WHAT IS NFC?

THE TECHNOLOGY

NFC enables the wireless transfer of electronic data over a short range (up to 10 centimetres) through a radio signal from an NFC chip to a receiver. It allows a user to wave a device with an NFC chip over another device containing an NFC reader to send information to it.

Whereas earlier systems (such as contactless smart cards) allowed only one-way communication, NFC enables two-way communication if the receiver is NFC-enabled. However, for the purposes of this briefing note, we have dealt with one-way and two-way communication together.

NFC IMPLEMENTATION

Current NFC applications can be classified into three broad categories:

+ to make contactless informational transactions, most commonly for payment, access to buildings, ticketing for mass transport (such as the Opal card in Australia) and data sharing (such as sharing virtual business cards);
+ to access digital content – for example, using a smartphone to read a “smart” poster/billboard containing an NFC tag to access special offers, coupons and discounts; and
+ to connect electronic devices – for example, wireless components in a home office system, or a headset with a mobile phone.

One of the main implementations of NFC in Australia to date has been in credit cards embedded with an NFC chip to enable contactless payments, such as Mastercard’s “Tap and Go” and Visa’s “Paywave”. The next step in NFC implementation is likely to be through smartphones, since many have in-built NFC technology, allowing them to become more than “just” a mobile payment device.

By installing an app, an NFC-enabled smartphone can become a fully customisable mobile wallet that can make contactless payments and also store more loyalty/membership cards and discount coupons than a person could (or would) ever retain in a physical wallet. The dynamic nature of a mobile wallet, as distinct from a static coupon in a magazine or brochure, also provides the possibility of a more interactive relationship between retailers and customers.

NFC UPTAKE IN AUSTRALIA

NFC technology has captured the imaginations of many sectors all across the world, and Australia is certainly no exception – it may not be an overstatement to say that Australia is leading the world in contactless payments. In 2013, approximately 25-30% of transactions under AU$100 in Australia were contactless, and in July 2014, it was reported that this figure had grown to “one in two transactions”.1 The Australian Media and Communications Authority considers that much of the growth of NFC has been due to the explosion in the usage of smartphones.

1 http://www.nfcworld.com/2013/08/05/325325/mastercard-ceo-nfc-should-be-seen-as-a-longer-term-effort/
PAYMENT SYSTEMS, BANKING AND RETAIL APPLICATIONS

In Australia, Visa and Mastercard both offer contactless payment systems, involving an NFC chip embedded in a customer’s magnetic stripe credit card. To limit the impact of potential fraudulent usage, both Visa and Mastercard payment systems have a $100 transaction cap. Paying for transactions using this contactless method has become relatively ubiquitous as a means of avoiding carrying petty cash and speeding up transaction times, and the widespread nature of these contactless cards has led to Australian consumers’ familiarity with the concept of contactless payment.

Other payment systems, such as Cabcharge, have also introduced similar NFC-enabled cards (Cabcharge’s “Fastcard” also has a $100 limit for instant processing). 1

A number of major banks have introduced contactless payment through NFC functionality for their customers. For example, in 2014, Westpac and the Commonwealth Bank of Australia (CBA) each introduced “Tap and Pay” functionality, enabling customers with certain Samsung handsets to undertake contactless payments by downloading an app and using the phone’s in-built NFC functionality. In addition, CBA customers with non-Samsung phones can attach a “PayTag” (a sticker embedded with an NFC chip) to allow contactless payments to occur. 2 Another example is the “redi2pay” mobile payment app introduced by credit union CUA and Cuscal in July 2014. 3

In terms of retail applications of NFC, in July 2014, supermarket retailer Coles introduced its “Coles Mobile Wallet”, comprising an app and the Coles NFC-enabled PayTag sticker, printed with the barcode for Coles’ loyalty program, Flybuys. 4 Through using the Coles Mobile Wallet, customers with a Coles Credit Card can make contactless payments for their groceries.

TRANSPORT

Within New South Wales, the transport sector has embraced NFC technology with the introduction of the Opal card. Similar to London’s Oyster Card and Hong Kong’s Octopus Card, the Opal card is a prepaid card which acts as both mobile wallet and ticket. All ferries, trains and bus services now accept Opal cards, and other pre-paid ticketing options are in the process of being retired.

The NFC chip in the Opal card is encoded with the purchaser’s identification and account balance. In order to access public transport services, the NFC chip transmits and receives data from receivers in or around the transport service. In this way, the Opal card registers customers’ entry or exit from the transport service and modifies their account balance accordingly.

LOOKING TO THE FUTURE

Host Card Emulation (HCE) appears to be the “way of the future” for contactless payment using smartphones. Potentially, it means that there is no need for a telecommunications provider or a handset manufacturer to be involved in the deployment of NFC technology. Whereas in traditional implementations of NFC a user’s confidential information, such as credit card details, would be stored in the NFC-enabled SIM card or embedded “secure element” within the phone’s hardware), using HCE:

+ the user’s credit card credentials are stored in the cloud;
+ the user downloads an app to their phone, which accesses the user’s details in the cloud; and
+ the phone’s NFC controller communicates with the contactless point of sale terminal.

Security concerns over HCE rather than more traditional “secure element” methods may initially slow the widespread use of HCE. However, the cloud-based payment processing nature of HCE may result in fewer organisations being needed to implement contactless payment via NFC on smartphones, ultimately enabling a more rapid “route to market” for these initiatives.

NFC & G+T

At Gilbert + Tobin, we understand and embrace technological innovation. We have advised clients across a range of industries about competition, regulatory and privacy issues relevant to the implementation of Near Field Communication and digital wallets. We also have extensive experience and expertise in advising on the regulatory framework relating to payment systems.

In June 2013, we published an article considering the regulatory implications of NFC - click here. In November 2013, Gilbert + Tobin facilitated an NFC Industry Forum in Sydney, an opportunity for key NFC players across telecommunications, banking and other sectors to hear from one another. To continue to build on our NFC capability, G+T were represented at the NFC World Congress in September 2014, held in Marseille, France.

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