The chips (and PINs) are down!

BY STEPHEN WILSON

Three quarters of all UK bank customers now have smartcards in their wallets and purses.

In a co-ordinated program called Chip and PIN, it has taken British institutions less than 12 months to distribute 65 million smartcards to over 30 million people. In this column we will look at what this means for our region.

The benefits of smartcards have been well known for a long time. First and foremost, smartcards cannot be "skimmed" like traditional magnetic stripe cards. Smartcards represent a form of two-factor authentication, with the added benefit of retaining the same familiar form factor and user experience as traditional plastic cards. The one card can be used for all forms of transaction – ATM, electronic POS, manual merchant swipe, and in future, Internet banking and e-commerce. And the chip can be programmed with extra value-added functions like secure payments, loyalty and ticketing.

Less well known is the benefit of "bilateral authentication" which I discussed in the last edition of *Online Banking Review*. Unique among the new crop of ID solutions, smartcards (and USB keys) can properly tackle phishing and website ghosting.

> **"We are on the cusp of an explosion in identity technologies."**

Of course the biggest obstacle to the take-up of smartcards has been the need for special smartcard readers. Some institutions have experimented with giving away free readers with their cutting edge smartcard products, but the cost and the added support overheads were found to be prohibitive. However, there is light at the end of the tunnel, with Acer, Dell and Fujitsu, among others, now offering built-in smartcard readers as standard in most of their notebook PCs. These new product releases were largely stimulated by Bill Gates' announcement in January 2003 that smartcard support was to become an integral part of the Microsoft Windows platform.

Large scale smartcard projects are taking off, especially in sectors where kiosks rather than personal computers are the main interface. Queensland Transport plans to introduce a smartcard drivers licence from 2006. The objective is primarily to combat counterfeiting, but it is intended that the smartcard be architected as a secure platform to support any number of additional e-business applications [1]. And the Commonwealth has commenced the introduction of smart Medicare cards, starting in Tasmania in early 2005 [2].

In the banking sector, cost and universal availability of readers weigh more heavily. While one of Australia's Big Four has actually issued over half a million smartcards and upgraded some 50,000 merchant terminals [3], a cautious view still dominates banking circles. Apparently few if any bankers see smartcards as being ready for the big time as yet.

In this light, amazing progress has been made in Britain.

The UK's Chip and PIN program has been driven by fraud in card-present transactions, which costs in excess of £400 million a year. A large scale trial in the English city of Northampton saw high and sustained uptake of smartcards. Through 2004, British financial institutions have replaced the majority of credit and debit cards with EMV-standard chip technology. As of October, 65.5 million smartcards had been issued to 30.8 million customers, and 520,000 merchant terminals had switched over to chip [4].

From early 2005, most UK stores will expect credit card holders to enter a PIN instead of signing their name (for the time being, visitors with foreign issued credit cards will still use a signature). Thereafter, whenever fraud occurs and the merchant omits to have a PIN entered, they, not the institution, will be liable for the loss.

Key points

- **The UK has implemented a large-scale rollout of smartcards.**
- **The unit cost of smartcards is falling rapidly as hundreds of millions of cards roll off production lines.**
- **Built-in smartcard readers in laptops and other PCs will help the new technology gather pace.**

Various local factors have facilitated the adoption of Chip and PIN in the UK. Relative to Australia, Britain had a smaller installed base of existing Eftpos equipment and therefore less switching cost. And different arrangements apply to the merchant ownership of terminals there. So care must be taken in translating the economics of smartcards from overseas to Australia.

Nevertheless, the rapid penetration of smartcards into European retail banking does have several important implications for our industry:

- Steady reductions in unit prices of EMV standard cards can be expected as hundreds of millions of chips roll off the production lines.
- Competitive pressure on personal computer vendors will lead them to include smartcard readers in their standard products, to take advantage of the ubiquity of cards, and realise their potential for enabling new types of secure online transactions.
- Tremendous stimulus will apply to the creation of new killer applications and online banking products, as institutions see the potential to apply Chip and PIN over the Internet.

In Australia, we are on the cusp of an explosion in identity technologies. No fewer than four new and incompatible technologies are being tried by local banks, including two-factor random PIN generators, SMS messages and secret code lookup tables. Many strategists regard these divergent approaches as stop-gap measures before the eventual deployment of smartcards becomes economically viable in this country. The sheer scale and velocity of overseas rollouts such as Chip and PIN tell us that day is almost upon us.

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