsets without having a little skin in the game themselves.

Several non-bank payment purveyors — like PayPal, MX Telecom and Black Lab Mobile — are introducing mobile payment options that operate via text messaging, which is available through most cell phones today. But critics of these text-based payment options say that U.S. consumers are just not as comfortable with text or SMS-messaging as their European or Asian counterparts and will be less apt to use it to make payments.

“We’re certainly aware of the evolution of SMS payments elsewhere,” says Patrick Swanick, a board member of [Tyfone USA](#) and a retired KeyCorp executive. “But the U.S. is lagging in its comfort-level with text and there’s a limit to where the industry can place its bets.” Tyfone USA is working with banks on a mobile payment application.

Bezard concurs. “Payment has to be very simple,” he says. “SMS is a pain in the neck to use... It requires dexterity and better keyboards.”

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