Smart Card News

Smart Cards, SIM, Biometrics, NFC and RFID

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Dear Subscribers,

Spring is in the air with the clocks due to go forward at the end of the month, but perhaps things are not quite so perky in the Smart Card business. This month we have seen the 2006 results for Gemalto and Oberthur and there is clearly not too much to shout about as you will see discussed further by the Squeaker in this months newsletter. The Smart Card itself was always going to end up being a commodity and clearly judging by the price erosion with SIM prices for example halving over the last 18 months or so then we have already got there.

The strange thing is that I don't feel impacted by any significant changes over the last few years, GSM has been going for well over 10 years and the Chip and PIN card has more quietly appeared over the last 5 years. The electronic passport is here although I haven't applied for mine yet and the National ID card, well I wait to see. In short I don't think the evolution of Smart Cards has provided anything new in terms of end user functionality for some time.

So what would I like or want? Never afraid to admit it but I actually would like an Identity Card to help make my life easier. At the moment proving your identity seems to be an almost daily occurrence and phoning the bank has become a nightmare unless you are one of those people with a database memory for passwords. The trouble is that there are so many passwords that you end up having to write them down, these days in the electronic diary or all too often the mobile phone. Can't help being paranoiac about losing my phone, I can cope with the battery going flat.

I have a sneaking suspicion that the UK government at least and probably many others are not actually going to provide anything useful to me in this area. All the major Smart Card companies are concentrating on digital identity, I wonder if they are looking at the wrong customer?

Patsy

US-Visit Fails to Define its Position

Despite improvements in several areas, the US Homeland Security Department (DHS) has so far failed to deliver a spending plan and supporting data that allows US Congress to perform an adequate oversight of the US Visitor and Immigrant Status Indicator Technology (US-Visit) program. This is according to the US Government Accountability Office (GAO). In a new 143-page review by the GAO on the US-Visit program they report that even though three of Congress' requirements, laid out in the DHS Appropriations Act of 2006, have been fulfilled, other requirements have only partially been met. The report goes on to say that the GAO had two major concerns over the program. The first was that the DHS had not adequately defined and justified its fiscal 2006 plans for the US-Visit pilot and demonstration projects. The second was that the department has continued to invest in the program without showing how it fits operationally with border security and immigration enforcement initiatives. The report said the DHS fiscal 2006 expenditure plan "does not provide sufficient justification for all planned US-Visit expenditures". GAO also recommended that DHS limit further spending on pilot tests and demonstrations until each could be justified as part of a well-defined evaluation plan.

The GAO report focused on the growing costs of the program and its lack of oversight. Congress has slammed the DHS for not providing sufficient information to allow them to provide an effective oversight of the program. Congress has been waiting since 2005 for the DHS to provide a strategic plan that defines US-Visits mission. But the problems have not stopped there as a 2006 expenditure plan was delivered almost 11 months to Congress after they appropriated $336.6 million for the program, and the FY2007 expenditure plan is already four months overdue. In light of this Congress has now taken action and has withheld $200 million of the $362.5 million appropriated for the program this year, pending receipt of the spending plan. However Congress has already taken this approach of restricting the funding of the program in the past with little effect. Launched in January 2004, the US-Visit program system collects a digital photo and two digital fingerprints from incoming visitors to the US and checks each traveller against a database of suspects. The program is currently a one-way process because the system does not track the visitor's departure from the country. Robert Mocny, Deputy Director for US-Visit, said that the "exit tracking component is "not ready for prime time yet." He also said the DHS plans to further improve entrance security by spending a further $228 million on deploying "ten fingerprint capture" equipment at ports of entry, upgrading the automated biometric identification systems and increasing compatibility with the Department of Justice's fingerprint system.

It does appear that Mr Mocny is oblivious to Congress' concerns and what the findings of the GAO reports have revealed. He has acknowledged that the US-Visit program has not met Congress' requirement for establishing an exit program to date but has still deemed the program a success. "The DHS has deployed the US-Visit program on time, within budget, and has met the legislative requirements to date, as well as incorporating biometrics (finger scans and digital photographs)," Mocny said. "In each of the incremental improvements that have been successfully deployed to date, all of the four US Visit goals have been met." He has even cited the possibility of using radio frequency identification (RFID) for US-Visit's exit component. In a hearing at the House Appropriations Subcommittee on Homeland Security, Chairman Rep. David Price expressed concern that the DHS still had no "meaningful exit capacity" for the US-Visit program. He said "The total resources provided to this program would exceed $2 billion over the five years since 9/11, but we still have no way to know if people visiting the US have left. This ignorance is both a security gap and a key problem for immigration reform." Also in a recent interview, Randy Hite, the author of the GAO report, described the US-Visit program as a plane flying aimlessly. "We're asking for a pilot to program in a destination," Hite said. "Instead, we have it on autopilot with no destination."

So it appears that the DHS needs to pull their finger out as it appears their costs for the program are spiralling out of control and they cannot provide Congress with any accompanying explanations as to the reasons why this is happening, or the direction they seemed to be moving in? If they don't then Congress could pull the plug on the whole project. "I've had it," said Republican Harold Rogers of Kentucky, the ranking minority member of the subcommittee on Homeland Security. "We've withheld funds and released them, dribbled them out long enough. Face up to it. Give us the plan. If you can't do the plan, scrap US-Visit…. How can we do our job if you won't tell us where you're going?"

Smart Cards

New National ID Project in Portugal

Gemalto has been selected by Imprensa Nacional-Casa da Moeda (INCM), the Portuguese Mint and National Printing Office, to provide the solution for the national e-ID card. A first pilot phase has already started in the Acores region, and in mid-run, all Portuguese citizens should be able to use these high-end cards, which include a built-in biometrics feature (fingerprint), as their national ID document. This Smart Card will be the official ID document for Portuguese citizens and incorporates extended printing security features. This new "Citizen Card" will include several id-numbers such as civil identification, taxpayer, social security and health and will also replace, in the future, the elector card. A variety of e-government services will be available through the electronic identification provided by the new Citizen Card. The cardholder has a secret pin code to identify and authenticate himself/herself, and the card generates a legally-binding digital signature for secure declarations and administrative procedures.

Smart Card System For South Africa

The South African government has decided to go ahead with the Smart Card system of identification without coming to any conclusion in its discussion with business, in particular the banks. Home affairs minister Nosiviwe Mapisa-Nqakula has announced that weaknesses in the green bar-coded ID system had made it imperative to go ahead as soon as possible. "Many undesirable elements have had access to them. So we can forget about other applications, and just use the Smart Card.," she said. The minister also said the Smart Card ID aimed to provide a secure identity system that would be useful in other government departments, notably for drivers licences or at pension pay points. However, it could also be used to identify customers to their banks.

ePassport System for Venezuela

The Bundesdruckerei group will supply polycarbonate passport cards along with the entire personalisation system for electronic passports to Venezuela's Ministry of the Interior. Starting in March, Venezuela will issue ePassports to its citizens and is thus the first country in Latin America to introduce passports with an integrated chip. Venezuela expects to issue about 2.5 million electronic passports annually.

The Bundesdruckerei group will manufacture the passport cards from polycarbonate into which a chip is integrated. These cards will then be sewn into the passport booklet on site and personalised. What's more, the Bundesdruckerei group will also supply the entire system for the personalisation of the ePassports. Several ME 5000 laser engraving machines from Maurer Electronics will be used for this purpose. This is the only system worldwide which can optically and electronically personalise both biometric passports and ID cards.

Smart Cards Used in UK Car Park

A car park in the UK county of Hertfordshire is now utilising a variation of Smart Cards and radio frequency identification (RFID) technology. According to the Harlow Herald, the Park It Smart Card has been "declared a success" in the UK county, used by hundreds of motorists who want to avoid using loose change to pay for a parking spot. The Park It Smart Card is credited with funds, which are then used to pay when a driver uses one of a number of car parks in the east of Hertfordshire. It works when the cardholder presses a button on a pay-and-display machine, chooses how long they want to stay and is given a ticket accordingly, with the appropriate amount being debited from the card.

IOActive Silenced Over HID Cards

At the Black Hat conference this year HID Global have pulled a presentation from the lineup, which shows new research into security vulnerabilities in radio frequency identification cards that HID make. IOActive, planned to present their research that outlined security weaknesses in HID proximity badge systems. This research was based on a whitepaper published two years ago by HID. In their presentation IOActive planed to detail a technique they had developed to clone the credentials stored on certain RFID cards made by HID. Kathleen Carroll, director of government relations for HID, said the company contacted IOActive after reviewing a video recorded at the RSA Security conference in San Francisco earlier this month, where researchers could be seen demonstrating the cloning technique to several attendees.

The HID attorneys claimed the researchers at IOActive were infringing on HID's intellectual property. Carroll said HID has "never denied the fact that you can potentially clone" one of its cards, and that the company never threatened IOActive with a lawsuit if the presentation went forward.
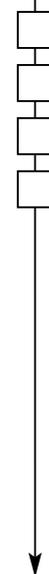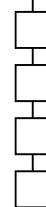
"We simply asked them to modify the presentation so that it doesn't infringe on our intellectual property." "As a consequence, under advice of counsel, IOActive had to withdraw their presentation

Smart Cards for Indian Rail Network

Indian Railways has decided to install 6,000 automated Smart Card ticket vending machines in major cities over the next two years that would be connected with UTS terminals. The Smart Card ticketing system would be introduced in Chennai and Kolkata for the facility of the train passengers. The Railways has also drawn up a scheme for putting in place 8,000 computerised Unreserved Ticketing System (UTS) counters across the country over the next two years.

Contactless Payments Expanded

Visa and JCB has announced an agreement to share Visa Asia Pacific's contactless specification, which will soon open up the acceptance of JCB's contactless cards, J/Speedy, at merchant locations outside of Japan. With this arrangement, merchants can use the same terminal to accept contactless payments for both brands. The agreement will significantly increase the network of acceptance points for Visa and JCB contactless cards. Visa's specifications, which are based on EMV principles, were designed to support any contactless payment product.

Contactless Transport for Marseilles

The Marseilles Provence Métropole (MPM) urban authority, covering 18 communes and a million inhabitants, has selected ACS to install a contactless ticketing system throughout the greater Marseilles area. ACS will deploy its ATLAS multi-operator system across the network of France's third largest conurbation beginning in 2007, under a contract worth 12 million euros. ACS will install, in partnership with SPIE, new terminals on the extensions to the tramway and line 1 of the metro, and renew all of the network's contactless ticketing equipment between now and 2009.

Victoria Get New Travel Smart Card

A A$500 million Smart Card initiative will be rolled out across the Australina state of Victoria's public transport network within 12 months. The "myki" (pronounced my key) will replace the current single or multi-use Metcard tickets with a rechargeable plastic card. Commuters will scan their day-glow green myki cards across an electronic reader as they get on and off public transport.

New MBTA Transit Payment Devices

Gemalto is supplying transit payment devices to the Massachusetts Bay Transportation Authority (MBTA) for its historic CharlieCard electronic ticketing initiative. Gemalto is providing 3.5 million secure contactless transit Smart Cards to the MBTA for the program, enhancing the convenience and speed of service for public transportation in the Boston area. By the end of this March, Gemalto will have successfully delivered 2.4 million secure contactless transit devices specified for the CharlieCard program to the MBTA.

ATOC Decision on Oyster Welcomed

TranSys, the consortium responsible for delivering the Oyster card (Prestige) system in London on behalf of Transport for London (TfL), has welcomed the outline agreement by all of the Capital's Train Operating Companies to implement Oyster pay as you go across their networks in Greater London. "We will work closely with our client TfL to achieve the shared vision of integrated Smart Card-based ticketing," said John Stout, Chief Executive TranSys.

New Smart Card Software for Hitachi

Advanced Smartcard Technologies has revealed a new deal with Japanese electrical giant Hitachi to use its software in its Smart Cards. Managing director David Braddock said the deal was the end of about two years of negotiations with Hitachi, and could transform the AIM-listed firm. "Hitachi are one of the world's largest manufacturers of these kinds of chips, and they're now putting our Multefile technology on their most secure chips," Braddock said. Multefile technology allows issuers to add or change applications of a Smart Card even after it has been delivered to customers. A spokesman for Hitachi said the software, to be included on its Multos cards, used for security in industries such as banking, was a differentiation that would help win new business.

Gemalto Buys Out Leigh Mardon

Gemalto has completed the purchase from Leigh Mardon Group Pty Ltd of its 50% interest in LM Gemplus Pty Ltd, a joint venture the two companies set up in 2000 to address the Australian and New Zealand Smart Card markets. Gemalto plans to combine the LM Gemplus team with its existing wholly owned business to address the Telecom, IT Security and Identity markets.

Contactless Ticketing in Jerusalem

Affiliated Computer Services, Inc has been awarded a contract by Alstom to deliver the ticketing system for Jerusalem's first tramway system. ACS will implement a central fare collection and magnetic and contactless ticketing system and maintain the field equipment as part of its 15-year contract. The project includes installing card customisation machines, portable inspection units, ticket vending machines, and combined validation machines on board the Citadis trams manufactured by Alstom. With 23 stations, the Jerusalem tramway will eventually log 150,000 riders per day. The tramway is expected to be commissioned in the first half of 2009.

World's 1st Visa on MULTOS Card

Banka Koper, a financial institution in Slovenia, has became the world's first Visa issuer to deploy Visa Smart Credit and Debit on a MULTOS multi-application platform, marking the culmination of intensive effort for Banka Koper, and the MULTOS consortium members including Keycorp Ltd, Thales eSecurity and StepNexus. In addition to its recent relaunch of its MasterCard portfolio using M/Chip 4 on Keycorp MULTOS, Banka Koper is now rolling out its Visa chip card program, deploying multi-application MULTOS cards which support both VSDC and the Visa Dynamic Passcode Authentication application to support remote cardholder authentication.

Smart Cards For London Libraries

The Museums, Libraries and Archives Council (MLA) has published a study that proposes a new single Smart Card membership scheme for all of London's libraries. This new single library card potentially could also be linked in to London's Oyster travel card system. However, one of the major challenges to such a scheme would be ensuring a high standard of data quality, so that the system could work efficiently and effectively, capturing details of library cardholders from across the capital.

New Smart Card Parking Order for QI

QI Systems Inc has received a new order from Cale Systems, Inc., the North American subsidiary of Cale Access AB of Sweden. The order, valued at US$200,000, is for QI Hybrid card payment terminals for use in Cale self-serve parking machines currently being deployed in a major installation in Oakland, California. The order is expected to be shipped by the end of the 2007 fiscal year.

1GB G&D SIM Cards for TeliaSonera

TeliaSonera, a telecommunications operator in the Nordic and Baltic states, has commissioned Giesecke & Devrient (G&D) to provide it with SIM cards featuring a storage capacity of over one gigabyte (GB) for preliminary trials. The 1 GB SIM card from G&D, dubbed GalaxSIM, runs on a corresponding chip platform from Samsung. The trial will be conducted on a P3600 personal digital assistant (PDA) from HTC. The GalaxSIM card uses the MMC interface of the P3600 PDA from HTC for speedy communication between card and phone. Although the European Telecommunications Standards Institute (ETSI) agreed on USB as the standard for a high-speed protocol in November 2006, there are presently still no USB-enabled mobile phones available on the market.

New Islamic EMV Smart Card

Bahrain will introduce an Islamic EMV compliant chip-based card with the support of Arab Financial Services. The card is said to be the first such Islamic smart card in the region, and conforms to Visa standards, according to an AFS statement.

Smart Cards for Indian Traders

IBM and Financial Information Network and Operations Ltd (FINO) have partnered for the deployment of a core-banking and end-to-end smart card solution for Janalakshmi Social Services, an urban microfinance institution based in Bengaluru, India. The solution developed by FINO will enable traders who have availed themsleves of financial assistance from Janalakshmi to participate in fruit and vegetable auctions at Safal outlets. With these smart cards, traders will now have anytime access to the trading floor without having to carry cash and/or resort to expensive loan arrangements through money-lenders.

Biometrics

Biometric Passport for Brunei

Brunei's Immigration and National Registration Department has become the third Asian country to implement biometric features in travel documents following the signing of an agreement contract for two projects between the Immigration Department, a local company, ITPSS, and a German company, Giesecke & Devrient (G&D).

The project, costing BND$7million includes supply, delivery, installation, testing, commissioning and maintenance of the e-passport system and the production, supply and delivery of the Secure Delivery Services of Biometric Passport (e-passport). Director of Immigration, Awg Zainal Abidin Dato Paduka Hj Ahmad, said the execution of the project is in line with the current need of e-passports and to ensure that the level of identification and security of travel documents are secure.

NASA Deploys Biometric Platform

NASA has deployed Aware's new Biometric Workflow Platform (BWP) as a key component of its PIV-compliant credentialing system upgrade. Aware's BWP, a service-oriented server platform, was used by ID Networks, a system integrator, to bring the NASA credentialing system into full compliance with PIV standards and requirements. In addition to BWP, Aware's PIVSuite software components were used to develop the new enrollment workstation application, tailored by ID Networks to NASA's specific role-based workflow and requirements.

Biometric ATMS for Indian Bank

Andhra Bank in India has announced they plan rolling out biometric-based ATMs. To start with the system would be installed in Andhra Pradesh. The bank is planning to set up to 120 to 150 biometric ATMs. These would also have the interactive voice recorded information delivery in local languages. "A thumb impression can't be copied or stolen and is highly individualistic. It thus forms a good basis for us to launch ATMs using biometrics," said Andhra Bank CMD K Ramakrishnan.

New Slovakian ePassport Contract

Hewlett-Packard, the winner of a Sk1.2 billion tender for the production of new passports for Slovakia, has now signed a contract with Interior Minister Robert Kalinák. The biometric technology for the passports alone will cost Sk400 million. The changes are needed as part of Slovakia's efforts to enter the EU's borderless Schengen area by the end of the year.

"Each passport must be readable by all states that require biometric data," said Kalinák. Apart from a digital map of the holder of the passport, the document should also contain the holder's fingerprints.

Radio Frequency Indentification

The World's Smallest RFID Chip

Hitachi has announced the development of RFID chips the size of sand grains. Smaller than the width of a human hair, these RFID chips measure just 1/20th of a millimeter square. The chips are 64 times smaller than currently available RFID chips, which are already tiny enough to embed in paper. These new RFID chips have a 128-bit ROM for storing a unique 38 digit number, like their predecessor, the Hitachi mu-chip. Hitachi plans on marketing them within the next two to three years. The main application is likely to be anti-counterfeit.

Double RFID Production in Finland

UPM Raflatac is doubling the RFID tag and inlay production capacity at its Jyväskylä production plant in Finland. With this capacity increase the company addresses rapidly growing demand for both HF and UHF products. The additional RFID tag production capacity will be installed and ready for use in March 2007, when UPM Raflatac RFID production plant in Jyväskylä, Central Finland moves to new, modern premises in the same area.

Sony Ships 200 Million Felica Chips

Sony Corp has announced that shipments of Smart Cards and mobile phones containing their Felica RFID chip have hit 200 million. In the last five years the chip has become a de facto standard in Japan and cards containing it are used by millions of people everyday to make railway journeys and e-money purchases in convenience stores. In 2004 the chip started getting integrated in mobile phones and today, through Felica, owners of those mobile phones can make credit card purchases in stores. The next big jump will come later this month when Tokyo's subway and private railway and bus operators launch a common travel card based on the Felica platform.

The Pasmo system will be interoperable with East Japan Railway Co.'s (JR East's) Suica card, allowing the 35 million people who live in the Tokyo Metropolitan area the ability to travel on more than 100 railway lines and hundreds of bus routes with a single card. In addition to Japan, the technology provides the base for the Octopus subway card in Hong Kong, which has also morphed into an e-money payment system, and the ez-Link transport card in Singapore.

Felica is also used in Shenzhen's TransCard, India's TravelCard and Bangkok's Metro Card but has yet to break significantly into European or North American markets.

RFID Tags for Hyundai/Kia Motors

Hyundai/Kia Motors Group has implement RFID technology to improve the visibility of its automotive parts supply chain. In March 2007, Glovis, an affiliated company of Hyundai/Kia Motors Group, will begin receiving RFID tagged boxes of automotive parts from more than 200 suppliers to Hyundai/Kia Motors. Using RFID technology Glovis will be able to track corrugated cardboard boxes of automotive parts through the major SCM processes.

In the first phase of the project, and with the support of the South Korean Ministry of Commerce, Industry and Energy, approximately 130,000 UPM Raflatac UHF RFID tags will be applied to parts boxes and packaging cases from five major suppliers for exportation to Hyundai/Kia Motors' overseas factory in Alabama, USA. In the second phase of the project, 20 million UPM Raflatac RFID tags will be used annually to track all boxes and containers of automotive parts through the supply chain. The project's scope will also be broadened to include Hyundai/Kia Motors' Slovakia factory as well as another major manufacturing site.

Zebra Acquire RFID Company

Zebra Technologies Corporation has completed the acquisition of WhereNet Corp, a provider of active radio frequency identification (RFID) based wireless solutions to track and manage enterprise assets. On January 11, 2007, Zebra agreed to acquire all of the shares of WhereNet for US$126 million in cash. Independent industry analysts forecast sales of active RFID systems to increase to US$6.8 billion in 2016 from US$550 million in 2006, a compound annual growth rate of 29%.

Financial

ActivIdentity 1Q 2007 Results

ActivIdentity Corporation has reported that its revenue for the first quarter of 2007 was $14.6 million, compared with $11.5 million for the first quarter of fiscal 2006 and $17.9 million for the previous quarter ended September 30, 2006.

Net loss for the first quarter of 2007 was $1.39 million, compared with a net loss of $8.6 million for the same period in 2006. The Company's net loss for the fourth quarter ended September 30, 2006 was $0.3 million.

VeriFone 1Q 2007 Results

VeriFone has reported its first quarter results reflect the November 1, 2006, acquisition of Lipman. Net revenues, for the three months ended January 31, 2007, were $216.6 million, 61% higher than the net revenues of $134.6 million for the comparable period of 2006. The record revenues were driven by the Lipman acquisition and a strong performance internationally.

VASCO 4Q and Full Year 2006 Results

Vasco Data Security has reported its revenues for the fourth quarter of 2006 increased 44% to $25.2 million from $17.5 million in 2005 and, for the full-year 2006, increased 39% to $76.1 million from $54.6 million in 2005. Net income available to common shareholders for the fourth quarter of 2006 was $5.1 million and compares to $3.0 million in 2005.

New Products/Services

New Gemalto-Abaxia SIM Solution

Gemalto and Abaxia have launched a new complete package that will enable the dynamic management of on-device services. This solution relies on the new generation of multimedia SIM cards from Gemalto associated with an over the air (OTA) infrastructure. This combination will give mobile operators greater control of the handset user interface (UI) by allowing them to manage the way users access the handset's internal phone features and menus. The Gemalto multimedia SIM cards will carry the handset customisation elements like the user interface and the settings for data services, in addition to the new multimedia phonebook and the local operator portal already available from the SIM.

Palm Unveils Bluetooth CAC Solution

Palm, Inc has announced a new Bluetooth Common Access Card (CAC) solution. Compatible with Windows Mobile 5.0-based Palm Treo smartphones, the wireless CAC solution combines Palm's mobility with hardware and software from Biometric Associates, Inc. (BAI) and Trust Digital.

Designed to help ensure that secure mobile computing meets government IT requirements for data security, the solution integrates the baiMobile Bluetooth Smart Card reader with baiMobile Smart Card-enabling middleware, allowing personnel to use Treo smartphones to digitally sign and/or encrypt email messages and log on to secure websites.

New Government Validation Service

Cybertrust, and CoreStreet, have announced collaboration around government Smart Card credentialing. Aimed at validating Federal Information Processing Standard (FIPS) 201-compliant Smart Cards, the US Department of Defense Common Access Card (DoD CAC) and Smart Cards issued as part of numerous national ID and health card programs around the globe, this service will provide customers with an alternative to deploying their own Public Key Infrastructure. Cybertrust validation service enhances the deployment of CoreStreet's PIVMAN System for government smart credential checking. The PIV-MAN System consists of server software and handheld devices designed to allow authorised personnel the ability to control access to any site by quickly authenticating and validating the roles and identities of individuals wishing to enter an area.

New Fingerprint Platform

Fidelica Microsystems, Inc has announced the availability of the Company's BCP-3 Smart Card development platform featuring a fully-embedded biometric system. Fidelica's platform is the first in the industry that allows fingerprint imaging, enrollment, and authentication to be contained entirely within a standard credit card-sized package. Utilising the BCP-3, integrators can create a Smart Card with a radically advanced feature set that works with existing card readers, wireless systems, and other card infrastructure. Biometric security can be added to a system simply by upgrading cards.

On The Move

New VP of Operations at Ingenico

Ingenico has announced that Patrice Le Marre has been appointed as Vice President of Operations. Mr. Le Marre will join the Ingenico Executive Committee and report directly to Amedeo d'Angelo, Chief Executive Officer. This promotion forms part of the company's controlled business development strategy.

New VP Combines Sagem Orga Units

Sagem Orga has placed management of the Banking and Health & ID Business Units in a single pair of hands. Vice President Silvio Stockmann has assumed responsibility for the segments of health and identification in addition to the banking market.

New Board Members at Identita

Identita Technologies had appointed Ross Pellegrino to the role of Vice President Application Development and Sayed Ramadan as Lead Architect at Identita.

New President at Fargo

David M. Sullivan has been named the new President of Fargo Electronics. Sullivan's previous position was as managing director for the Europe, Middle East and Africa (EMEA) division of ASSA ABLOY'S HID Global Corporation. As Fargo president, Sullivan will be responsible for setting strategy and development of business objectives.

CRI Expands its Team

Cryptography Research, Inc. (CRI) has announced the appointment of Luke Teyssier to senior staff engineer. Teyssier joins the company's engineering team and will help design security systems for high-threat environments, analyze product vulnerabilities and develop countermeasures to mitigate threats.

SST Announces Acting CFO

Silicon Storage Technology (SST) has appointed William R. Kinzie, the company's corporate controller, as acting chief financial officer (CFO). SST has commenced an executive search for a new chief financial officer and expects Kinzie will serve in this capacity until a new chief financial officer is appointed.

New Chairman of the Board at SCM

SCM Microsystems, Inc has announced the appointment of Werner Karl Koepf as Chairman of its Board of Directors. Koepf has been a member of SCM's board since February 2006.

New CAO at Pay By Touch

Pay By Touch has hired Jeff Amann as its chief administrative officer. He has also become the interim chief financial officer.
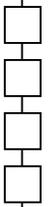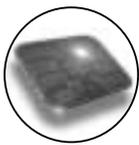
EMV: The Turkey Experience

By Evren Bayri, International Payments Advisory Service Director, Mercator Advisory Group

Evren Bayri

As of March 31, 2006, Turkey has become the third country in Europe after France and UK to apply the Chip&PIN method in card payments. This marked another important milestone for the EMV technology as Turkey is one of the largest payment card markets in Europe. There are invaluable insights and best practices hidden within both the Turkey and the UK EMV experience. Learning about these EMV migration projects will be highly beneficial to countries that are at the planning or early implementation stage of their own projects. As the UK experience has been well-documented, in this article we will take a look at the EMV migration in Turkey.

Turkish Card Market - Turkey started the card business as an acquirer in late 1970's. The tourism industry was already booming in those years, bringing an attractive segment of foreign cardholders to the country. This was followed by card issuing in the early 80's, which was also the time when the Turkish economy was opening its doors to the rest of the world. Banking system was quick to adopt the new technologies and delivery channels such as the ATMs, which brought the mass debit card usage. The local dynamics of the economy such as high inflation rates throughout the 80's and the 90's led to a high usage of credit cards which placed the credit card as a financing tool. BKM (Bankalararasi Kart Merkezi - Interbank Card Center) was founded in 1991 as the national switch and clearing center and played a key role throughout the development of the card payment systems in Turkey. Owned by the banks, BKM created local regulations for the card payment infrastructure in compliance with Visa and MasterCard rules.

### Turkish Card Market Statistics 2006 (millions)

		Purchases	Cash	Total
Debit	Volume (USD)	1,060	75,056	76,116
	Transactions	50	518	568
Credit	Volume (USD)	69,076	6,730	75,806
	Transactions	1,274	60	1,334
Total	Volume (USD)	70,136	81,786	151,922
	Transactions	1,324	578	1,902

Today, the Turkish card market is one of the largest and fastest-growing card markets in Europe. From 1999, when the EMV project planning started, to 2006 when Turkey switched to Chip&PIN method, the number of total credit cards in circulation increased from just over 10 million to 32.4 million.

Over the same period, the number of debit cards increased from 24.1 million to 53.4 million. On the acquiring side, the Turkish card market boasts a significant footprint with 1.28 million POS terminals and 16,511 ATM machines deployed as of end of 2006. This picture places Turkey among the top three card markets in Europe and the relatively lower card volume to total consumption in the market suggests healthy growth for the foreseeable future.

History of the Turkish EMV Project - Starting with the embossed cards and followed by the magnetic stripe, holograms and CVV, Turkish card industry has been up-to-date with all the security enhancements of the card technology. The EMV chip is the latest security feature for the industry and has created new opportunities for the Turkish card business. The start of EMV project in Turkey goes back to 1999; quite early when compared with most countries in Europe. During that year, the Board of BKM set the chip standards as EMV. In 2001, BKM Board set the country standards for the EMV project and one year later made a decision to support "manual PIN-bypass" during migration to Chip&PIN. In 2003, the BKM Board set the minimum requirements for POS/ICS and Issuer Action Codes for SDA cards and the project implementation started to be completed in two phases: (1) *Phase 1:* Migration to chip, setting of new rules for issuing EMV cards as PIN blocked, (2) *Phase 2:* Migration to Chip&PIN.

With the standards and high level strategy in place, industry participants went live with their own EMV migration projects. Turkish banks pursued different strategies driven by their customer base but the rules and timing was regulated by BKM. The mass EMV roll out started with POS terminals, which was followed by the issuing of EMV chip cards.

Industry Insight

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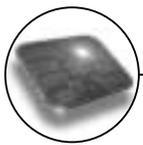
The migration of the ATM network is still in process. On March 31, 2006, Turkish card market officially went live with the Chip&PIN method. The manual PIN bypass period will end at the end of March 2007, and after that date all Chip&PIN compliant transactions will require the entry of PIN.

EMV Migration - Industry participants have reported a smooth migration so far. A majority of the cards, POS terminals, and ATM's are EMV compliant, and both the credit card PIN knowledge and PIN usage at the POS are high. According to BKM, PIN verified EMV transactions reached 77% of total EMV sales transaction by the end of 2006. BKM also reported that 90% of total credit cards, 98% of total POS terminals, and 70% of total ATMs were EMV compliant as of year end 2006. Debit cards remain to be magnetic stripe-based.

BKM played a key role in the migration process. According to Dr. Soner Canko, BKM Chairman and General Manager of Bilesim Alternative Delivery Channels and Payment Systems Inc., two incentive programs were developed in order to expedite the migration process. "First a $15 million incentive program for the POS terminals was launched in 2004. This was followed by a $20 million ATM incentive program in 2005."

Turkey's Chip&PIN Status as of Year End 2006
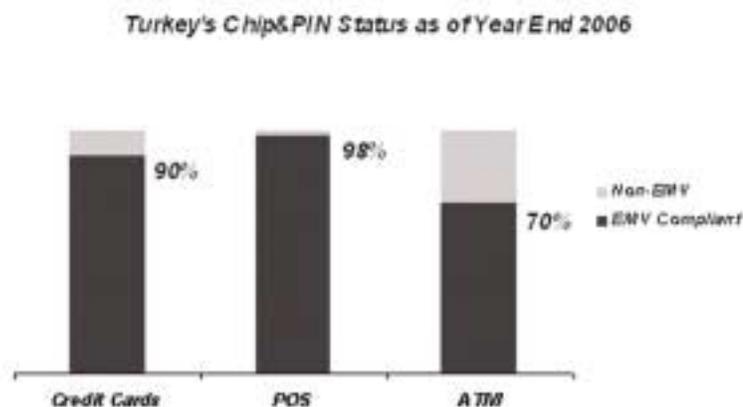
Also to create awareness and provide education around the Chip&PIN method, BKM developed and launched an integrated marketing campaign targeted at cardholders and merchants. The Chip&PIN campaign comprised of TV, print, internet, and outdoor advertising (including point of purchase), a PR campaign, and merchant communication and training materials. BKM's efforts were supported by issuer banks' own campaigns. In addition to the awareness campaign, BKM developed Chip&PIN operating regulations, and provided training and certification programs. Updates to the legal infrastructure such as replacing PIN with signature and other necessary regulatory changes to enable Chip&PIN were also managed by BKM.

The EMV migration in Turkey was driven by a number of factors. These include the liability shift, domestic fraud, and fraud migration. Historically, the card fraud rate in the Turkish market has been below the world average of 0.07%. However the growth in card fraud in recent years has become a challenge for the industry. Since the early 2000's, the absolute dollar value of fraudulent transactions has increased in parallel to the total purchase volume. According to BKM, Turkey has already benefiting from the declining fraud levels as a result of the Chip&PIN migration. One of Europe's major tourist attractions, Turkey also aims to immunize itself against cross-border fraud with the help of the EMV technology.

Looking Ahead - Through diligent planning and execution, Turkey has successfully migrated to Chip&PIN during the second quarter of last year. As next steps, industry participants are looking into value-added applications that can be deployed using the EMV technology. Contactless payment applications are among those value-added services that a number of issuers are experimenting with. Turkey is one of the 3 countries in Europe working on EMV based contactless payment programs. There are already pilots in the market and the market is expected to be ready for the mass rollout within a year.

Another value-added application chip-based loyalty - generally quoted as the "killer app" for the EMV technology - is already well-developed in the Turkish card market. Turkish card market also has advanced installment card products. A number of Turkish banks exported the installment card know-how to other banks in Europe. EMV brought a new set of opportunities for the installment applications on the card and it is expected that more customized and complex applications will be launched in the near future.

As the EMV migration is about to be completed, Turkey is poised to be one of the pioneer countries for the next generation contactless payment products that utilize the NFC technology. Turkey has one of the largest mobile phone subscriber installed base and NFC can provide a new experience to the customers who are expected to be shared by the mobile operators and the banks on a single NFC chip placed in the mobile phone.

Contactless and Asian Smart Card Markets Witness Increased Growth

FROST & SULLIVAN

By Michelle Foong, Industry Analyst, Frost and Sullivan

In Asia escalating Smart Card applications are giving a boost to Asian Smart Card vendors. Security-related Smart Card applications coupled with the low labour and materials' cost in Asia, drive local Smart Card and silicon vendors to deliver cost-effective, high-end products and value added services. The Asian Smart Card market is witnessing an increase in the number of regional participants in various segments of the value chain, from manufacturers to system integrators. These local vendors have an advantage -- particularly in large-scale government projects.

"Apart from understanding the economic policies and other rules and regulations of the regional market, the local companies also share close business ties with the governments of their region, which further strengthens their position." In addition, the increasing use of Smart Cards in government projects drives market growth. This enables Smart Card vendors in Asia to reach higher profits. Manufacturers in Asia are fairly protected by the local economic policies that allow them to operate and profit in a relatively sheltered environment. As a result, Smart Card vendors in Asia are less motivated to invest in R&D and innovative high-end products as compared with their European competitors.

However, since Asian companies in Asia lack brand recognition globally, the competition from international vendors is proving to be a credible threat, forcing them to invest more in upgrading their R&D facilities and delivering more high-end products. With growing opportunities in various applications such as enterprise security, transportation and banking, companies in Asia are likely to exploit their ties with international partners to penetrate overseas markets. Further, expansions in mobile communications, contactless payments as well as the mass deployment of Europay, MasterCard, Visa (EMV) in the Chinese and other Asian markets are likely to help Asian Smart Card manufacturers and integrators garner significant revenues.

The worldwide contactless Smart Card market has also witnessed a remarkable growth due to significant advancements in the e-passport and micro-payment segments. While the US Visa Waiver Program deadline forces participating countries to hasten their e-passport rollouts, the future of the micro-payment segment also looks promising, with its successful introduction in North America, Europe and parts of Asia. The world contactless Smart Cards Market earned revenues of $408.9 million in 2005, and estimates this to reach $1,636.2 million in 2011. The e-passport segment made big strides as interoperability efforts intensified, impelled by a heightened sense of urgency for more secure and sophisticated travel documents. The payment market also saw increased uptake as users across more developed markets warmed up to the idea of contactless payments.

However, the increasing use of contactless Smart Cards in payment, transit and ID raises questions from privacy and human rights advocate groups owing to the lack of and understanding about the technology and the confusion between radio frequency identification (RFID) tags and contactless Smart Card. While RFID tags are designed to be cheaper and less secure for applications used in supply chain management and the tracking of non-human goods, contactless Smart Cards are made to be more secure and reliable so that even highly confidential and private information can be transacted and stored. This confusion highlights the urgent need for market participants and end users to crystallize their understanding of the two different technologies at work here. This understanding is critical for tapping the full potential of the contactless Smart Cards market."

Therefore, vendors and government agencies should initiate greater efforts to promote awareness and demonstrate that contactless Smart Cards can be implemented in a highly secure method and can be relied on for secure transactions in payment, health and identification. Besides alleviating user anxiety, market participants should also address transitory rollout issues. However, the market is really poised for growth given that these cards are really proving their worth, in the convenience of contactless micro-payments, rapid success in mass transit applications, and the rise of mobile payments.

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Cashless Payment Growing in Popularity

By Silvio Stockmann, Vice President of the Banking, ID and Health Business Unit, Sagem Orga

Silvio Stockmann

Cashless payment is growing in popularity. A study commissioned by the Smart Card vender Sagem Orga has revealed that 73% of all German citizens would never go on vacation without their credit card or EC card. Payment by card is growing in importance - especially among older people. 94% of those over 60 said that the card was an indispensable item in their luggage. The main reason they gave was that having the card with them gives them a "sense of security."

The study revealed that cashless payment overall becomes more and more important for people as they grow older. While just 60% of young people between 14 and 19 said that their card was an indispensable item when they travel, the figure for those between 20 and 25 was 65% and that for the 26 to 30 age group was 72%. 88% of people between the age of 31 and 40 said that they would never travel without their credit card or EC card. However, cashless payment is most popular among people in the 41 to 50 age group: 98% said they never traveled without their card.

Overall, the results of the survey bear out the general trend toward cashless payment. Since the euro was introduced, there's been a change in the way people pay, in particular in Germany. EC cards can now be used in discounter and cash-and-carry stores such as Lidl, Metro or Aldi and thus speed up payment at the checkout. As our society becomes more and more mobile, the Smart Card is turning into an indispensable element in ensuring the freedom to travel securely and with peace of mind. Sagem Orga alone has produced 38% more Smart Cards last year than in 2005.

Events Diary

April 2007

10 - 13	6th Annual Smart Cards in Government Conference - *Washington - www.smartcardalliance.org*
11 - 13	i-Pira Biometric Series - Washington DC, USA - *www.intertechusa/ipira*
18 - 19	The International Card Manufacturers Association Workshops - *Rome Italy - www.icma.com*
24 - 25	SIMposium - *Berlin - http://simposium-simalliance.com*
24 - 26	Infosecurity Europe 2007 - *Grand Hall at Olympia, London - www.infosec.co.uk*
24 - 26	SIM Summit - *Prague - www.ibctelecoms.com/sim/*
25 - 27	Cards Asia 2007 - *Suntec Singapore, Singapore - www.terrapinn.com/2007/ca_SG/*

May 2007

02 - 05	Cardist International Card Technologies Exhibition - *Turkey*
06	Card-Ex - *Egypt - www.epytec.com*
07 - 09	Advanced Identification Systems - *Brussles, Belgium - www.intertechusa/aiseu*
13 - 15	Cards and Payments Middle East - *Dubai - www.worldofcards.biz/2007/cme*
15 - 17	CardTech SecurTech 2007 - *San Francisco, USA - www.ctst.com*
16 - 18	RFID Solutions Expo - *Tokyo, Japan - www.ridex.jp/en/*
22 - 23	Security Document World Conference and Exhibition - *London - www.sciencemediapartners.com*
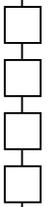
Rumours From the Front Line

By "The Squeaker" (*a source who wishes to remain anonymous***)**

Gemalto and Oberthur both reported their 2006 figures in March;

GEMALTO RESULTS

Million Euros	FY 2005	FY 2006	Change
Net Sales	1,724.4	1,698.2	-1.5%
Gross Margin	32.9%	29.6%	-3.3 ppts
Operating Margin	7.4%	3.5%	-3.9 ppts
Net Profit	135.7	1.6	-98.9%

With relatively flat sales the company's operating profit margin dropped to 3.5% from 7.4% in 2005 against the target for 2009 of 10%. The company has cited the falling Smart Card prices as the major reason for this decline in figures while Olivier Piou the CEO still anticipates 10% by 2009 although he has fallen away from the 7.5% expected for 2007. Not surprisingly the shares have suffered accordingly.

Olivier Piou really has two issues to sort out, the redundant overheads brought about by the merger or as some still believe the takeover of Gemplus by Axalto last year and the move into more profitable business because the core card business is struggling to break even. Life is really little different for Oberthur,

OBERTHUR RESULTS

Million Euros	FY 2005	FY 2006	Change
Net Sales	500.8	524.0	4.6%
Gross Margin	59.8%	58.5%	-1.3 ppts
Operating Margin	10.9%	3.6%	-7.3 ppts
Net Profit	30.7	9.5	-69%

Both companies are actively involved in restructuring plans which is really about shutting plants and reducing the headcount. Oberthur's CEO Philippe Geyres only took over in January from Pierre Barberis and what a problem to be left with. So which company is in the stronger position to move forward? Gemalto has quite a legacy and a lot of redundancy left in the pipe line but they are much stronger on the R&D. With 1500 engineers out of a total workforce of 10,000 there is serious potential in the wings.

They have for some time been working on the higher levels of the value chain particularly in the Identity Management area and are arguably better placed in the middleware game. It seems unlikely they could ever unseat the major system integrators like EDS, Fujitsu, BT and IBM. The problem they have is to optimise the traditional core business of card manufacture and personalisation. This is going to lead to a lot of heartache with a few painful decisions but if Piou can bite the metal they probably have more light at the end of the tunnel.

Oberthur meanwhile still stands to gain from the Gemalto merger because many of the large players in the Telecoms and financial world will insist on dual sourcing and arguably they are more efficient in this core business. The difficulty for Geyres is moving up the value chain, expanding the core business will only water down the margins. What is needed is a new shift in the technology and a greater involvement in the middleware. It is difficult to see how Oberthur can do this without making a few acquisitions but are they in the mood?

Squeak Squeak!.

US and UK Consumers Push for Biometric Technology

By Mark Cohn, Vice President for Integrated Security Programs, Unisys

Consumer mistrust of the current processes that government and business use to protect the security of personal information, as well as misgivings about security at major border crossings, has reached new highs. In response to rising fears, consumers now overwhelmingly favour the use of biometric technology to identify individuals through physical characteristics such as fingerprints, facial patterns and hand measurements, and believe this will have the greatest impact to strengthen data and border security. We've seen a consistent outcry among consumers for more effective technologies, like biometrics, that will better equip businesses and government organisations to protect and verify personal information in a way that's reliable and convenient. Consumers are concerned that current security processes at our nation's airports and borders are inadequate, which likely will result in even more widespread adoption of biometrics within these areas."

Across the board, a large majority of consumers in the United States (63%) and United Kingdom (87%) believe that the rise in identity fraud and the insufficient protection of personal information will become a significant security threat in the future, and feel that financial institutions and government are not doing enough to stop it. As a result, an even greater percent of US consumers (69%) and UK consumers (92%) would prefer that banks, credit card companies, healthcare providers and government organisations adopt biometric technologies, as compared to other protection measures such as smart card readers, security tokens or passwords/PINs, to safely and quickly verify personal identities.

This research is part of a broader multi-year global initiative, the Unisys Trusted Enterprise Index. This index serves as a comprehensive tool for companies and governments to better redefine their own security and business processes for greater impact and visibility into the cause and effect relationships between business and technology goals and how they serve customers. The finding in this research are consistent with a previous 2006 Unisys worldwide survey on consumer security preferences released in conjunction with the World Congress on Information Technology (WCIT) last May. That earlier study showed that nearly 70% of consumers favoured biometrics as the preferred method to combat fraud and identity theft, pointing to the convenience and speed in the identity verification process as a strong benefit.

Biometrics Adoption in US Airports & Borders Could Increase Consumer Trust The Unisys Trusted Enterprise Index found that beyond physical security, consumers believe biometrics will have the single greatest impact on strengthening US airport security. Nearly two thirds (62%) of consumers claim they would have more trust in airport security as a result of a program like Registered Traveller, a government-supported private sector program that uses biometrics to enable frequent fliers to pass through the security screening process more quickly and efficiently without compromising security. Similarly, close to 85% of consumers believe US border security is inadequate, and only half believe the US government is making it a priority. More than half (51%) feel that technology plays a significant role in ensuring homeland security, and point to biometrics as one of the best ways to improve protection, after physical security.

The Department of Homeland Security's Secure Border Initiative (SBI) includes a mix of technology and infrastructure that will provide US Customs and Border Protection with an integrated border enforcement solution. Biometrics is one of the technologies that will improve law enforcement agents' ability to identify people attempting to enter the country illegally. The only way to increase detection of illegal entry attempts and smuggling at the land ports of entry without negatively impacting legitimate trade and travel is by using biometrics to identify trusted travellers. New programs like Registered Traveller and the Secure Border Initiative take advantage of biometric technology, which, according to our research at Unisys, may play an important role in encouraging a more trusted and secure as well as convenient customer experience.

It's imperative that we understand which technologies consumers prefer and will accept comfortably, because that will essentially determine the effectiveness of security measures across the globe.

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A Fireside Chat with Paul Kocher

By Dr David Everett, Principal Consultant, Microexpert Limited

Dr David Everett

Well not exactly a fireside chat but the nearest equivalent with a phone call across the Atlantic. Paul and colleagues in his company Cryptography Research Inc (CRI) have been instrumental in many security developments and are perhaps best known for Differential Power Analysis (DPA) where an attacker can obtain the secret keys from a smart card by analysing the power signal. However this is just a part of their work and in recent years they have been active in the field of Digital Rights Management (DRM) and in particular the design of BD+ which improves the security of Blue-Ray the new high definition DVD format.

Paul was very interested in the piracy threat, when looking at computers he felt that the large companies such as Microsoft were well informed into protecting their products and that the new Vista operating system for example has moved a long way into controlling security. However Pay-TV, YouTube and home entertainment well that is another matter. In these areas the hackers run rife and it is clearly essential to improve the security, for example in the case of the Videocipher Box it is believed that only about 40% of users are genuinely activated. Products like MS Word and video games however can counter copying as can the theatres, the screeners can be traced back because the theatres are issued with individual copies that can be tracked in the copies. Recently there have been attacks on HD DVD by Arnezami and muslix64 against the Advanced Access Control System (AACS). Arnezami has discovered how to extract the Processing Key (PK) from a HD player which would allow any of the currently available HD or Blue-ray discs to be copied. The trick allows a Volume Unique Key (VUK) to be generated from a disc's Volume ID (VID). A player normally reads the VID from the disc and uses the PK to create a VUK which can then decrypt the content. Apparently he scanned the system memory and found the PK before it was erased after the generation of the VUK. He acquired a VID by looking at the traffic between his systems USB port and the HD DVD drive.

Paul has been working on a more advanced system called BD+ which effectively adds some cryptographic modules to the Blue-ray disc which reconfigure the reader for that particular disc. This scheme is not yet in general use which is why the hackers have been able to attack the Blue-ray discs. The question of course still remains as to what extent the hackers will go to invasively attack the reader, you might argue that a module of code is just a more complex key. Paul's attitude to all this is more about making systems fail gracefully. The original Content Scrambling System (CSS) was defeated by Jon Johanssen which opened up every disc for all time. While Paul's scheme will undoubtedly make it more difficult many such as Bruce Schneir remain unconvinced. One wonders of course as to what will happen with HD DVD which arguably has less protection, could this be its death knell? Paul is convinced that with major players like Microsoft in the background that there is still a long way to go. Paul was keen to compare the approach with say the banking system which used magnetic stripe cards for years which were well known to be easily copied, however it was the business around the card and the security management that up until fairly recently was adequate to control the major fraud exposure. Similarly with the GSM SIM card used to authenticate users to a billing account. Although the various components of the system have been attacked there aren't any significant fraud scenarios and the network operators have been able to upgrade the scheme as and when required. You can have free calls with Skype but the maximum value to an attacker is limited, as yet the product is not monetised.

There must however be concerns with modern smart phones and Blackberry type devices, such existing systems don't fail well, you don't know when you are being attacked. The typical response is to wait for an attack and then react. NFC for instance is still in its infancy, payments are not yet traditional in this area. Mass transit and small payments don't yet provide the risk exposure that makes them vulnerable. On the Smart Card front Paul now feels that most cards are extremely secure and that the industry has moved along way past the normal hacker but you have to be on the lookout for defects, you can't afford to screw-up when you've got 10's of thousands of products out in the field. Software correctness is also another problem with about 256Kbytes of code doubling every year or so. This is being aggravated by the rock bottom prices for both silicon and the software. For CRI things in this area are looking good with over 50 DPA licences in 15 countries, mainly to the major Smart Card manufacturers. Wouldn't it help to build one of these secure Smart Cards into the HD DVD and Blue-ray players?
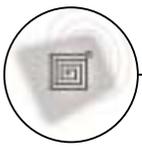
Contactless China

**By Jason Smith, Staff Reporter, Smart Card News Ltd**

Jason Smith

In 2007, for the first time, China dominated the total radio frequency identification (RFID) business - virtually without exporting - with the USA dominating everything beyond the card part. China has adopted RFID technology on an unprecedented scale, with more than 2.9 billion tags forecast to be shipped by 2009, according to a report by In-Stat. According to IDTechEx this year alone 1.71 billion RFID tags will be sold worldwide. This would make the total RFID market value (including all hardware, systems, integration etc) across all countries to be worth around $4.96 billion. It is also predicted that the overall RFID market will reach $27.88 billion by 2017.

At the start of 2007, IDTechEx reported that the cumulative number of RFID tags sold over the last 6 years is around 3.8 billion. 27% of that number were sold in 2006 and 19% in 2005, showing how sales have showed a very recent robust increase. However, the sale of 1.02 billion RFID tags in 2006 (35% of those being RFID cards) has been disappointing to those expecting higher volume sales of versions in the form of labels. Contactless Smart Cards are the largest RFID sector by far and this side of the business is also booming. Frost & Sullivan estimated that the APAC contactless Smart Card market will grow by a compounded annual growth rate of 41%. This would mean that by 2009 the contactless Smart Card sector alone would reach 453 million units. IDTechEx have projected that sales of contactless Smart Cards, not counting readers and systems, would total $2 billion by 2017, and that the overall RFID market that year would reach $26.9 billion.
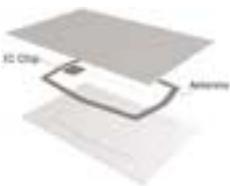
China to its credit has always been one of the early adopters of contactless technology. "To date, more than 100 million Mifare IC-based cards have been distributed throughout China," said Tony Lear, Senior Vice President and General Manager of NXP China. At the Smart Labels conference in Boston, USA, Peter Harrop, Chairman of IDTechEx highlighted two of China's biggest RFID companies who are at the forefront of this serge in RFID.

He estimated that Watchdata had made about $100 million from its contactless Smart Cards and other RFID projects closely followed by Datang who had made around $80 million. China is now involved in several contactless projects throughout its country and so I hope to examine some of their more prominent contactless ventures that they are currently undertaking;

Identification - One of the main reasons China has become the largest market for RFID technology is largely down to its mass issuance of a new contactless Smart Card that acts as a national identification document. The Chinese government has aimed to issue at least 800 million Chinese adults with the new contactless Smart Card ID by the time Beijing hosts the Olympics in the summer of 2008. "With a population of over 1.3 billion, the issuance of RFID-tag-inlaid Resident ID cards by the Ministry of Public Security is one of the biggest RFID projects in the world," said In-Stat analyst Anty Zheng. More than 1 billion ID cards will be issued by 2009, Zheng said. The issuance of these cards will reach a peak this year at about 300 million ID cards if you believe IDTechEx or 250 million cards if you believe Eurosmart. This huge ID project will generate $1.6 billion in sales this year of cards, readers and related systems in China.

Transport - Many of us, espically us Brits, believe that the concept of contactless payments is relatively new but in the Hong Kong region of China, it has been around for almost a decade in the form of the Octopus card. The Octopus card is a rechargeable contactless stored value Smart Card used to transfer electronic payments throughtout Hong Kong. An estimated 95% of Hong Kong residents aged between 16 and 65 possess an Octopus card, according to Octopus Holdings. There are currently 13.4 million cards in circulation and only 7 million people live in Hong Kong, while daily transactions of 9.4 million total HK$69 million (that's almost £5 million).

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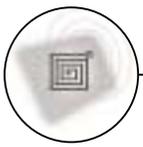
The Octopus Card was originally launched in September 1997 as a public transport Smart Card, much the same as London's Oyster card is now. However the card has since grown into a widely-used payment system for virtually all public transport in Hong Kong. Today more than 50,000 Octopus card readers can be found, not only in most modes of public transport in Hong Kong but in other places such as car parks, shops, cafes, leisure facilities and even in wet markets - which sell livestock and fish!

As host nation for the 2008 Olympic Games, China is busy modernising many of its infrastructure systems. As part of these developments, Beijing has seen a full commercial rollout of RFID contactless ticketing for its transport network. Commuters have been armed with Mifare-based contactless cards and contactless card readers have been fitted to several modes of transportation: 35,635 installed on 17,367 buses; 259 shared between the 111 subway entry / exits, and 18,000 in taxis belonging to the 50 major taxi firms. In addition, 8,140 handheld readers and 86 mobile readers have been provided as back up. The Beijing Municipal Administration and Communications Card - or One Card Pass as it is also known - is a stored-value contactless Smart Card similar to the Octopus card used in Hong Kong. The One Card Pass was first put into use at the end of 2003 on Beijing subway Line 13 and certain bus routes however as we have heard since May 10, 2006, it has been expanded to Beijing's entire subway system and all bus routes. Beijing also plans to extend the system to include even more applications such as student ID and electronic toll collection. China has already implemented many contactless ticketing schemes as it continues to modernise its infrastructure - the level of which is a match for any other nation.

Transport cards for automatic fare collection (AFC) are already used in some 140 cities, the majority adopting Mifare, the de facto industry standard for transport ticketing. In 2006 Hyan Label were commissioned to deliver 10 million RFID stickers to the Chinese Government to issue to students so they could obtain discounts when travelling by rail. The Guangshen Railway Company in China has also contracted Confidex to supply 125 million RFID-enabled contactless tickets for railway passengers, with deliveries to start in October 2007. This is considered to be one of the largest single orders for RFID tags ever, for transit use or otherwise. This contract has revolutionised the market for limited use contactless tickets, doubling its volume and making Confidex global market leader. The single-use contactless tickets will be paper-based and will contain a Mifare UL chip.

Attractions and Events - In China RFID contactless ticketing has also been implemented for other applications such as access control at tourist sites and events. Since 2004 China's biggest attraction - the Great wall of China - has deployed an e-ticketing system using NXP Semiconductors' Mifare UltraLight contactless chip technology for faster, easier and more convenient access to this popular tourist destination. This e-ticketing system is also compatible with Beijing's One Card ticketing system and supports the Beijing Public Transportation mass transit cards.

"Contactless access at the Great Wall of China will serve as an important case study for implementation in other venues and events around China, most notably the Olympics," said Derrick Robinson, senior research analyst, IMS Research.Plans have been made to install contactless systems at other tourist attractions, including other tourist spots in Beijing and elsewhere in China. For instance a contactless ticketing solution is being used at the Men's Tennis Masters Cup in Shanghai to ensure fast and convenient access for visitors to the tournament, as well as combating illegally traded and counterfeit tickets. The ticket provider of the tennis championship, Shanghai Shenbo Intelligent Id Technology Co.,Ltd, expects to issue 120,000 RFID-enabled tickets, making this one of the largest roll outs of contactless ticketing at a high profile sporting event in China.

Banking - In October 2006, the Hi-Life convenience store chain in China partnered with Cathay United Bank, E.Sun Bank, and Shanghai Commercial Bank to issue MasterCard PayPass cards to its consumers. PayPass is a contactless payment feature based on the ISO 14443 standard that provides cardholders with a simpler way to pay by tapping a payment card on a point-of-sale terminal reader, allowing Chinese consumers to use the cards to make contactless purchases at a total of 1,260 chain stores.Starting March 1 2007, the FamilyMart convenience store chain will allow consumers to make online payments using co-branded Smart Cards issued by Chinatrust Commercial Bank, Cathay United Bank, Taipei Fubon Bank, and Taishin International Bank.

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FamilyMart executives said that a co-branded Smart Card features a built-in electronic wallet, a credit card and easy card (for mass rapid transit system), and paying with such a card can spare the trouble of getting change and accelerate payment procedures. In addition, the co-branded Smart Cards can have value stored and accept credit transactions, allowing consumers with no cash on hand to purchase small value goods. In Taiwan, President Chain Store Corp., which operates 7-Eleven -China's largest convenience store chain -, has formed a partnership with Chinatrust Commercial Bank to launch a co-branded contactless credit card on April 1 2007. Called the icashwave, this contactless credit card functions as an electronic wallet for purchases below NT$500 and can be used as a credit card for larger amounts.

Mobile Payment- In June 2006 Nokia and its collaborators, China Fujian Mobile Communications Co., Ltd., Xiamen Branch, Xiamen E-Tong Card Company Ltd., and NXP Semiconductors launched the first NFC mobile payment field trial in China in Xiamen City, Fujian Province. 100 participants of China Mobile were selected to use a Nokia 3220 mobile phone to conduct secure electronic payments in any restaurant, transportation system, movie theatres or convenience store that accepts the Xiamen e-Tong card.

E-Tong Card is a contactless transportation card that conforms to ISO 14443 Type A and is compatible with Mifare. The card has a volume of issuance of 800,000 in Xiamen City. "The trial in Xiamen will show the way for other transport companies," said Joseph Zheng, director of NFC consumer solutions based in China for Nokia. "The banks, all the service providers, are (also) interested. We chose transportation first because the infrastructure (of contactless readers) is there."In July 2006 Nokia teamed up with China UnionPay to launch another NFC mobile payment trial this time in the NextAge department store in Shanghai. For this trial UMS and NextAge installed the Vivotech contactless card readers and upgraded the software related to mobile payment. Nokia said that the existing bankcard POS network could be converted into an NFC transaction environment by adding card readers to POS terminals.

In Taiwan, Taiwan Mobile Co. Ltd. and MasterCard International Inc have recently started testing a mobile phone payment system on the Chinese island. Testing is already underway; with 100 users carrying Nokia 3220 handsets armed with the MasterCard PayPass wireless payment system on board. As part of the pilot, participants can use their PayPass equipped mobile phone at any one of the 46,000 PayPass enabled merchants worldwide, in addition to the 2,000 approved merchants around the island.

The aim is to allow mobile phone users on the Chinese island the ability to use their handsets for payments on small items. The companies are also testing e-coupons sent to mobile phone users, which can be used when making purchases. The companies have teamed up with Taipei Fubon Bank, and hope to expand the service later in 2007.

Contactless mobile payment is one of the most welcomed emerging mobile applications in China. Market research in Shanghai carried out by AC- Nielson in 2006 showed that over 80% of consumers are interested in the functional integration of city transportation cards and bank payment cards into their mobile phones. This new demand for contactless applications on mobile phones has created another massive potential for revenue for Chinese vendors if you consider the fact that by the end of 2006, China had over 460 million mobile users, which translates to about 5.6 million new customers a month.
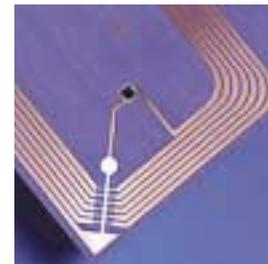
With the massive identification card scheme rolling out in China, this now makes China the world's largest market for RFID by value in 2007. As there are many other contactless card schemes being rolled out throughout China as we speak, this means that China will remain one of the largest markets for RFID. With such huge contactless projects underway in China, RFID vendors better be warned and watch their backs, as Chinese vendors - who are gaining scale from supplying major projects in their own country - are becoming formidable competitors in the global market. "The Chinese are now gorging on a huge market created by the Chinese government," said Peter Harrop. "They don't export much at all, but when they build up huge automation, they're going to get you."

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