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www.keycorp.net

Keycorp

Australia's Keycorp is a leading supporter of the MULTOS operating system and its website serves as a useful resource for interested parties. An FAQ and full downloadable PDF spec (in English or Japanese) are among the MULTOS pages on offer. However, in the 'white papers' section there is some strong general information including a study of both the MULTOS and JavaCard platforms. The standard company, press and product information is also satisfactory but overall site design and layout is less than spectacular.

Navigation ■■■■□
Content ■■■■□
Appearance ■■□□□

www.scmmicro.com

SCM Microsystems

A Flash-driven site can often be frustrating but this quick loading homepage is highly impressive and original. This is fortunate because once you venture deeper into the site it becomes apparent that there is very little lurking beneath the glamorous exterior in terms of useful content. There is also some evidence (EG: the Y2K statement) that some areas of the site have not be updated for quite a while. A strong user support section (including downloads and product FAQs) is the site's one saving grace.

Navigation ■■■■□
Content ■■□□□
Appearance ■■■■□

www.miotec.fi

Miotec

The refreshingly sparse homepage leads to a deceptively large site packed with useful information. The communications section includes a wealth of material to download including 'brochures' on Smart Card and contactless cards and company case studies. Information on the company's work in the PKI and biometric sectors is also included. However, the company videos and huge photo section is perhaps only for those who have too much time on their hands. The site design remains clean and attractive throughout although navigation can sometimes be cumbersome. Worth a look.

Navigation ■■■□□
Content ■■■■□
Appearance ■■■■■

Industry Endorses Contactless Cards

New Spec and White Paper Highlights the Case for Contactless Smart Cards

Contactless Smart Cards have been given a major boost this month with the publication of a new global contactless payment specification by Visa, and the release of a white paper by the Smart Card Alliance outlining the case for contactless Smart Cards in security and access control.

Sue Gordon-Lathrop, Visa's Vice President Emerging Consumer environments, said: "This new technology removes the need to insert or swipe a payment card making it easier to pay in places where speed and convenience are important."

The new specification from Visa is based on the ISO14443 standard. The first use of the new specification is expected to be in South Korea where SK Telecom and Visa are working together to test the viability of infrared payment for mobile phone users. Visa claims this is the first time that contactless technology has been applied to general-purpose payment cards. Contactless cards are more commonly used for transit and ticketing schemes.

Meanwhile, the Smart Card Alliance has released a new white paper entitled 'Contactless Technology for Secure Physical Access: Technology and Standards Choices' which discusses the different types of contactless technology, standards and the advantages of contactless Smart Cards for physical access. The paper is available as a free download from the organisations website.

"Contactless cards are increasingly accepted as the credential of choice for controlling physical access," the report says. "They are both robust and flexible, giving security professionals the ability to reduce maintenance costs, improve employee productivity and increase security."

Mary Dixon, Director of the US Department of Defense Access Card Office, said the report was timely due to the national focus on homeland security in the US and around the world. "This paper provides an excellent description of the types of contactless technology that can be used and what should be considered in determining the appropriate card technology for new physical access control systems," she said.

One such company to announce that it is to adopt the contactless technology for such purposes is transit specialists Cubic Corporation. The company said this month that it will integrate facial biometric capabilities into its GO Card contactless Smart Card, which is used in automatic fare collection systems to offer a secure method of monitoring and controlling border and transportation access.

The scheme is designed to allow security agents to use Cubic's handheld reader to display facial biometric and other security data stored on the card when making security spot checks at remote locations at such as airports, seaports, borders and transportation facilities.

Elsewhere, Finnish company Buscom Oy has implemented one of Europe's biggest multi-transport contactless Smart Card-based fare collection systems in the Finnish capital Helsinki. The system covers bus, metro, tram and ferry travel and is designed to handle 1.2m travel transactions a day. Nearly 850,000 Smart Cards have been reserved for use and 1,800 fare collecting devices have already been installed for selling tickets.

☐   contactless@visa.com • www.cubic.com • www.smartcardalliance.org • www.buscom.fi

Lead Story

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Date Fixed for Anti-trust Case

A date has now been fixed for the long-running anti-trust suit being brought against Visa USA and MasterCard for alleged anti-competitive conduct in the debit card market. The case is scheduled to start on April 28 next year in New York according to the merchants' Counsel Constantine & Partners who last month sent out notices to more than 7.6 million merchants involved in the class action.

"The merchants are seeking an injunction to stop Visa and MasterCard's anti-competitive conduct," said Lloyd Constantine, lead counsel for the merchants. "They also are seeking damages to compensate merchants for being forced to accept more than $1 trillion in slow, fraud-prone, inferior offline signature debit transactions at anti-competitively high and fixed prices during the last decade."

The case stretches back over six years when merchants filed a suit against Visa and MasterCard believing that the they were attempting to corner the debit card market via their existing hold on the credit card sector. Much of the case is expected to refer to a similar suit brought against Visa and MasterCard in October 2001 by the US government which found that the two card issuers had violated anti-trust laws.

Credit Agricole Picks CardInk

CEDICAM, the payments division of French bank Credit Agricole, has implemented Cryptomathic's CardInk to enable it to personalise multi-application Smart Cards to more than 10 million customers in under three months.

CardInk complies with EMV standards and is developed in co-operation with Europay. The solution, customised for the French banking environment, features a remote and secure key management environment and performs the data preparation and cryptographic key generation as part of the personalisation process.

Datakey ID for US Government

Datakey has won a $443,000 order from the US Government for a smart ID badge for employees for physical access to buildings and logical access to corporate networks.

The Smart Card, which contains RF technology, will be used for door access and information security functions such as secure network logon and encrypted/digitally signed e-mail.

North America Card Shipments

Smart Card shipments to the US and Canada have more than doubled to 31.2 million cards in the first half of this year compared with 14.77 million in the same period last year, according to research by KPMG for the Smart Card Alliance.

Microprocessor cards accounted for 24.95 million, up 87% from 13.31 million a year earlier while memory card shipments jumped to 6.24 million compared to 1.46 million in the same period last year, more than a three-fold increase.

Randy Vanderhoof, Alliance President and CEO, said: "The growth in Smart Card shipments is accelerating, bringing total shipments to the US and Canada to over 122 million Smart Cards since 1999."

"The change we are seeing is that the volume is more evenly spread across several sectors inclding financial, retail, pay-TV and government. This is very positive because it makes the industry less dependent on telecom, although that sector remains among the largest."

Chip and PIN Trial

UK DIY household and garden retailer Wilkinson is implementing Trintech Group's PayWare SmartPIN in its store at Northampton in the first half of 2003 as part of an industry chip and PIN trial.

The national roll-out of chip cards in the UK is expected to start in the second half of 2003 when Wilkinson plans to implement PayWare SmartPIN at its 200+ stores.

Trintech will supply PIN Pad terminals capable of reading EMV chip cards allowing customers to authorise a transaction using a PIN number rather than a signature. Wilkinsons' EPoS partner, RBS, will be responsible for system integration.

Eamon Keating, General Manager of Trintech's Merchant Division, said: "Chip and PIN is an issue that every retailer in the UK will have to tackle, as fraud and chargebacks have become an unacceptable problem in recent years."

Safeway Implements EMV System

UK supermarket retailer Safeway is to implement a new EMV Smart Card solution from IBM in most of its 500 UK stores by Christmas 2002. The scheme

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involves the deployment of 8,000 Smart Card terminals.

Cubic San Diego Transit Contract

Cubic Transportation Systems has received a $26 million contract from the San Diego Metropolitan Transit Development Board and the North County Transit District to provide a Smart Card-based, automatic fare collection system for the county's buses, trolley, coaster commuter rail and future expansion of the light rail system.

Cubic will be responsible for the financial management of the mass transit system as well as supplying rail ticketing equipment, transit ticket vending machines, Smart Card validators for rail and bus lines, handheld units and its Nextfare Business Management System.

Smart Card Gate System

A new Smart Card-enabled gate system on Rotterdam's Electrische Tram (RET) has been developed by Cubic Transportation Systems and EDS Netherlands.

The E2 Gate is an updated and enhanced version of Cubic's Passenger Gate which was originally designed for London Transport. The new gates are part of an integrated security system which includes closed-circuit television and guards. In addition to magnetic tickets, the E2 gate accepts all ISO standard contactless Smart Cards and Cubic's GO Card.

MasterCards by Perfect Plastic

Perfect Plastic Printing Corp and ORGA Card Systems have announced that Perfect Plastic has been certified to produce MasterCard Smart Card products at its St. Charles (Illinois) facility in the US.

Through its alliance with ORGA, Perfect Plastic is now able to offer the full range of MasterCard Smart Card products including the MULTOS 4.06, M/Chip Lite and M/Chip Select.

Version 2.0 of USA Card

SSP Solutions' government subsidiary Litronic Industries has launched version 2.0 of its Universal Secure Access (USA) Smart Card which is also marketed under the name Forte.

The USA Smart Card, when used in conjunction with SSP's NetSign middleware, claims to enable secure logon and authentication of both PC and network users, data encryption and secure storage of digital certificates, credentials and passwords.

Cardxx and Spyrus Partner

US Smart Card company Cardxx has partnered with Spyrus to develop what it claims is the first Smart Card to be approved to the US government's NIST (National Institute of Standards and Technology) FIPS (Federal Information Processing Standards) 140-1 Level 3 National Security standard for Smart Identification Card manufacturing.

Under the agreement, Spyrus will use the Cardxx Smart Card technology as part of its involvement with the US Department of Defense (DoD) Common Access Card (CAC) project.

Cardxx President, Paul Lewis, said: "Level 3 Intelligent Smart Cards are produced and licensed no where other than at Cardxx. No other company has achieved this level of authorisation."

In a Letter of Mutual Intent, Spyrus said: "Spyrus has depended heavily on the Cardxx process for Smart Card development in the past, and intends to utilise the Cardxx process in the future to meet its development needs for FIPS 140-1 Level 2 and Level 3 validated Smart Card devices."

Multi-standard IC Reader

Royal Philips Electronics has announced the availability of the CL RC632 IC multi-standard single-chip reader IC for contactless Smart Cards.

The IC reader operates at 13.56 MHz and supports ISO 14443 and ISO 15693 offering system integrators the flexibility to develop interoperable RFID systems for different high volume applications such as public transport, road tolling and access control.

For more information visit …	
Cryptomathic	Safeway
www.cryptomathic.com	www.safeway.co.uk
Cedicam	Cubic
www.cedicam.com	www.cubic.com
Datakey	EDS
www.datakey.com	www.eds.com
Trintech	SSP Solutions
www.trintech.com	www.sspsolutions.com
IBM	Philips Semiconductors
www.ibm.com	semiconductors.philips.com

Beating the TV Pirates

Irdeto Access has announced that it is to release a new version of its Smart Card every year in an attempt to deter pay-TV hackers whether the card has been hacked or not.

CEO Graham Kill explained: "The purpose of doing this is to further reduce the risk associated with having a single card technology in the field that requires a major swap to recover from a security breach. Although none of the latest Conditional Access products of Irdeto Access have been hacked since January 2000, by releasing a new card each year, we decrease the risk of a breach."

Irdeto has a three-pronged approach to piracy - advanced encryption technology, extensive investigation of suspected fraud and counterfeit operations, and close co-operation with international bodies.

Thirty million pay-TV subscribers

News Corporation's UK based pay-TV subsidiary NDS has announced that it has become the world's first company to supply Smart Cards to 30 million digital pay-TV subscribers - up from 24.5 million at 30 June 2001.

The announcement follows on record quarter revenues of £65 million - and a 20% increase over the last quarter of the previous financial year.

Second court case

NDS faces another lawsuit only six months after France's CanalPlus brought a $3 billion court action against NDS for alleged it helped hackers to crack its Smart Cards by publishing details on the Internet.

A report in UK's Guardian newspaper says that DirecTV has filed suit in a Los Angeles court accusing NDS of breach of contract, fraud, breach of warranty and misappropriation of trade secrets.

Bob Marsocci, a spokesman for DirecTV, said: "We filed the complaint because NDS breached our contract and defrauded us. We have a very strong case and will present that in court."

However NDS insists that the latest accusations are unfounded. "NDS intends to vigorously defend the action and assert counterclaims against DirecTV," the company said in a statement.

DirecTV has worked alongside NDS to develop conditional access to its satellite network since the service was launched in 1994. Three years ago they signed an agreement to transfer the technology to DirecTV, effectively ending the relationship.

Nationwide Student Loyalty Plan

SCM Microsystems is to provide Smart Card terminals for the first nationwide retail loyalty program for students in the US in a $500,000 deal with Student Marketing.

Student Marketing's Crew Card program will allow college and high school students to receive 5-15% discounts from participating US retailers as well as earn reward points redeemable for thousands of products available on the company's Web site.

"The Crew Card is the first of its kind to offer rewards and incentives to students across the US," said Shawn Andreas, Vice President of Marketing. The company anticipates 500,000 student members and over 27,000 retail merchants to participate by the end of the 2002-2003 school year.

Hypercom Speeds Payments

A new payment terminal aimed at quick service drive-thru restaurants has been announced by Hypercom Corporation. The HFT 500 terminal can be embedded directly into the drive-thru menu board and has an all-climate keyboard, an easy-to-read backlit display, integrated PIN Pad and Smart Card capability.

The company is also launching its RFID-based Hyper-PASS system which it says will allow consumers to quickly pay for purchases by simply waving a miniature key fob with a unique number and security code at the Hypercom terminal.

To register customers for the service, retailers swipe their credit card on the Hypercom ICE terminals and then activate the key fob on the terminal. After that, customers can use HyperPASS anytime they want to make purchases at the restaurant or store.

Biometrics for London City Airport

Identity management company Daon is to install a biometric security control system at London City Airport.

Daon will integrate the DaonEngine system into the airport's existing physical access control facilities, increasing security to restricted zones. It will verify the identity of the 1.600 employees at the airport who will present a photo ID pass to a card reader and have their fingerprint checked by the system.

The Daon system incorporates a range of authentication methods - fingerprint, iris or voice allowing the airport to decide on the level of authentication required.

Smart Welfare Payments

Delivering pension and social grant payments securely each month to over 1.8 million people, most of whom do not have bank accounts, is being solved in South Africa using Smart Card and biometric fingerprint technology.

SecuGen Corporation has won a new contract with Net 1 Applied Technology Holdings (Aplitec) to supply its optical fingerprint sensor technology. The contract is for an extension of the scheme to an additional 400,000 people in the Eastern Cape Province.

Aplitec uses some 300 vehicles equipped with fingerprint readers to make cash payments in over 5,000 rural locations throughout South Africa. Recipients of welfare benefits present their government-issued ID document to enroll their fingerprints in the system. To receive payment they present their Smart Card and are authorised by the matching of their fingerprint against the encrypted template stored in the card.

"Our fingerprint reader is programmed to create a cryptographic session between itself and the Smart Card tendered, thus removing any possibility of fraud associated with the storage and subsequent illegal replay of digital templates," said Aplitec's Technical Manager Derek McCallum.

HID Card with Hand Biometric

IR Recognition Systems, part of Ingersoll-Rand, has integrated its hand geometry readers with HID's new iCLASS contactless Smart Cards enabling both the user's ID number and hand geometry template to be stored on the card. The project uses IR Recognition Systems' HandKey II HandReader with an embedded iCLASS contactless reader.

Temple Protected with Biometrics

Temple Sinai, one of the most historic synagogues in South Florida, has installed SENSE Holdings' Check-Print access control system in the early childhood and daycare divisions of the Temple to identify authorised parents and staff. A complete record trail is created of who has access and when.

Viisage System for Florida Police

Viisage Technology has implemented its Police Image

Capture System (PICS) for the Pinellas County Sheriff's Office in Florida in the US. Law enforcement officers in the county can now enter information about suspects using text fields and drop-down lists and capture photographs including profile images, signature and distinguishing features.

Biometric Immigrant Processing

A new Immigration and Naturalization Service (INS) biometric fingerprint technology solution aimed at managing immigrant processing and for employee access control has been developed jointly by BIO-key International and Oracle Corporation.

The product is based on BIO-key's True User Identification WEB- key software and will be linked to immigrant visa and passport applications and watch list monitoring and incorporate wireless devices for identification at remote locations.

Face to Face Recognition

The Australian Customs Service is to test a biometric passport verification system called SmartGate using the FaceVACS photo-matching technology developed by German company Cognitec.

Qantas aircrew will take part in the test starting November. Crew members will place their passports on the reader at the SmartGate kiosk and look at the camera for identity verification.

Multi-application Card for London

A multi-application contactless Smart Card is to be piloted in London at the end of this year. The project is a co-operation between the Mayor's Transport for London (TfL) initiative and London Connects, a local authority group.

The plan is to have basic government services such as library and leisure facilities added to the basic ticketing Smart Card . There are also future plans to add applications for schools which may include electronic purses and loyalty applications.

Security Step up at Berlin Airports

A Smart Card-based facial recognition system is to be installed at Berlin Airports, starting at Tegel Airport.

Berliner Flughafengesellschaft has purchased the biometric access control system ZN-Face from ZN Vision Technologies to protect security areas. Facial characteristics of authorised users are stored on a Smart Card and ZN-Face compares and verifies the card information with the face readings at each access station.

Schools Test Biometrics

Fingerprint readers from Precise Biometrics and software from SAFlink Corporation are being tested in Stockholm, Sweden, to replace passwords for login to school networks.

ID Card System for Microsoft

Microsoft Corporation has deployed ActivCard's Identity Management System (AIMS) - which includes a Smart Card-based ID badge - to over 25,000 employees in the Seattle area.

As a component of its overall corporate security strategy, all Microsoft employees, contractors, and authorised users will carry the ID Smart Card for physical access to on-campus facilities and remote access to Microsoft's corporate network.

Setec Instant Solution

Setec of Finland has introduced a new, instant Smart Card solution for corporate information security. Called Setec Instant EID, it provides one card with multiple functions such as secure login to workstation, e-mail encryption and digital signatures. The card can also be used for physical access to restricted areas.

Tommi Nordberg, Senior Vice President, said: "Many organisations are today using software based certificates to secure their information over networks. At present, the biggest problem with these solutions is that the critical private keys, needed to operate the certificates, are stored in a non-secure way in a PC."

In the Setec solution user-critical information is stored in the card's memory and not in a PC.

The first instant EID card deliveries have been made to Sweden's financial clearing house, Bankgirocentralen BGC.

Orange Selects Gemplus

Java SIM Mobile operator Orange UK, part of France Telecom, has selected Gemplus as a supplier of 32K Java SIM cards. At the end of June 2002, Orange had over 12.8 million customers in the UK, 18.6 million in France and approximately 41.4 million controlled customers worldwide.

ORGA Billing System for Digitel

Venezuela's biggest GSM operator Digitel is integrating ORGA's OPSC prepaid billing system to serve 800,000 prepaid subscribers. The full migration process from the existing system to OPSC will start in October 2002 and is scheduled to be completed by the new year.

This latest announcement extends ORGA's leadership in the South American prepaid GSM market, where it claims to currently support more than 60% of all GSM prepaid subscribers.

Gemplus JavaCards for Bolivia

Gemplus is to supply Movil de Entel, the Bolivian branch of the TIM group, with its 32K Java SIM Cards for the launch of the mobile operator's value-added services to existing GSM subscribers.

NewBACS Select Thales Security

Thales e-Security's AssureTransaction has been selected as the authentication middleware product for the £75 million modernisation of the NewBACS clearing programme in the UK.

AssureTransaction will provide real-time verification of the PKI Smart Card identities, issued to users by the UK banks and building societies, and check the digital signatures on all payment files submitted.

NewBACS provides a multi-layer security platform

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for the 100,000 UK businesses who use the system and handles more than 13 million financial transactions on an average day.

MasterCard M/Chip Version 4.0

MasterCard has released version 4 of its M/Chip Smart Card application for credit and debit cards. Version 4.0 is available in two delivering specifications - a streamlined version (M/Chip Lite) and a high end version (M/Chip Select).

The M/Chip payment application, first introduced in 1998, enables financial institutions to issue MasterCard, Maestro and Cirrus-branded Smart Cards on a chip platform.

Wincor Smart Payment Solution

A new secure electronic payment system from Wincor Nixdorf called Swipe and Park incorporates a hybrid reader which is able to read from both chip and magnetic stripe cards in a single operation. The solution was developed in conjunction with Dione Corporation and also includes an optional PIN pad which can be attached for additional security.

STM EAL4+ Security Certification

STMicroelectronics has received security certifications to Common Criteria level EAL4+ for four of its ST19 family of highly secure Smart Card microcontrollers.

The ST19XR34 is the first to offer contactless operation, built-in RSA and DES security hardware and Common Criteria certification. The ST19XL34, which is identical except for the RF Interface, is aimed at contact-based applications. The ST19XS08 and ST19XS04 have 8K bytes and 4K bytes of EEPROM respectively and are designed for financial transactions.

Smart Cards in India

Leading Indian Smart Card manufacturers Smart Chip and Syscom Corporation have formed a series of partnerships under the name Team Smart India to meet the demands of the expanding Indian Smart Card market. Participating partners include IBM, ACG, Veridicom, Watchdata and Rajpurohit.

Sanjay Dharwadkar, Head of Systems Marketing at Smart Chip said: "It is the market for SIM cards for mobile phone that is growing faster in India - at about 70-80% annually. Once the National Identity Card project happens, the demand for Smart Cards will skyrocket." The Indian Smart Card-based identity card project is currently the subject of preliminary discussion.

Toll project

The Indian government has asked for "expressions of interest" for Smart Card systems for toll collection at its various toll plazas located on 15,000 km of national highways.

Datacard expands in India

Datacard has announced that it is to increase the number of development staff at its Indian software centre in Bangalore by nearly 50% within the next ten months.

Tracking personnel

Wipro Infotech (India) has developed personnel tracking solutions using RFID tags, Smart Cards and bar codes. In the aftermath of 9/11, Wipro Infotech, has developed solutions to track personnel in the case of major incidents and also to help companies monitor people within a large organisation.

Anurag Mehrotra, General Manager, said that after 9/11 companies want to monitor their employees in real time. In many cases there is only a manual logbook, and in the case of an incident there might not be any record of missing people. RFID tags can be attached to employee identification cards and their location can be tracked continuously. RFID technology can also provide an electronic link for wirelessly communicating people data and can be used to track company assets such as laptop computers.

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UK Launch Teenage Smart Card

Europe's Biggest Smart Card Project Hit By Controversy

by Matt Ablott, Smart Cards Now

The UK government has announced that it is to launch a nationwide Smart Card aimed at 16 to 19 year olds which will enable teenagers to earn points reward points for learning, work-based training and voluntary activities. The project is claimed to be the biggest Smart Card project ever undertaken in Europe.

The Connexions Card is part of the UK government's Department for Education and Skills (DfES) wider Connexions careers and education programme and is being implemented by Capita. The project is estimated to have cost £100m.

The Government plans to roll-out the cards to 1.7m teenagers following the card's launch in December. The scheme is already active in 42 of the initial 47 areas (all in England) and it is estimated that 175,000 cards have already been issued. Full roll-out of the scheme is expected to be in place by April 2003.

The key incentive for the card is its reward scheme with over 3000 retailers already signed up for the project including PlayStation, Panasonic and the British School of Motoring (BSM). Cardholders are given access to a personalised area on the Connexions website where they can exchange their points for rewards. Incentives are also in place for the colleges themselves with each institution receiving £1 from the government for each student who signs up to the scheme.

The Smart Card, which is available free of charge, will feature a photograph of the holder, address, student number, details of any special educational needs and a date of birth. It is hoped that the card could also become a general 'Proof of Age' card. The card will also be used to electronically record attendance and would therefore possibly become compulsory at colleges who adopt the scheme although it is also available to those who are not in full time education.

Despite a glossy marketing campaign the Connexions Card project has already attracted much criticism from the UK press and teenage groups. Firstly, it is claimed that the card will encourage institutions to abandon its own registrations systems in favour of the Connexions scheme in order to avoid to doing the same process twice. However, as the card is not applicable to students over 19 years of age colleges may still be forced to run separate systems.

However, Connexions card Marketing Manager Catherine Logan told *Smart Cards Now* that the card would not become compulsory: "The Connexions Card is an entirely voluntary scheme. A young person does not have to have a Connexions Card if he or she does not want one. Should a learning centre opt to use cards for attendance monitoring, a young person can be issued with a non-branded card for this purpose. This would not be a Connexions Card and so the card holder would not be eligible for rewards and discounts. Attendance data collected would be held by the learning centre and not passed to Capita."

Inevitably, one of the biggest criticisms has centred around concerns over privacy and data protection with fears that the information on the cards could be exploited by third parties. The registration document has an option to ask that data is not passed on to third parties and the official website notes it would "carefully screen organisations that receive it and make sure that the information you are sent as a result is of interest". Logan noted that Information could be shared with Connexions Services, LEA's, and Learning Centres, but this has failed to satisfy many of the card's critics who are convinced that the information could be held on record for years after the cardholder ceases to use the card.

Six months after a person ceases to be a Connexions card holder, his or her information will be archived, and Capita would not be not allowed to make commercial use of it. The information would then belong to the government, which could, in theory, demand it at any time.

Logan said: "In general, the Card expires at the end of August in the academic year in which the young per-

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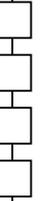
son reached their 19th birthday and points can be redeemed up to six months after the expiry date. Once the card has expired, the young person's record becomes inactive. Data about the Cardholder is held securely and archived by the Connexions Card team and is only available to the DfES."

Terri Dowty from Action for the Rights of Children (ARCH) had a different view. Speaking to the UK's Daily Telegraph newspaper she said: "We are extremely worried by the agenda underlying the Connexions service. The extent of the information being sought from young people and then being made available to every conceivable government agency."

A Capita spokesman said: "It is an entirely permission based initiative - no young person has to have a card. Data on cardholders is not passed on to third parties and the data in the system is protected by extremely rigorous processes that ensure it cannot be abused."

Despite constant denials to the contrary many also think that the card is simply a ploy by the UK government to introduce a national Smart ID card by the back door following much public resistance to a national scheme when it was first proposed late last year (*see SCN July 2002*).

Dowty said: "We are concerned that the Government is playing a long game and using the connexions card as a means of introducing an identity card by stealth. There would have been fierce objections to the introduction of such a card for adults."

Logan once again disputed such accusations. "The purpose of the card is to encourage participation in learning," she said. "The card is completely voluntary, both for learning centres and for young people. Young people will not be required to produce it."
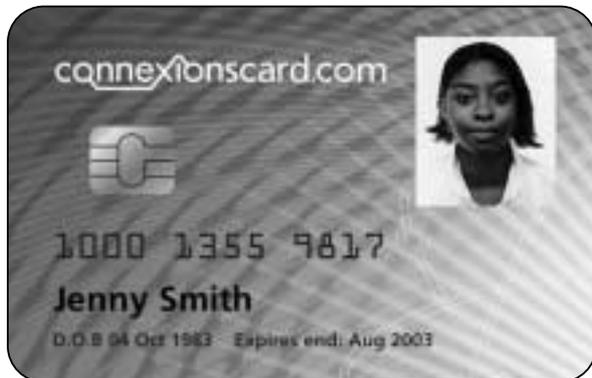
Websites

- www.connexionscard.com
- www.dfes.gov.uk

Corporate News

ST Eye Up Motorola Semiconductor

Europe's largest semiconductor company ST Microelectronics (ST) is understood to be in negotiations to buy Motorola's semiconductor operations in a deal that would see ST leapfrog Toshiba to become the worlds second largest chip company after Intel.

The report, in the UK's Financial Times, said the two companies were discussing a deal that would create a chip business with annual sales of more than $11bn. However, ST denied it had held merger conversations with any other competitor and Motorola declined to comment.

The relationship between the two companies has strengthened over the last year with a previously announced alliance with Philips which will see the three companies invest €1.5bn in an R&D partnership in France. The deal is believed to be the first time a US chip maker has decided to move its R&D operations to Europe.

Hypercom Restructures

Terminal manufacturer Hypercom has announced that it has restructured the operations of its POS Terminals and Network Systems Group to improve operating efficiencies, reduce its exposure in Latin America and discontinue activities that are unprofitable. The restructuring is expected to save $6m.

The company terminated its direct manufacturing operations in Brazil and has 'modified' its sales and marketing approach in Latin America, Canada and Germany. It has also started negotiations on the sale of several standalone operations, which it claimed 'no longer align with the company's core business and growth objectives'.

Chris Alexander, Chairman and CEO of Hypercom, said: "The management team has taken an aggressive approach to mitigate the financial and operating risks relating to our Latin American operations and enhance the longer term performance of our company. We expect the impact of these changes to have an immediate impact on our results commencing with the current fourth quarter."

Gemplus Sackings

The Board of Gemplus is planning to remove Dr Lassus, the company founder and former Chief Executive, and Ziad Takieddine for "violation of their duties of loyalty and discretion as Directors of the company". The fate of the two Directors will be decided at a special shareholders meeting called for 22 October.

The Board received a report from the special committee formed to recommend appropriate actions in relation to the unsecured loan of €78 million, including €5 million of accrued interest, made to Dr Lassus by an indirect subsidiary of the company to enable him to purchase shares in the company in September 2000. The loan is due for repayment at the end of December 2003.

The Board noted that Dr Lassus had again declined to pledge his option shares as security for repayment of his loan, which he had previously undertaken to do, and had not given assurance of his willingness and ability to repay the loan. The special committee recommended and the Board agreed that it was appropriate for the company's indirect subsidiary to take action based on the special committee's findings and the opinion of special independent legal counsel to seek security for the loan and its repayment.

The Board reviewed separate public statements made recently by Dr Lassus and Mr Takieddine, and concluded that these individuals were in violation of their duties of loyalty and discretion as Directors of the company and had not acted in the best interests of the company. Ziad Takieddine incensed the company by publicly criticising the appointment of its new CEO Alex Mandl.

In view of these actions, and, in the case of Dr Lassus, the status of the loan to him, the Board decided to seek a shareholder vote to remove them as Directors.

A special shareholders meeting on 22 October will consider a number of resolutions, including: the removal of Dr Lassus and Mr Takieddine from the Board of Gemplus, and the election of Dr Johannes Fritz, head of the Quandt family office, to the Board.

Gemplus Chairman, Dominique Vignon, said: "The Board of Gemplus is responsible for the governance of the company on behalf of all shareholders. We have a position where two directors are in breach of their duties of loyalty and discretion. Since they decline to resign, we regrettably have no choice but to put the matter to a vote of the shareholders."

"In the case of Dr Lassus, the company also has a fiduciary duty to regularise the loan made to him by a member of the group. It should be clearly understood, in contrast to some stories I have read, that the salary and package of shares and options granted to Dr Lassus in August / September 2000 were based on contractual rights negotiated by Dr Lassus in February 2000, well before the selection of a CEO or the company's flotation. Dr Lassus had the right to waive this package and chose not to do so. He subsequently decided to use the same contractual rights to require a member of the group to make a loan to permit him to exercise his options, thereby increasing his voting power."

Oberthur First Half Loss

Oberthur reported first half losses of €20.7 million but managed to reduce net debt by €18 million since the beginning of the year and achieve a sequential recovery of 10% in activity during the second quarter.

Oberthur also announced that Chief Operating Officer Amedeo d'Angelo is to leave the company this month with his responsibilities passed to CEO Pierre Barberis.

New Team at Cardxx

Cardxx has appointed David Ziegler, CEO and Founder of The Solutions Group International for more than 20 years, as its new Chief Executive Officer; Paul Lewis, founder and former CEO of MC2 Corporation, as President; and Harry J Tiffany, founder of the company and former President and CEO and the inventor of Cardxx' many patented and patent pending technologies and processes, as Technology Director.

Trintech President Steps Down

Secure electronic payment infrastructure solutions group Trintech has announced that John McGuire has resigned as President and Director after 15 years with the company to pursue other personal interests.

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Aconite: EMV Made Easy

by Matt Ablott, Smart Cards Now

Smart Cards Now talk to Jan Dart, Director of Solutions, at Aconite.

Aconite would never claim to be a household name in the Smart Card industry but the high level consultancy company has come a long way since its conception in early 2000. One factor in its success has been its high-profile senior personnel which includes a number of faces which are very familiar to those who have worked in the UK banking industry over the last decade. These include former NatWest CEO Tony Shaw (Non-Executive Director) and Bev Stevens (Director of Consultancy) a former director of Mondex UK.

Jan Dart

Jan Dart, who himself boasts over 20 years of experience in the industry, considers this level of experience one of the company's key strengths. "We pride ourselves on the level of experience of our consultants," he says. "Most of them have more than ten years in their particular field. So they'll get involved in the program definition, the business case, the high level requirements and follow though the implementation of the program."

Another key area identified by Dart is the company's ability to leverage this technical expertise from a business perspective. "We can talk to IT/technical staff and to business staff and we can help them - from a business point of view - in a way that integrates the technical side. Often our work is on both sides of the camp."

Aconite consultancy services specialise in the Smart Card, EMV, Security and e-Trust sectors and Dart claims that its consultants are able to lead development teams (eg: as project managers and directors) or work as part of an existing team, although he adds that the company are increasingly working on an outsourcing basis.

Aconite's core business remains in the banking industry with work in the corporate banking area focussing on security and trust and on Smart Cards and payments in the cards sector. However, the company is also making waves in the retail space and Dart highlights a new contract it has secured with UK retail giant Marks & Spencer.

"The initiative with Marks & Spencer was looking at what sort of policies you would have to use to secure your enterprise and identify vulnerabilities," he says. "We have identified these gaps and how to plug those gaps and are using a service called Aconite Advisor which enables updates on viruses and threats."

Inevitably, however, it is in the EMV space that Aconite is most active, and it is here that Dart claims the company's level of experience really comes into play. "In the Smart Card area we are focussing on EMV purely because people are going to have to implement it," he says. "Lots of people can say they are EMV experts but we can actually demonstrate it."

The first EMV product that the company developed was the EMV Script Processor (ESP) which allows card issuers to control cards after they have been issued - "We don't believe anybody else has anything as rich as this in the marketplace," says Dart.

The second Aconite EMV product, EMV Essentials, was, according to Dart, developed after much dialogue with the banks and suppliers where it was decided that most institutions just needed the standard EMV transaction processing and cryptography functionality. The idea behind EMV Essentials, therefore, was to create an integrated suite of EMV components aimed at easing the migration toward EMV. "This takes away the pain of the EMV transaction in the core host systems and can be bolted onto legacy systems," added Dart.

He continues: "To integrate all this together you need test tools because its hard to see what's on the chip so you need things to look at what's on the card to modify, integrate data and simulate EMV transactions. We have two products in this space - one called EMV Facilitator and EMV Simulator."
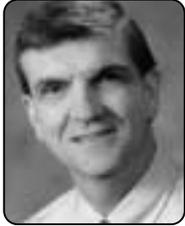
"Our vision is to take away the pain of implementing products. Our software is there to take away the technology problems," he concluded.

Corporate Spotlight

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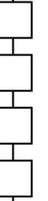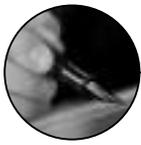
Advances in Card Inspection Technology: 2

by Bill Knotts, President, Spartanics

Bill Knotts

Continued from Smart Cards Now, September 2002. Smart Card manufacturers and issuers need to take a second look at card inspection technology now available in the marketplace.

Image processing capabilities derive from sophisticated mathematical and statistical algorithms known in engineering circles as signal processing. This type of computer programming results in a machine intelligence that allows the machines to function as self-learning systems. An operator programs a self-learning machine by loading it with a sample set of "good" cards that then become the standard for inspection. Once it is trained by looking at a set of "good cards", i.e. the desired images, the machine will either identify a card as an acceptable match or define it as a reject.

The minimal reliance on training human operators significantly adds to the effectiveness of the new technology. Practically speaking, whenever operator training is required, it is unlikely to consistently meet the requirements of older technology. For example, earlier types of inspection systems required operators to establish a hierarchy of inspection zones, which is especially cumbersome when there are overlapping inspection features of equal importance. Machines using line scan cameras are similarly difficult to set up and training sometimes is not up the task. Moreover, unlike the requirements of earlier generations of inspection machines, there is no longer a need to painstakingly define irregularly shaped objects such as logos and holograms as approximate rectangles. These machines "see" these irregular shapes and learn within 10 to 25 cards what the inspection standard for this and all other card features needs to be. Practically speaking, however, the operator now does not even need to know what precisely defines a "good" card, but simply use previously saved setup data that defines good cards and the defect parameters for a given job.

This type of machine intelligence is a far cry from what many card manufacturers assume is the ceiling on machine capabilities. Until now, for example, inspection machines could not inspect cards that were not perfectly positioned much less rotated 180 degrees, an example of why many card manufacturers still turn to human inspection. Today's more intelligent machines CAN still perform under these conditions, AND find the subtle shifts beyond acceptable defect tolerances that are so important to Smart Card functioning.

The lengthy lighting instructions in the manuals of the notoriously sensitive early inspection machines suggest the difficulties that were involved in operating these systems. Unstable lighting systems also resulted in unreliable color inspections because adjustment drifts were inevitable and simply a matter of time. The combination of strobe lighting and ultra-stable LED light sources used in today's inspection technology provides for far greater system stability. It also happens to be significantly less expensive to maintain LED based

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systems. Since the aperture used in a strobe system can be quite small, a high output strobe enables a large field of depth because focus is not all that critical. All in all, these type optical mechanisms deliver both image consistency and long life.

Eliminating any material handling mechanisms with potential to damage cards as they are being inspected is also part of what differentiates the newer technology from the old. In the past, manufacturers had to allow for a certain percentage of cards to be damaged by the inspection process itself. This too can be a source of cost folded into the prices paid by card issuers. Newer machines rely on rotary vacuum placer mechanisms that are relatively vibration free, having benefits both for the optical read of the card and in avoiding scratches from the inspection process itself. These are the same sorts of scratch-free material handling mechanisms found in the latest types of mailing automation.

Process Control

Reliable machine intelligence applied to the inspection process has the potential to transform plant-wide process control. Since these systems automatically classify defects and generate accurate statistics, and can be networked with shop floor computers, they can provide live data anywhere in a manufacturing plant to facilitate process control procedures. This allows one to zero in on various stages of production and make needed adjustments to minimize percentages of printing failures, blanking faults, misalignment of magnetic stripes,

The Spartanics 930 Inspection System

etc. Drift in processes can be monitored continuously and early drifts in quality of machine outputs can be identified. Operators can also make online adjustments to defect tolerances to test alternate machine or inspection parameters without affecting current production runs.

About the Author

Bill Knotts, is President of U.S.-headquartered Spartanics, (www.spartanics.com) a specialist in the engineering and manufacture of high volume optically-guided card punching systems, and automated counting and inspection technology. Spartanics' worldwide service organisation also maintains offices and spare parts in the UK. Mr. Knotts may be contacted at +(847) 394-5700 or billk@spartanics.com

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Controlling Smart Cards and Tokens
Over a Network: 2

by Dr David B Everett, Technical Director, Smart Cards Now

Dr David B Everett

In the case of asymmetric algorithms the situation is very different. These algorithms are often referred to as public key cryptography because of the way they are used. Let's see how this works in practice:

In this example the transmitter uses an asymmetric algorithm such as RSA and with the receivers public key generates a cipher from the input message. This cipher is then transmitted across the network to the receiver. By using his secret key the receiver is able to receive the original message. Clearly the public and secret key of the receiver are mathematically related but the strength of the process relies on the difficulty of computing the secret key just from a knowledge of the public key. We note the use of the word 'difficulty' in practice few things are impossible but we can make it sufficiently difficult that the computation of the secret key is not economically viable. In practice this is largely determined by the length of the key, which is why this receives so much attention in the media. Lets make a few observations:

A   The receiver doesn't know who sent the message (assuming the public key was truly made public).

B   Although the transmitter doesn't care about keeping the receivers public key secret he does care about its authenticity. If he used an eavesdroppers public key his message would be revealed.

Lets take *figure 3* and reverse the process, *figure 4*, opposite:

In this case the transmitter uses his secret key to obtain a transformation of the input message. This cipher is then sent across the network to the receiver who recovers the original message using the transmitters public key. Let's make some more observations:

C   The receiver knows that the message could only have come from a particular transmitter because nobody else has his secret key (assuming he looks after it).

D   Anybody with access to the transmitters public key can read the message.

E   The receiver needs to be assured to the genuineness of the transmitters public key in order to be sure that the message really did originate with that particular transmitter.

This cipher, produced with the transmitters secret key, is usually referred to as a digital signature. However the process that we have described so far is actually incomplete since the checking of a digital signature requires an element of redundancy. In simple terms we could send the complete message in plain-text as well as the digital signature. The redundancy is then observed by checking the decoded signature data against the plain-text message data. Imagine for a minute that the message data is a random number then the receiver has no way of knowing if this is the true random number without being sent additional information, in this case a total copy of the false cipher block. It is only by comparing the decoded signature with the plain text data that the receiver can be assured of the authenticity of the data. This same process therefore achieves three properties:

1   The integrity (correctness) of the data.
2   The authenticity of the source.
3   Non-repudiation in that the transmitter cannot subsequently deny the operation.

We should note here that the symmetric algorithm cannot achieve these same properties because the transmitter and receiver must share the same secret key. Clearly non-repudiation is not possible because either party could have generated the message.
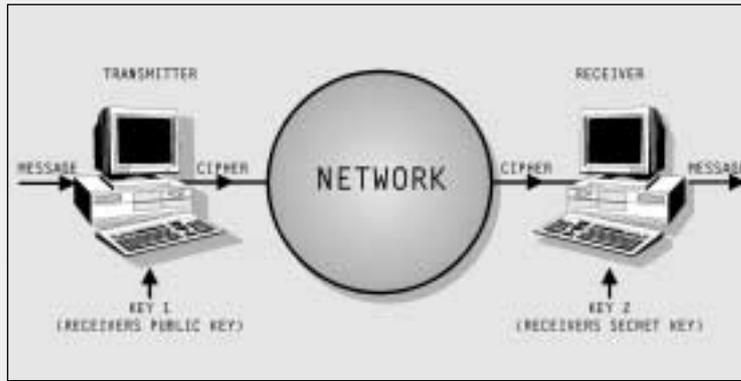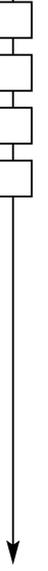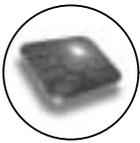
Figure 3
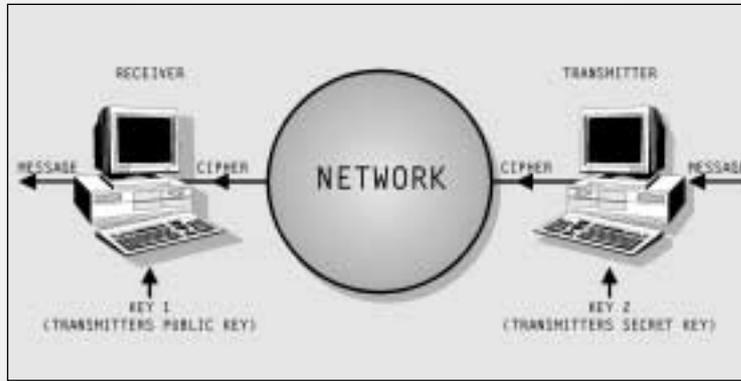*Asymmetric Cryptography*

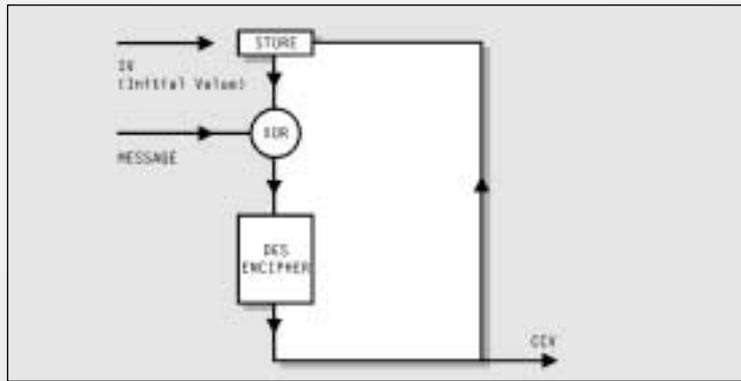*Figure 4*
The Digital Signature

Figure 5
Generating a Cryptographic Check Value

Source authentication is however achieved between corresponding parties. Data integrity can be assured by developing a cryptographic check value (CCV) which is sent with the message. The CCV is sometimes referred to as a message authentication code (MAC). This can be implemented as shown in *figure 5, above*. The cryptographic check value was widely used to protect the integrity of financial messages where the property of non-repudiation between correspondent banks was not a priority. Today with electronic commerce the situation has totally changed and this latter property is has become a fundamental requirement.

For key management of Smart Cards and tokens the asymmetric or public key approach offers significant operational advantages - which we will discuss further next month.

To be continued ❖

Smart Card News On Line: Round-Up

Smart Card Group's *Smart Card News On Line* service is emailed to subscribers every working day, reporting on industry events as they happen. This service is available FREE to *Smart Cards Now* subscribers (£100 per year for non-subscribers). For further details and to sign up please contact Amanda Pearce - amanda.pearce@smartcard.co.uk; tel: +44 1273 515651 (further contact details are available on page 183). Here's a selection of the headlines we covered in September:

Corporate

- Freestar Technologies Acquires Rahaxi Processing
- InteleTech acquires Performance Technology
- Patriot Scientific Corp Ignites the Chinese Smart Card Market
- Datacard Expands Indian Operations
- Gemplus to Shut Out Founder
- NDS Hit By Second Court Case
- India Jumps On Smart Card Bandwagon
- SchlumbergerSema Wins Chinese Card Contract
- Trintech President Resigns
- Gemplus Address Lassus Loan Affair
- Visa-MasterCard Antitrust Litigation Underway
- Canal Plus Set To Change Hands
- NamITech Increase Stake In Smart Card Joint Venture
- UK Bank Deploy Level Four EMV Testing Tool
- SCM Appoint Former Deutsche Telekom CTO
- Gemplus CEO Quits CIA Technology Board
- Lifestream Appoints New Director
- Keycorp Report Major Losses
- Gemplus Anger Over Director's Comments
- Keycorp And Samsung In MULTOS Alliance
- Gemplus Takeover Postbank Card Manufacture

Government

- Drexler Delivers More LaserCards to US Govt.
- Datakey Supply Smart Badges To US Govt.
- New Smart Cards For Russian Government
- Consultancy Backs UK ID Card
- Cardxx Develop DoD Approved Smart Card

Banking

- CEDICAM Implement Cardlink EMV System
- Taipei Roll Out JCB Hybrid Smart Cards
- UK Supermarket Implement IBM EMV System
- Omron Launch EMV Level 2 Smart Card Software
- Visa Makes Contactless Breakthrough
- GCA Delivers Smart ATMs To US Casinos
- UK Business In The Dark Over EMV
- Standard Chartered Back On The EMV Track

ID & Authentication

- Identrus Puts Trust In Software Based Digital Signing
- Microsoft Deploy ActivCard ID System
- BIO-key Launch Biometric Immigrant Processing
- Griffin Launches USB Access Control Token
- Paymentech and iShopSecure Announce Fraud Alliance
- ActivCard Launch Smart VPN For Resellers
- Viisage Deliver Biometric System To Florida Police
- HID Smart Card Integrates Hand Biometric
- Cubic Launch Border Control Smart Card
- Cansec Win SIA Award For Smart Card Biometric
- Insiderstreet.com Launch Online Document Solution

Telecoms

- Gemplus Delivers JavaCards to Bolivia
- Gemplus Deliver Java SIM Cards to Orange
- ORGA Launch Telecoms Partner Program
- SchlumbergerSema Develop T-Mobile 3G Platform

Technical

- Philips Electronics Has Released New Contactless Single Chip Reader IC
- Soft Tokens Replace Smart Cards
- Arcot Receives Identrus Certification
- ARM to Develop Chinese Test Chip
- Philips Launch Single Chip Reader IC
- HID Launch Contactless Range
- SSP CAC Middleware Passes First Article Testing
- Datacard Adds Proximity Card Capability
- Iris And Infineon To Develop New Smart Card OS
- SSP-Litronic Launch Next Gen USA Card
- Cyberflex Certified For Common Criteria EAL4+ Security
- Thales Extends Crypto Platform

Retail

- MasterCard SecureCode Makes Internet Shopping More Secure
- Safer Internet Payment Transactions
- SchlumbergerSema Launches New Smart Card Terminals
- Digitel Integrate ORGA Billing System
- nCipher Launch payShield Solution

Hypercom Launch 'drive-thru' Terminal Solutions

- Hypercom Launch 'drive-thru' Terminal Solutions
- UK Retailer Trials Trintech Chip/PIN Solution
- JCB Certifies EMV Kernel for Hypercom's ICE Card Terminal
- Airos Group Win Smart Chip Loyalty Contract
- Catuity Capture New Loyalty Card Patent
- VeriSign Adopt MasterCard Online Transaction Solution

Transport

- Delhi's New Metro System
- Multi-Application Smart Cards Travel To London
- Cubic Does It On The Web
- ASK Launches Transit Contactless Reader
- Cubic and EDS Deliver Smart Card Gate System
- Helsinki Adopts Smart Card Ticketing System
- Cubic Wins San Diego Transit Contract
- Qantas To Use Biometric Passport Checker

Healthcare

- Sigma And HSB Form Smart Card Healthcare Alliance

Leisure

- India Launch Hotel Smart Card
- NDS Hit 30m Pay-TV Smart Card Milestone
- Cablevision Integrate NDS Pay TV Solution

Misc

- Monitoring Employees In Real Time
- Liberty Alliance Gains A new Member
- Irdeto To Change Smart Card Every Year
- ARM Launch New SoC Debugging Solution
- Wireless Takes Off In Latin America
- Datacard Launch New Card Printer
- Fargo Alliance Announces New Members
- Inside and OmniTek Launch Reader Family
- Philips and Sony Launch Data Access Solution
- Zebra Launch New Smart Card Printer

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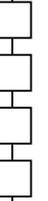
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Credit Card
Number
Expiry Date
Signature

Name

Company

Address

Telephone

Email

Time To Get Smart

by Matt Ablott, Smart Cards Now

UK Retailers Unprepared for Smart Card Retail Deadline Says Report

New research by Alliance & Leicester's commercial banking arm, Girobank, has revealed that more than four in ten (41%) businesses in the UK are unaware of the upcoming switch to Smart Card-based 'Chip and PIN' technology at point-of-sale.

The new regulations require that all face-to-face card transactions in the UK must be authorised by the customer keying in a PIN rather than signing a receipt. The deadline for the switch has been set for January 2005 and will effect the country's estimated 42m card holders and 1.5m retail staff. According to www.chipand-pin.co.uk the changeover will cost UK banks and retailers £1.1bn.

The main thrust of the change has been due to recent dramatic rises in UK card fraud which, according to figures from the UK's Association for Payment Clearing Services (APACS), rose to £411m last year – an increase of 30% from 2000.

The UK's first 'Chip and PIN' trial will take place in Northampton in early 2003 with a number of key UK retailers expected to take part including Marks & Spencers, Tescos and Dixons. However, it is feared that for retailers who have yet to make any plans it may already be too late.

Gareth Williams, Head of Marketing, Alliance & Leicester Business Banking, said: "Chip and PIN technology is going to have a major effect on businesses and consumers across the UK. With the plans little more than two years from full implementation, businesses need to be aware of them now and start preparing."
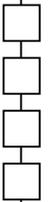
The Girobank report found that:

☐   41% of businesses are not aware of the introduction of new chip and PIN technology. Companies in the services sector are the least likely to be aware of plans, with 55% expressing no knowledge, despite the changes having the greatest impact on this sector.

☐   However, almost all firms that are informed of the plans welcome them. Only 7% are concerned about the cost of the new technology and just 4% resent having to retrain staff.

☐   Companies in the retail sector, however, are most concerned about the cost chip and PIN technology will have on their business - ie the outlay involved with installing new point-of-sale terminals and the accompanying training costs. 40% of retailers cite these as key issues.

☐   Companies in the North of the UK are the likeliest to know about the plans, with only 29% completely unaware. Firms in the Midlands are the least informed, with 54% unaware of the plans.

Girobank - the UK's fourth largest merchant services provider - asked a representative sample of 200 businesses with a turnover of £1m to £100m whether they were aware of the planned introduction of chip and PIN technology in 2005 to combat card fraud.

Losses due to fraud on UK issued cards *per annum*

£ Millions

Source: APACS

Year	Value
1995	83
1996	97
1997	123
1998	135
1999	188
2000	317
2001	411
2005	800 (Predicted at current rate of increase)

Websites

⌨ www.girobank.co.uk

⌨ www.chipandpin.co.uk

⌨ www.apacs.org.uk

The Market in Figures

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It's amazing the things people worry about. Like EMV migration.

THALES