

What is the “next big thing” in near field communications?

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Mike Kabala, ECN Reader

The next advance in NFC will be in the area of multi-factor authentication. The current forerunner in this area is the Yubikey Neo, which contains both USB and NFC interfaces. Further advancement should eliminate the need for the USB connection, allowing a contact-free way of generating a one-time password for use in authentication. With the elimination of the USB connection, the device will require no external power supply, except that provided through the NFC connection, paving the way for an implantable identification device. Right now, in North America, NFC is a solution in search of problems. In other parts of the world, NFC has proven its viability as a payment system and in other specialized applications. While most newer phones are NFC capable, Apple phones are not. With such a large portion of the market using Apple products, the phone applications of NFC seem limited to payment systems or other applications where there is an established alternative transaction option.



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While payment was initially thought to be the “killer app” for Near Field Communications (NFC)-enabled smartphones, even more attractive may be the ability to open doors as part of the physical access control system (PACS). This is possible with standards-based smart card technology that is now portable to NFC mobile phones. Implemented within a trusted boundary, the NFC smartphone provides the platform for an extremely secure mobile identity environment, including a secure communications channel for transferring identity information between validated phones, their secure elements (SEs), and other secure media and devices. Trusted Service Managers (TSMs) will deliver and manage applets in these SEs, setting up the technical connections between the SE’s owner and the Service Provider (SP) who needs to access it. Meanwhile, industry partnerships are also being created that ensure digital keys applets can be embedded in NFC SIM cards, making it possible to use NFC smartphones for many applications that have typically resided on smart cards. While the easiest mobile access control model replicates existing card-based principles, future solutions will harness the smartphone’s power to significantly reduce costs. Smartphones can perform most of today’s card, reader, and server or panel tasks, including verifying a person’s identity with other relevant rules. As a result, readers (and locks) will no longer need significant intelligence or connectivity capabilities — they simply must interpret and obey an encrypted command. Users will be able to secure interior doors, filing cabinets and storage units where it previously has been prohibitively expensive to install a traditional wired access-control infrastructure.



Morrie S. Goldman, ECN Reader

For non-phone application, where users carry a passive, personalized NFC card and interact with readers, a wide variety of creative options are available. Again, payment systems are the big adapters, but NFC door locks and other access control devices and store loyalty cards are well established. As you move beyond these low hanging fruit applications, the direction of future applications is based more on marketing than engineering. Anywhere that a stripe card or an RFID fob is used, NFC can make a case for utilization. Because NFC offers two-way communication options, the operator of the NFC-based system can compile significant amounts of analytics about its user base. Looking beyond transactional or lock & key applications, NFC can be used in promotional marketing programs, self-learning systems, attendance verification, even interactive toys. While NFC is not a new

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technology, companies and other organizations are starting to get excited about its possibilities and low cost.



Steve Heckman, ECN Reader

We already have issues with people placing devices over conventional strip card readers at ATMs to capture info, sometimes with mini web cams to also capture your PIN. Some have even modified gas pumps and placed readers inside. Somehow I think this is going to be way less secure, just for an extremely minor convenience (like pulling out a card was so difficult and slow). Maybe this is just a means to force the rest of us to pay rent on a handheld device (ie, smartphone), though the mobile telcos are doing that anyway. They brag about smart phone adoption when all they now offer is smartphones with data plans. (I know, as I am hanging on with a flip phone as long as possible). I am for technological progress, after all, I’m an engineer. However, I see this more as an idea looking for a problem to solve, when it will only introduce additional issues for a marginal benefit.

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