



www.radiantinfo.com

Radiant Infosystems

Radiant Infosystems are based in Bangalore, India, and offer expertise in technologies such as e-Solutions and biometric Smart Cards. Intelligent use of colour, layout and animation ensures that the information available is easy to locate, and navigate. A set of PDF brochures are available for offline reading, along with case studies of individual projects. This is a well branded and professionally managed site, although a more distinctive colour could perhaps enhance text links, which, although underlined, are not obvious pointers to further reading.

- Navigation ■■■■■
- Content ■■■■■
- Appearance ■■■■■

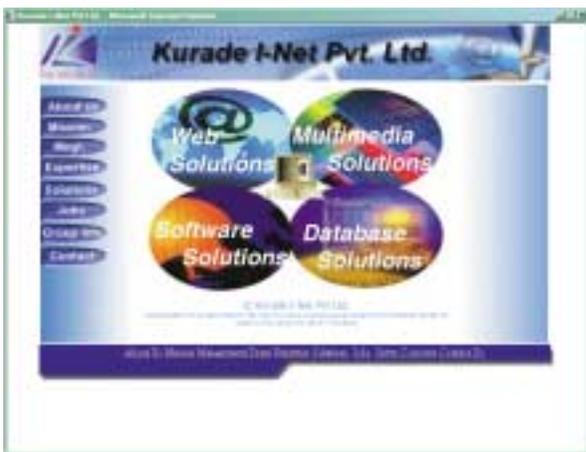


www.irissmartcards.com

IRIS Smartcards

IRIS provides Smart Cards for many areas of the industry, including healthcare, retail, transport and entertainment. In many ways a standard corporate website, IRIS does, however, make a solid effort to inform visitors of its services, to the extent of supplying a well written layman's guide to Smart Card technology. This does a good job of supplying basic information for those new to Smart Cards. Regrettably missing from the website (although the link is present on every page) is a Knowledge Base, which presumably offers specialist information as a backup for its customers. Never the less, another good website from the Indian marketplace.

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www.kurade.com

Kurade I-Net

Bright, colourful and animated are good words to describe Kurade I-Net's website, although a variety of slow page transitions tended to irk this visitor within a few moments. However, minor irritations aside, this is a basic but useful website, with just enough information available to cover the company's activities. The site could be enhanced further by consistent page layouts and navigation, and more detailed texts such as case studies, online demonstrations and press releases.

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Smart Cards in Transport

The move towards Smart Card-based electronic ticketing in public transport gathered momentum with several project announcements in various parts of the world last month.

In the US, Cubic Transportation Systems announced contracts worth around \$10.3 million for fareboxes from six municipal bus operators who are partnering with the Los Angeles County Metropolitan Transportation Authority on what will be California's largest Smart Card payment system for public transit.

The six bus operators are the first of several service providers expected to participate in the system known as the Los Angeles County Universal Fare System which Cubic is designing and delivering under a \$84 million contract awarded in 2002.

Richard Johnson, President and CEO of Cubic Transportation Systems, said: "The Universal Fare System will store and analyse the data on where a rider boarded, transferred, and where and when any additional value was loaded onto the card: it then apportions the revenues among the participating agencies."

Also in the US, Cubic and the Washington Metropolitan Area Transit Authority completed testing of a Smart Card fare processing system for buses in the Washington area. The 90-day test period saw electronic fareboxes installed on 80 metro buses. Starting next month, the equipment will be installed on 1,500 Metro buses.

The fareboxes have been integrated with WMATA's regional SmartTrip system, the first interstate contactless Smart Card regional ticketing system.

Routemaster, London's famous hop-on hop-off red double-decker bus, is to be removed from most routes and restricted to serving tourist attractions. The speed advantage of the Routemaster, on which fares are collected by a conductor rather than the driver, will end in August when passengers on 60 routes in Central London will have to buy a ticket before boarding. Three hundred new ticket machines will be installed at bus stops.

Most passengers are expected to use a Smart Card-based electronic purse that can be loaded with value and scanned automatically on buses, tubes and trains. The card is already used by 50,000 transport workers.

Aberdeen City Council in Scotland is starting to roll-out its Accord citizen card which will give access to library services, leisure and bus travel on Stagecoach and First Aberdeen buses. The first to benefit will be pensioners who will use the card for free off-peak bus travel.

In Sweden, ERG Group signed a contract with Stockholm's public transport authority, AB Storstockholms Lokaltrafik, to implement a Smart Card-based automatic fare collection system. The project, known as Resekortet (the Travel Card Project), will generate revenues in excess of A\$49 million plus maintenance to ERG over the implementation period.

Japan's largest railway company, JR East, has become the biggest transportation operator to issue contactless Smart Cards to consumers. Six million people are now regularly using the proximity card and JR East is planning to expand the system within the next year and install readers at the gates of its bullet train and at 500 of its restaurants.

Websites

- www.cubic.com
- www.routemaster.org.uk
- www.jreast.co.jp

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Datacard Buys Gilles Leroux

Datacard Group has completed the acquisition of assets from Gilles Leroux, the French manufacturer of plastic card production, control and personalisation systems, and supplier of products to the GSM Smart Card market.

Datacard was awarded the right to purchase the Gilles Leroux assets in June 2002 by the Commercial Court of Orleans, France, which oversaw the company's bankruptcy filing last year.

Pilots for Transport Workers ID

The US Transportation Security Administration (TSA) says it is now finalising requirements for two Smart Card pilot projects for its Transportation Worker Identification Credential system, which will provide employees at airports, ports, railways and other locations with secure access to buildings and systems. The pilots will run in the Philadelphia and Los Angeles regions.

Following technical evaluation, TSA will produce a prototype so agency officials can evaluate and refine the products.

Golf Loyalty Scheme

US based KSM Transaction Solutions is to launch the "Fore! Honors" loyalty programme, which is built around the Catuity loyalty platform. The scheme will be launched in Detroit this Spring and will initially cover eighteen golf courses.

The scheme allows golfers to accrue points, which can be exchanged for items such as merchandise, refreshments, supplies or facility use.

Pat Damer, President for Fore! Honors, said: "The Instant Reward feature effectively allows two people to play a course for the price of one. It is activated upon sign up and, basically, pays for the cost of membership."

First Bluetooth Mobile POS

Ingenico and Baracoda have announced the first Bluetooth enabled portable payment terminal in the market. The Bluetooth Ingenico 7770, paired with Baracoda's barcode scanners, was demonstrated at the CeBIT Show in Hanover, Germany, last month.

HP Healthcare Applications

Component and technology supplier ACG AG has developed an enhancement for the iPAQ pocket PC enabling a Smart Card to read and write RFID tags (13,56 MHz).

Mobile communication solutions in the healthcare sector, which Hewlett-Packard is marketing under the "HPWirelessClinic" brand name, will be one of the main areas of application. At CeBIT, HP demonstrated applications such as patient and blood-bank management systems with software written by software specialist n-Tier construct.

The core of the iPAQ pocket PC is the multi-tag reader from ACG, which complies with ISO 14443 and ISO 15693 standards and therefore also supports standard-compliant transponders from Philips, Texas Instruments and Infineon.

Germany-based n-Tier construct has already deployed the iPAQ at the children's intensive care unit at the University Clinic in Mainz, Germany, complete with wireless access to clinical patient master data such as diagnoses, laboratory values and services/benefits already provided.

Details of all medication required by the patient are also stored on the iPAQ; and network links to the infusion equipment in the wards facilitates infusion monitoring.

LEGIC advant RFID System

LEGIC Identysystems launched its new multi-ISO Standard compliant contactless Smart Card system LEGIC advant RFID system developed to support the design of access control and other person-related service applications such as time & attendance, cashless payment, parking and identity. It says that the new product line is particularly suitable for Smart Cards for ticketing or government ID solutions, general access control and related high-security applications such as IT access and biometrics.

MasterCard Cuts Smart Card Price

MasterCard International has announced that its \$1.99 multi-application Smart Card programme will be supported by a number of leading vendors and will further accelerate the migration of payment cards to multi-application Smart Cards in Asia/Pacific and worldwide.



Vendors in the project include ORGA Card Systems, KeyCorp and Security Plastics. With the \$1.99 Smart Card, MasterCard has brought down the price of its multi-application Smart Card by 33% from the \$2.99 Smart Card programme it first introduced in December 2000.

SCM Readers Certified EAL 3+

SCM Microsystems has announced that its SPRx32 Smart Card readers have been certified for Common Criteria EAL (Evaluation Assurance Level) 3+. The network-ready device combines a Smart Card interface with a PIN pad.

“SCM Microsystems is proud to be the first reader manufacturer to receive Common Criteria EAL3+ certification — the highest level of tested assurance met by any Smart Card reader,” said Jason Schouw, Vice President, Americas, for SCM.

FIPS Certification for eToken

Aladdin Knowledge Systems says its eToken PRO USB authentication device has gained FIPS (Federal Information Processing Standard) 140-1 Level 2 and 3 physical protection certification from the US National Institute of Standards and Technology (NIST).

It offers a portable, cost-effective means to authenticate users and digitally sign sensitive business transactions.

Twenty Million Optical Cards

LaserCard Systems Corporation reports that the cumulative purchase of LaserCard optical memory cards by the US federal government has reached twenty million cards.

Most of these cards have been issued for the US Permanent Resident (Green Card) and Border Crossing Card (Laser Visa) applications.

New Smart Cards for Banks

Finnish Smart Card solution provider Setec and plastic card manufacturer TAG Systems International have signed an agreement to start co-operation in delivering Smart Cards for the banking sector. They will provide EMV and/or PKI cards that combine Setec's Smart Card and microchip expertise with plastic cards manufactured and personalised by TAG. The first deliveries are planned for this year.

The co-operation strengthens their business activities with a special emphasis in the Nordic & Mediterranean countries as well as in Eastern Europe. Setec has offices and therefore a strong market position in Smart Card business in Nordic Countries, Eastern Europe and Asia. TAG Systems International, on the other hand, has facilities in Sweden, Norway, Andorra, Spain and India. Furthermore, TAG Systems' distributors deliver plastic card products to more than fifty countries and says its market position is particularly strong in Russia.

US Army Contract for Northrop

Northrop Grumman Corporation is expanding its Smart Card systems and services for the US Department of the Army. Through a task order from the General Services Administration, Northrop Grumman Information Technology (IT) will deliver middleware that allows Smart Cards to communicate with computers and computer applications for the Army's Common Access Card (CAC) program.

NDS Wins Pay-TV Contract

NDS has won a contract with Swedish media company Modern Times Group to supply Smart Cards to its 617,000 digital subscribers. The contract will bring the total number of viewers using NDS cards to 32 million.

For more information visit ...



Datacard

www.datacard.com

Ingenico

www.ingenico.com

Baracoda

www.baracoda.us

ACG

www.acg.de

Legic

www.legic.com

MasterCard

www.mastercard.com

SCM Microsystems

www.scmmicro.com

Aladdin

www.eAladdin.com

LaserCard

www.laserCard.com

Setec

www.setec.fi

Tag Systems

www.tagSystems.ad

Northrop Grumman

www.northgrum.com

PayRight Merchant Services

www.payright.com

NDS

www.nds.com





Baltimore \$2.8m Contract in Saudi

The Saudi Arabian Monetary Agency (SAMA), the central bank of the Kingdom of Saudi Arabia, has selected Baltimore Technologies to provide a comprehensive security solution to enable on-line trusted transactions for the network of Saudi Arabia-based banks.

Baltimore UniCERT, the company's flagship Public Key Infrastructure (PKI) product, will underpin the online payments systems within the banking sector to assure the integrity and authenticity of all transactions. In addition, Baltimore's PKI technology will be used to create the Root Certificate Authority for the financial services industry within the Kingdom.

The system allows SAMA to act as a trusted Certificate Authority (CA) for one of the Gulf Region's most important banking networks. UniCERT provides SAMA with a complete policy based Digital Certificate Management System for the creation and management of certificate-based digital identities and signatures.

Baltimore has partnered with Mohammed M. Al Rumaih Co. in Saudi Arabia who will provide local support and services.

Smart Label from ASK

ASK has entered the RFID tagging market with the introduction of C.label, a family of contactless paper-based Smart label products which is says are the first in commercial production.

The ASK Smart label combines a microchip and an antenna printed on paper with conductive ink to make a wireless device that looks and feels like a standard paper label. Using radio frequency identification (RFID) technology, customised readers can read and write data contained on the C.label chip. The printed antenna eliminates the need for a wire coil antenna and resonant capacitor and reduces costs.

The first product in the C.label family, which is available immediately is based on the high speed ISO 14443 for contactless technology and ASK claims it is the only Smart label that permits the management of 100 items a second and anti-theft protection ranging as far as one metre. Electronic Article Surveillance (EAS) technology is available as an option on C.label.

Chip Credit Cards in Ireland

MBNA Ireland, part of the largest independent credit card issuer, is now issuing chip credit cards for all new accounts and for replacement cards.

Ian Povey, head of Smart Card Strategy and Migration at MBNA, said: "We recognise that chip cards are the most secure technology for payment cards available today and, in addition to the security benefits for MBNA and our customers, chip cards have the ability to support add-on services such as retailer loyalty schemes."

Chip Cards for Estonia

Uhispank of Estonia plans to launch EMV chip cards in May. The launch will be gradual ensuring terminals are upgraded to accept the cards. Visa Classic will be the first cards to be issued.

Malaysia Chip Card Issue

A report from Bank Negara Malaysia says that over 200,000 chip bank cards were issued up to December 2002 and that 4,000 ATMs had been upgraded to accept the cards.

The Bankcard was introduced after a "spate of unauthorised cash withdrawals" from ATMs and was developed in collaboration with Malaysian Electronic Payment Systems (MEPS).

Australia is Target for Fraud

While the ever increasing levels of security on Smart Card-based EMV cards in Europe and Asia are making card-fraud much more difficult, the Australian Institute of Criminology (AIC) has suggested that criminals are heading to Australia, where most cards are still based around the magnetic stripe.

Visa Australia, which is seeking to integrate its contactless chip credit cards with Smart Card-based state public transport mass ticketing facilities, said Australia was in danger of becoming a main point of card fraud in the Asia Pacific region.

Sagem Awarded UAE Contract

Sagem has been awarded a contract by The Ministry of Interior of the United Arab Emirates to serve as system integrator for a project to develop the UAE's electronic ID card system. The contract is said to be worth \$50 million.



The project calls for Sagem to pull together the latest security technologies, including Smart Cards equipped with cryptoprocessors, a highly secure architecture, an internal biometric identity check feature, a Java multi-application platform, Public Key Infrastructure and digital certificates.

Biometrics for Sea-Tac Airport

ImageWare Systems has been awarded a contract to upgrade their Aviation-ID software at Seattle-Tacoma Airport and adding biometric and Smart Card capabilities to provide secure access control.

Sea-Tac is currently using ImageWare's technologies to produce tamper-resistant photo identification cards. The relationship between Sea-Tac and ImageWare dates back to 1998.

Fingerprint ID for Network Logon

Security software provider BioconX plans to integrate BIO-key's "one-to-many" fingerprint matching algorithm in its product line and will work with BIO-key to jointly offer solutions for network logon and application access. One of the major focus areas will be healthcare where the Health Insurance Portability and Accountability Act (HIPAA) requires healthcare providers and insurers to have audit trails to patient records and more robust access control to increase patients' privacy.

Fingerprint Matching on MULTOS

Precise Biometrics has introduced Precise BioMatch M software for fingerprint matching on Smart Cards supported by the MULTOS operating system.

Steve Everhard, CEO of MAOSCO, the company set up to promote MULTOS specifications as an open industry standard, said: "With Precise BioMatch M, Smart Card issuers can offer their customers yet another level of security. Using Precise Match-on-Card means that the fingerprint matching takes place in the secure environment of the Smart Card.

Facial Recognition for DoD ID

Viisage Technology has announced that the US Department of Defense has expanded its licensing of Viisage's facial recognition for identity verification to support federal and military organisations to combat terrorism by identifying known terrorists.

Multi-biometric Software

Advanced Biometric Security (ABS) has launched AccessPoint, the first open, multi-biometric physical access control software solution that can integrate any combination of biometric technologies (face, hand, iris, finger, voice, as well as Smart Cards, PIN and card systems) with any IT and physical access control environment.

SAFLINK Appointments

Biometric security company SAFLINK Corporation has appointed Todd Dewey to Senior Vice President of Sales and Marketing. Previously he was Vice President of global sales for PeopleSupport; and Luke Thomas as Director of Commercial Sales. He joins from Identix where he held a similar position.

DeXa.Badge for Nissan

Nissan Motor Co is reinforcing the physical and logical security of all Nissan facilities worldwide with Schlumberger's DeXa.Badge. The project will be managed by SchlumbergerSema, the IT business unit of Schlumberger and is scheduled for completion by the end of 2004. DeXa.Badge is a corporate identity solution consisting of multi-application SchlumbergerSema Cyberflex Access Smart Cards and readers for access to buildings, computer networks and company data. The card stores each employee's unique identification on a contactless chip, and logical security information on a contact chip.

For more information visit ...


Saudi Arabian Monetary Agency
www.sama.gov.sa
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Viisage
www.viisage.com
Advanced Biometric Security
www.advancedbiometric.com
SchlumbergerSEMA
www.slb.com





GSM-R Network for Slovak Rail

A GSM-R (Global System for Mobile Communications for Railways) communications network for Slovak Railways is being provided by Nortel Networks.

Nortel Networks will supply Kapsch CarrierCom with a complete network infrastructure solution — including GSM-R compliant radio base stations and switching equipment — to connect Slovak Railways to the railway communications networks of the Czech Republic, Austria and Hungary.

SIM for Phonebook Management

Incard has announced SIM2, a low cost tool to enable the end-user to securely copy his phonebook from one SIM to another. For professional use, SIM2 is able to align Outlook Contact phone numbers with SIM address book and vice versa. SIM2 works with all GSM 11.11 standards, be it native or Java, thus it can copy data from any SIM of any manufacturer, from any operator.

Vodafone Planning 3G Christmas

Vodafone will launch its 3G service in time to catch the Christmas spending spree according to Sir Christopher Gent in an interview with the UK's Financial Times. Vodafone are in talks with handset manufacturers to supply 3G phones for a launch in October/November.

One Million Multi-media Phones

Vodafone Group says it has hit its sales target of one million 'Live' camera equipped multi-media phones. Ten European countries now have access to Vodafone's Live services and it is expected that Egypt, Australia and New Zealand will also soon have access to the service.

VeriFone Unveils the Omni 3600

VeriFone has announced the Omni 3600, the first wireless terminal to support cellular technology utilising Qualcomm's CDMA2000 1X. The company says that this new capability allows traditional transactions to be completed in less than three seconds, considerably faster than the twenty plus seconds for a regular debit or credit transaction. This solution expands the reach of payments to taxis, delivery companies, mobile kiosks, table payments, and traditional retail outlets.

The Omni 3600 works through VeriFone's "dedicated virtual connection" in which a device remains connected and eliminates the waiting time found in traditional modem communications thus reducing the total transaction speed to below three seconds.

The terminal comes with a triple track magnetic card reader, Smart Card reader, internal PINpad, and integrated printer, making it capable of accommodating a full range of applications. It meets the specifications required for EMV standards and regional requirements for 3DES and PIN entry device (PED) security as required by MasterCard, Visa and American Express.

GSM Contract in Russia

Tele2, a leading alternative pan-European telecommunications company, has launched its first Russian GSM 1800 network in Irkutsk under the Tele2 brand.

C&W Test GSM/GPRS

Cable & Wireless Jamaica has successfully completed the first test call on its new GSM/GPRS mobile network.

Training Manager at HID

Bill Richardson has been appointed HID's Technical Training Manager to educate customers about iCLASS 13.56 MHz contactless Smart Card technology, as well as all products.

Cubic Appointment

Steve Purcell has been named Senior Vice President of Contracts for Cubic Transportation Systems. He joined Cubic in 1999 and has more than 25 years of contracts experience in international, government and commercial contract management and compliance.

Launch of New Joint Venture

A new joint venture between Hitachi and Mitsubishi Electronics Corporation has been launched under the name Renesas Technology Europe. The new company will focus on the design and manufacture of highly integrated semiconductor system solutions for the mobile, network, and automotive industries, digital home electronics and industrial markets. Key products will be microcontrollers, including Smart Card ICs; flash memory technologies; and mixed signal devices.



Renesas Technology Europe is a wholly owned subsidiary of Renesas Technology Corp., one of the largest semiconductor companies in the world. The European operations will be headquartered in Bourne End, near Maidenhead in the UK, with major centres in Dusseldorf and Munich in Germany.

Matthew Trowbridge, formerly Executive General Manager of Hitachi Europe's Electronic Components Group, has been appointed CEO of the new company. He said: "Renesas' European operation already plays a key role in its global activity for the Smart Card, automotive and mobile industries."

Yutaka Funada, formerly COO of Mitsubishi Electric Europe's Semiconductor Business Unit, has been appointed Senior Executive Vice President.

New ORGA Management Team

ORGA Kartensysteme has announced its new management team as part of a long-term reorientation of the company in the international marketplace. Ingo Zankel and Dr Matthias Eickhoff have been named Managing Directors, replacing Dr Ulrich Wöhr and Franz-Josef Deckers.

Ingo Zankel is the new Chief Operating Officer and will be responsible for the areas of sales, marketing, projects, production and development. Before moving to ORGA, Zankel spent almost ten years in the card business at Giesecke & Devrient, most recently as Deputy Managing Director.

Matthias Eickhoff, who has held various management positions, will be the new Chief Financial Officer. His experience in the software and system solution sectors as well as card technology comes from appointments as the CFO of Mosaic Software and as the Managing Director responsible for finances at Bluefish Technologies.

Microcontroller with 32M-bit Flash

Atmel Corporation has announced that it is sampling a secureAVRT RISC microcontroller with 32Mega-bit Flash. It is based on the AT90SC3232CS (secureAVR processor, 32K bytes Flash, 32K bytes EEPROM) with in addition 32Mega-bit of Flash for efficient and secure data storage.

The AT90SC3232CS-F32M is designed to meet Common Criteria EAL4+ security certification and is available in a 3V version, as well as 5V, and can be delivered in module form or in package form.

Herve Roche, Smart Card IC Marketing Manager said: "The content protection barrier is being surpassed. The AT90SC3232CS-F32M is the industry's first high-end secure microcontroller with this type of large Flash memory capacity.

"The other great performance is the availability of this outstanding product for the Smart Card market with deliveries in module form. For example the ITSO's (Interoperable Transport Smartcard Organisation) secure access module has been developed with the AT903232CS-F32M in a standard SIM format."

The price for 1000 units is \$20.

GPRS for AIS in Thailand

Thai mobile operator Advanced Info Service (AIS) has selected Siemens Information and Communication Mobile to equip its GPRS (General Packet Radio Service) network. As part of the contract, Siemens mobile will supply and install all the components needed to set up GPRS services in AIS's GSM network.

Siemens mobile will be equipping AIS's GSM 900 mobile network in the east and north east of Thailand with GPRS technology and adding to systems installed earlier.

AIS is Thailand's leading mobile provider with over 11 million customers and a 55% share of the market.

Smart Card News at CTST 2003

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So You Think Your Network is Secure?

by Benjamin Johnson, Microexpert Ltd



Benjamin Johnson

I'm sure you've all read the information and mis-information about network and Internet security. I'm also fairly confident that most of you will be making significant efforts to secure your network. You will probably have a firewall in place, along with performing other security-minded tasks such as locking down servers, updating software regularly and disabling unneeded services.

But is your network actually secure?

Most readers will I am sure, have answered yes to that question — but how do you actually know? It's not as simple as securing the network once and leaving it — security requires constant attention.

- Do you know exactly what server software is running on your machines?
- Do you know if you're sending out predictable IP packet numbers?
- Do you know if external telnet access is available on your router?
- Are you sure that a backdoor hasn't been installed on one of your machines?
- Is your firewall secure?
- Does your Intrusion Detection System detect an attack correctly?

The only way to answer these questions and to identify any security risks or holes before the crackers do, is to regularly audit the network. Every public facing machine; router; switch; firewall and intrusion detection system should be audited on a regular basis.

However, network security auditing is not something you should or can do yourself. Why not, you may be asking, thinking that this is just another way for security companies to make money? Think about it this way:

- If you are a software developer you don't check your own code for bugs and usability issues.
- If you are a student taking an exam you don't mark your own paper.
- A car driver doesn't inspect his own vehicle for it's MOT.

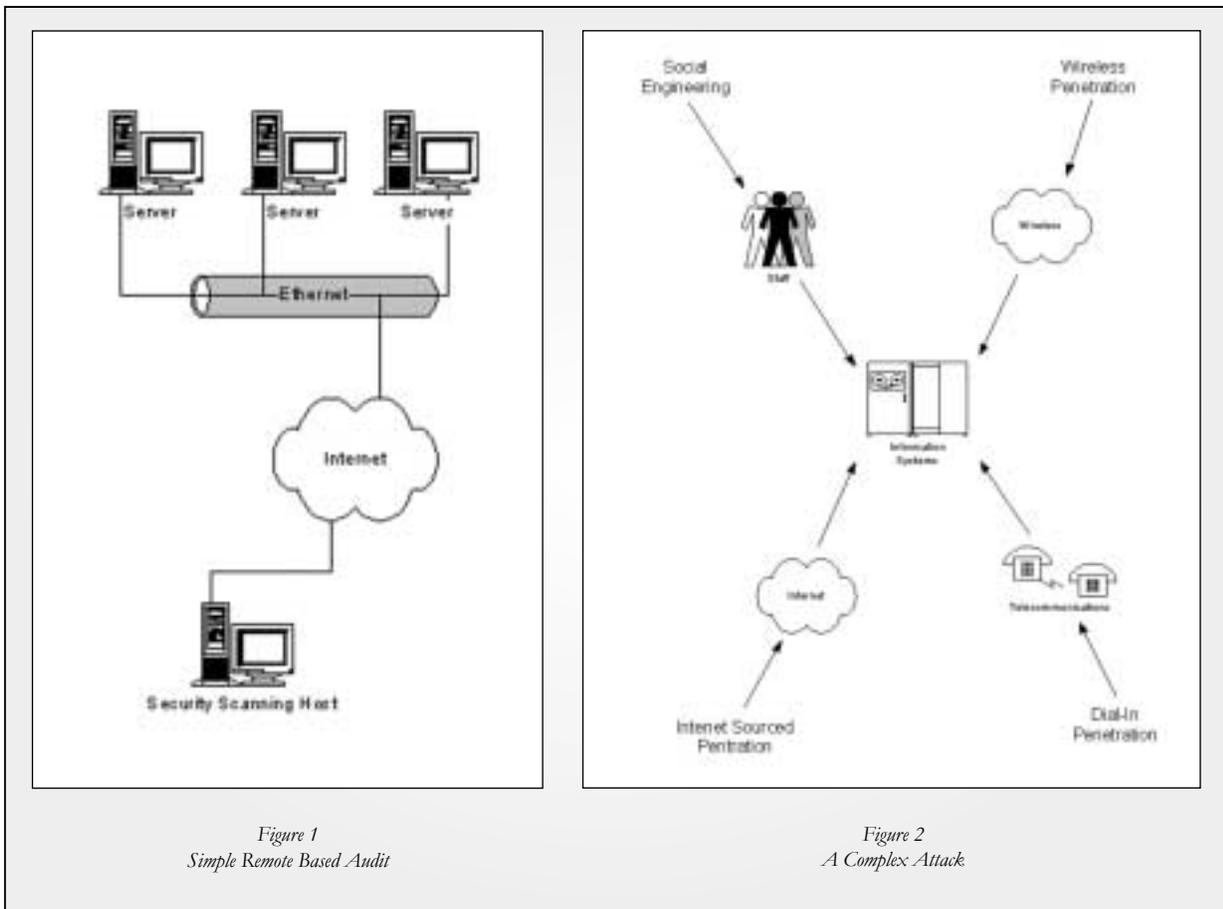
So why should we expect network engineers and system administrators to accurately assess the network they have built and that they manage for security vulnerabilities? This is not saying that they would be purposefully dishonest, but as they know, or at least suspect, where there may be issues on systems and devices, they may be less than thorough at checking in certain areas. They may also not wish to report on major issues for fear of being seen as not doing their job correctly, and may quietly try to fix problems without letting management know.

What can you expect from a security audit?

There are a wide range of tasks a team assessing your network can carry out, how many of these are conducted and in what combination are dependant on how thorough you wish the audit to be?

At the simplest level an audit can be conducted remotely and look for a number of problems:

- Open ports on devices, servers and firewalls
- Out of date software versions
- Predictable packet numbering
- Backdoors
- Insecure CGI scripts on web servers
- Incorrectly set permissions
- etc...



On a more in-depth level they can be conducted both remotely and on-site and can emulate a complete range of hacking attempts including:

- Man in the middle attacks
- IP spoofing
- Insecure wireless networks
- Brute force attacks
- Password sniffing
- Social engineering
- etc...

Notification as to the results of the audit can be anything from a simple e-mail detailing at a very high level what was found, to a full multi-page technical breakdown of the results sent as a hard-copy.

Microexpert is one of the world's leading data security specialists having been instrumental in the design of many major security schemes. The company can offer your business a discrete security and network audit of all types from the most simple remote based tests to a full comprehensive study of your whole network infrastructure.

Microexpert consultants have over fifty years experience in key IT security areas including Smart Cards, Biometrics, Cryptography, PKI, Network Security, Firewalls, Intrusion Detection and Security Vulnerability.

To arrange for a one-off FREE single host vulnerability audit to help you better understand where your corporate networks flaws may lay, then email Microexpert at info@microexpert.com

Contact

- Benjamin Johnson Microexpert Ltd
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ST Acquires Proton World

Semiconductor manufacturer ST Microelectronics has acquired Proton World International from the ERG Group. Australia-based ERG announced it was putting PWI up for sale to strengthen the group's balance sheet and reduce cash outflow after reporting an overall operating loss of \$124.9 million for the half-year to 31 December 2002 (SCN March 2003).

ST paid €37 million for PWI plus a business-related consideration for up to 10 years. In addition they will enter into a long-term business relationship through a technology license agreement and will work together in the deployment of PWI's technology in transit applications worldwide.

Belgium-based PWI, which pioneered the Proton electronic purse, specialises in Smart Card system software for EMV (Europay/MasterCard/Visa) debit/credit cards, PKI (Public Key Infrastructure) security and data management applications.

Maurizio Felici, Group Vice President and General Manager of ST's Smart Card Division, said: "As a world leader and pioneer in Smart Card systems and software for e-payment applications, the know-how of PWI will not only significantly extend our ability to meet the most demanding requirements today, but will also allow us to propose to our customers even more innovative solutions in the future."

He added: "In addition to ST's reinforced presence in the financial and banking segments brought by the acquisition of PWI, the strong relationship we are building with ERG Group through the transaction will provide opportunities for ST to further develop its presence in transit Smart Card applications with a partner that is well recognised in this field."

Oberthur Returns to Profit

Oberthur returned to profit in the second half of 2002, net debt was reduced by €60 million — a 40% decrease over the year — and the company expects to increase its profitability in 2003.

In 2002, microprocessor card segment volumes increased from 599 million to 689 million, an increase of 15% but prices declined creating fierce price cutting at the low end SIM card segment.

Oberthur improved its profitability in the second half of 2002, with an EBITDA of €29.8 million (€7.9 million during the first half) and an EBIT of €13.3 million, which represents 6% of sales. Net loss for the second half amounted to €6.3 million; it included €8 million of accelerated amortisation of goodwill linked to the Dutch affiliate. Before this exceptional item, the net result of the company showed a €1.7 million profit.

Setec Reports Operating Loss

Setec has reported an operating loss of €3.9 million for 2002. The fall in net sales was caused by lower banknote production compared with the exceptionally large euro banknote deliveries made in 2001. The development of Setec's main markets was also slower than anticipated but international sales increased to 50.4% of the Group's total turnover. Approximately 89% of net sales arose from card products in 2002 with Smart Cards accounting for 40% of net sales.

ACG Turnover Falls 12%

ACG, Germany-based components and technology supplier, reported a turnover of €302.4 million for the year ended 31 December 2002 compared with €343.5 million in 2001 - a decline of 12%.

The company said that this reduction in turnover reflected its focus on discontinuing trade in CPUs which it considers as high-risk and low-margin. In addition, the demand for Smart-Card and RFID components as well as electronic components also remained at a low volume and price level in 2002.

Gross profit of €34.3 million was higher than the previous year's €33.6 million. At a EBITDA level, the company booked a loss of €12.6 million compared with €8.2 million in the previous year, of which some €9 million can be attributed to a reserve made for a prior VAT reimbursement in the ACG Technology Services business unit. Thus, the company's losses amount to €46.6 million (2001: €73.4 million).

Websites

- www.st.com
- www.oberthurcs.com
- www.setec.fi
- www.acg.de



Microprocessor Solutions for Contactless Secure Applications

by Dominique Lutz, ARM



Dominique Lutz

Security solutions based on contactless Smart Cards are now preferred for many applications because of the significant advantages they hold over traditional contact cards. For the designer, developing contactless solutions presents a familiar constraint — that of meeting the required performance within a limited power budget.

Using a 32-bit core as the basis for a contactless Smart Card implementation might seem like a case of over-engineering. However, used intelligently, a 32-bit core can deliver a lower-power implementation than an 8-bit core. At the same time, the potential for much higher levels of performance can provide better security, and a future-proof solution for hybrid and multi-application cards.

More Smart Card applications are moving towards contactless implementation because of the benefits these cards provide. Contactless cards communicate by radio frequency (RF) modulation and are powered by movement within the electromagnetic field produced by the card-reader antenna. As a result, they are easy to use and can significantly speed the movement of users — for example, in ticketing applications. With sufficient read range, the user can even leave their card in a pocket or purse to operate the system, enabling ‘hands-free’ operation.

As well as benefiting the card user, issuing companies see the potential for reduced cost over the lifetime of the security system through the use of contactless Smart Cards. Lower maintenance costs can be expected as mechanical components are eliminated, the card reader can be made resistant to vandalism and tolerant of harsh physical conditions. With appropriate implementation, sophisticated and highly secure multi-application cards that provide high value to both the user and card issuer can be cost-effectively manufactured.

Enabling Technology for Contactless Cards

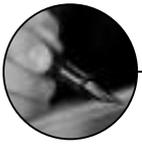
There are three main technologies used to implement contactless secure cards. A memory card can store a unique serial number in password-protected on-chip memory. Although simple and power efficient, the basic functionality means that applications for this kind of card are limited, as is the level of security that can be achieved.

Wired logic cards are essentially non-programmable ASICs. The fixed-function device can employ whatever encryption the manufacturer desires, but once hard-wired it cannot be re-programmed or changed. As a result, the reusability of the device can be limited, and the only way to keep up with evolving standards is through re-design of the device.

Smart Cards based on embedded microcontrollers enjoy several advantages over the other technologies. This solution is programmable, and can therefore be used for a wide range of applications. More sophisticated security features can be implemented and more functionality can be offered — for example, through the use of card operating systems (OS) such as Java Card and MultOS. Use of an operating system also enables multiple applications to be more easily supported on the same card. Implementation flexibility is another benefit of using an embedded microcontroller, where a combination of software, hardware accelerators or coprocessors provide the design team with the means to trade-off power and performance for their particular application.

Industry Standards Enable Interoperability

Radio Frequency Identification (RFID) technology has been in use for some years, with simple tags used in tracking the movement of animals, baggage, vehicles, as well as providing simple inventory and access control. Typically, such proximity devices operate at 125kHz, and a de facto industry standard has emerged based on this frequency. With the 125kHz standard, different modulation schemes can be used to communicate back to the reader, resulting in potential incompatibility between cards and readers from different manufacturers. However, 125kHz technology can be implemented with a read/write range of up to one meter. Since the newer standards operate at 13.56MHz, it is possible to implement a hybrid application based on both



frequencies. This type of solution combines the sophistication available through the latest standards, whilst maintaining compatibility with legacy access systems.

Two contactless ISO standards — ISO/IEC 14443 proximity cards and ISO/IEC 15693 vicinity cards are considered to meet the needs of new, high-security multi-application systems. Whilst both standards specify 13.56MHz operation, the primary differences between the two standards are the read range and rate of data transfer.

The ISO/IEC 14443 specification was originated with the needs of electronic ticketing and electronic cash in mind. These applications demand short read ranges and rapid transactions. The risk of accidental communication is reduced through limiting the range of the card reader. With a read range of 10cm and a minimum data rate of 106Kbps, the specification also satisfies many other market applications such as physical access applications where stored images or fingerprint data demand fast transfer of blocks of data. As a result, the ISO/IEC 14443 standard is a popular choice for many contactless applications today.

With a read/write capability of up to a meter, the ISO/IEC 15693 standard is suited to applications where proximities need to be relaxed. Car park access and object tracking are just two examples where increased range is a requirement. To enable the increased read/write distance, the data rate is limited to 26.6Kbps.

Expanding Applications

Selecting the right contactless technology depends on the exact needs of the application. In general, RFID devices are suited to straightforward tagging and access applications. Simple cards based predominantly on memory will suit phone card, access control and similar single-application requirements.

Smart Cards based on microcontroller implementations open up the possibility of more sophisticated and highly secure multi-applications, such as fare collection, banking, health cards, as well as identification for access control purposes to both buildings and other entities such as computer networks, or on a much larger scale with national identity card schemes. From a user perspective, having a single card capable of fulfilling several of these functions provides ease of use in a convenient and streamlined security solution. For the card issuer, the high performance available from a microprocessor also enables hybrid and dual-interface cards to be manufactured, providing access to legacy systems using contact capabilities.

Key Requirements from a Microprocessor Solution

Security is a prime consideration when selecting a suitable core for Smart Card applications. There are two aspects to this — first, having inbuilt security features to resist tampering and reverse engineering, and second, having the runtime performance capable of executing high-end algorithms for cryptography and biometrics matching.

Attempts to breach Smart Card security can be made through power or timing analysis, or directly probing the chip surface. ARM SecurCore solutions incorporate anti-counterfeiting measures that help resist invasion and physical tampering with either hardware or software. The design methodology must also be considered if the desired outcome is a highly secure device. For example, ARM secure cores are synthesizable and based on a randomised layout to make reverse engineering the design extremely difficult. For conventional designs, most test and debug methodologies focus on improving accessibility to the design. ARM's test methodology in SecurCore has been purpose-designed for secure systems. At a software level, the ARM Memory Protection Unit (MPU) provides secure isolation between the card OS and the applications. Only by thinking holistically — considering hardware, software, performance and methodology, can a high level of security be achieved.

The new generation of Smart Cards has to support multiple applications, requiring card OS support and more memory addressing. In addition, faster execution of cryptography algorithms such as 3-DES, AES, RSA and ECC, and the need to support authentication (for example, based on biometric measurement) mean that a 32-bit core is no longer over-kill, but provides an appropriate level of performance for these applications.

However, the chosen core must also be extremely power-efficient and cost-effective. ARM 32-bit cores have been designed to balance high performance with low power and cost. Quantitative comparisons with an 8-bit product, such as an 8051 implementation, show the clear benefit of an ARM core-based 32-bit solution over a design based on older 8-bit technology.

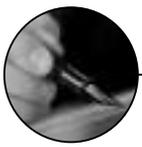


Figure 1
Code density advantage from ARM
Thumb instruction set

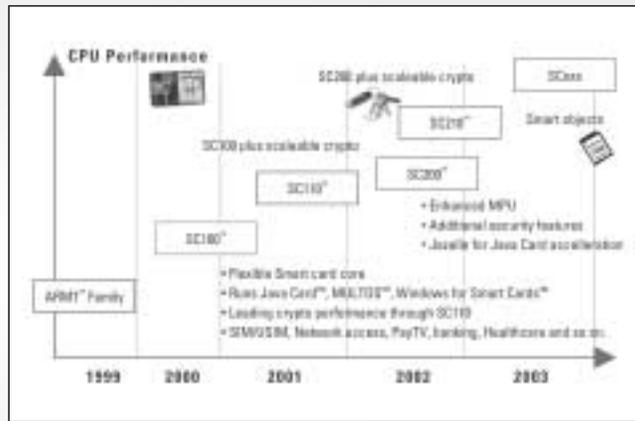


Figure 2
ARM's SecurCore processor roadmap enables the processor
to be matched to the needs of the application



An ARM SecurCore CPU is approximately 10x more complex than an 8051 core. In a 0.18µm process, this translates to an area of around 0.5mm² for the ARM core, and 0.05mm² for the 8051 device. However, in the context of the entire chip, which may have an area of 20mm², the ARM core adds just 2.5% to the area. Non-volatile memory (NVM) is likely to account for some 60% of the chip area — that is, around 12mm² for a 20mm² chip. The compressed, 16-bit ARM Thumb instruction set means that ARM code density is at least 2x better than the 8051. This could potentially save half of the NVM area — easily offsetting the larger ARM CPU. The net result is the 32-bit ARM core-based chip could be implemented in 14.5mm² compared with the 20mm² 8-bit implementation.

One of the key benefits of the contactless Smart Card is that it should be capable of fast operation. Unlike a contact reader, which may control the card insertion time, the user is very much in control of how long a card remains in the proximity of the contactless antennae. This determines the time the excite field is available, and therefore the duration of power supply to the chip. Run-time performance of a contactless Smart Card needs to be significantly higher than for contact cards. ARM SecurCore, with at least 10x the processing power of 8- and 16-bit machines delivers the incremental performance needed for a contactless card even with limited clock frequency — therefore enabling further power savings.

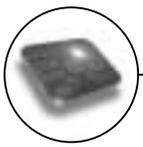
The ARM performance benefit is even more important for multi-application cards hosting Java Card. In particular, the SecurCore SC200 Jazelle accelerated core provides up to 8x improved Java Card performance compared to a software-only Java Card Virtual Machine (JCVM). ARM's approach is to execute most of the byte codes directly on the processor, which reduces the memory activity levels in the system by approximately 40%, and contributes to a significant power reduction. For a typical Java Card application, power is reduced by up to 80% compared with a pure software JCVM approach. This kind of power efficiency means the Java Card-enabled contactless Smart Cards are a practical reality.

Summary

The clear benefits of contactless Smart Card operation to both the consumer and card operator justify the significant uptake of this kind of security platform across a multitude of applications.

ARM recognises the market and technology requirements for contactless applications and offers a portfolio of ARM SecurCore cores, designed to meet the specific needs of different application areas. Combining strong security, high performance, low power and area, SecurCore CPUs are supported by a broad range of silicon partners with different non-volatile memory options including EEPROM, FLASH and FRAM in the near future. As a result, ARM SecurCore CPUs have become the most widely licensed 32-bit RISC CPU for Smart Cards in the industry.

□ **About the Author:** *Dominique Lutz is the secure segment manager for ARM and is based in the ARM e-Commerce Design Centre, Sophia Antipolis, France. He is responsible for ARM strategy in the security sector and has been concentrating on developing ARM's Smart Card business since joining the company in September 1999. Prior to ARM, Mr. Lutz held sales and marketing positions at Philips Semiconductors and Infineon, specialising in microcontrollers and Smart Card ICs.*



Cartes 2002 ~ Trip Report PART 2

by Kevin Shorter and Bryony Pomeroy, QinetiQ Trusted Information Management



Kevin Shorter



Bryony Pomeroy

Cartes 2002 — the 17th international forum for card technologies and techniques — took place on the 5th, 6th, and 7th November 2002 at the Paris-Nord Villepinte Exhibition Centre (France). Kevin Shorter and Bryony Pomeroy of QinetiQ Trusted Information Management attended the conference. The following is a brief summary of the presentations they attended.

The current state of Smart Card technologies in China was outlined. China currently has some 200 million identity cards and 500 million banking cards in circulation. However, there is still an enormous demand for cards (with 800 million+ identity cards needed to cover the entire population). Many of the early identity cards are now out of date, so (in an attempt to cut down on fraud) China is currently producing the second generation of ID cards, known as the Chinese Citizen ID card. This citizen card is used to authenticate individuals in a wide variety of situations, including: elections and voting; census; marriage; joining university or college; obtaining passports, visas and driving licenses; boarding aeroplanes or boats.

Total System Services Inc. gave a presentation on chip migration in Japan. Research into chip cards in Japan began in the early 1970s, with a variety of pilots being carried out in the 1980s. One such pilot was the VISTA Project, where a 'super Smart Card' was developed. The card incorporated a display, but was far too expensive (the cards costing in excess of €100).

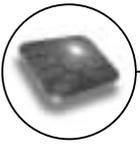
The presentation then concentrated on the present-day situation and plans for the future. It was explained that Japanese banks are keen to migrate to EMV, because they are currently using magnetic stripe cards with the stripe positioned on the front of the card, so need to change anyway. Also, the Government has promised to introduce new legislation to combat card fraud if the banks migrate to EMV. The Japan Credit Card Association (JCCA) aim to complete migration to chip cards no later than 2008 and it is expected that all credit cards currently in circulation will have been converted to chip by 2006. There was some discussion about Loyalty schemes, which are very important applications for Smart Cards in Japan. Japan also makes great use of Smart Cards in transportation. Cards are used for drive-through tolls on motorways, and a pilot has been in progress since 1999. It was noted a problem with this scheme is that it is not possible to protect the card with a PIN, as it would be too dangerous to enter it while driving.

A presentation given by American Express discussed possible uses of the EMV network other than providing secure payments. It was suggested that EMV chip cards could potentially be used for payment (both physical and over the Internet), authentication (with the addition of digital certificates), e-purse applications, loyalty schemes, ticketing for transport and Web navigation. It was pointed out that chip cards have a significant advantage over magnetic stripe cards for loyalty applications because rewards can be instantly redeemed. The speaker suggested that these possible applications could be treated as a menu, with the user picking what they want from the list.

Of the presentations on real-world Smart Card schemes, it was noticeable that a large proportion incorporated biometrics in some way.

HSB Card & Card Systems discussed a Smart Card based scheme due to be rolled out in the Netherlands in the next few months. The aim of the scheme is to provide an identification mechanism for patients within the drug administration system, while maintaining patient privacy. It is vital that drugs are given to the correct individuals (particularly with the distribution of drugs such as heroin). To provide strong authentication, the card carries a template(s) of the patient's fingerprint(s), and these are also stored centrally on a server. When a drug is requested, the patient's fingerprint is matched against the stored template, which unlocks the data on the card. Interestingly, the system is built on Linux, so is open-source.

The system has been piloted over the last few years. Several biometrics were tested, including signature verification, hand geometry, and fingerprints. Signature verification was found to have a high failure rate at the



enrolment stage, and the technology was judged to be inadequate. Hand geometry was found to be prohibitively expensive. Fingerprints were chosen primarily because of their relatively low cost.

From 2002 to 2004, the system will be rolled out to around 30 000 patients at around 200 locations.

The goal of the EU Fingercard project is to produce an ISO compliant Smart Card with an ultra-thin fingerprint reader built into the card itself. As the speaker from Infineon Technologies explained, the card currently exists in prototype. The advantages of the Fingercard were listed as: dual factor security; secure and local data management on card through access protection and on-card encryption; physical and electrical protection through tamper-resistant device; biometric computation in a safe environment; Reduction of infrastructure costs. From a security perspective, the advantage of the card over other biometric implementations is that the reading, matching, encoding and storage of the biometric are all done on the card. It was noted that because the card was required to be ISO compliant, it was not possible to incorporate finger position markers around the sensor. However, this would have been possible with a token.

Zorg En Zekerheid introduced the Parkinson Project — a collaboration between several organisations in Holland to provide Smart Cards to sufferers of Parkinson's disease. The card stores all the patients medical data pertaining to the disease to help maintain a record for the patient and to help them to manage their medication. The card uses biometric authentication (fingerprints) rather than a PIN because many of the patients are elderly and unable to remember PINs. The patient is also supplied with a handheld card reader, which notifies them when they are due to take some medication.

There were also several presentations relating to security weaknesses in Smart Cards and protocols.

An excellent presentation on side channel attacks on Smart Cards was given by Gemplus. Simple analogies were used to illustrate power analysis and timing attacks. To explain a power analysis attack, the example was given of a journalist who wants to know when a group of negotiators reach agreement. The negotiations are taking place in a hotel, and the journalist has access to the hotel's power supply. If the journalist sees the electricity meter disk spinning quickly, this indicates the negotiators are in separate rooms, and a deal has not been struck. If the disk is spinning slowly, the negotiators are in the same room, and have reached an agreement.

To illustrate a timing attack, the following scenario was described. There are two pots, one red and one blue. One of the pots contains £28 and one contains £10. An attacker wants to know which pot contains which amount. He asks someone with access to the pots to multiply the contents of the blue pot by ten, the contents of the red pot by seven, add the two results, and tell him whether the result is even or odd. Of course, both calculations yield even answers. However, the average person will take longer to perform the calculation $(28 \times 7) + (10 \times 10)$ than $(10 \times 7) + (28 \times 10)$. Thus, by measuring the amount of time it takes for the person to arrive at the answer that attacker can find out how much money is in each pot.

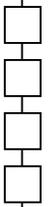
Possible countermeasures to these attacks include: adding noise and / or random delays; modifying the chip so it has a uniform power consumption; designing the algorithm so that information leakage does not matter; and adding capacitors to 'smooth out curves'. EMV is a payment standard written in 1996 by Europay, MasterCard and Visa. The stated objectives are to move authorisation offline, decrease systemic risk, and to decrease financial risk. A speaker from Iteon pointed out some of the security issues with the standard. EMV-specific areas of risk were described as: device application authentication (the device is never authenticated by the card, so false terminals can be a problem); card application authentication; cardholder verification (EMV allows 'no authentication' this is down to the vendor); weak implementation; and poor certification. It was stated that cloning an EMV card is a relatively simple task, with all the necessary information and equipment available on the Internet. It was pointed out that an intelligent clone will never go online, and will always answer positively to a PIN validation (a so called 'yes card'). Weaker clones will go online, but they still cannot be shut down. Therefore, unless they are physically removed, clones are there forever once they are made.

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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 63). Here's a selection of the headlines we covered in March:

Corporate

- ERG Ltd Win \$104.12 Million Contract
- New Datamonitor Report
- Visa, Sony and Infineon Form Strategic Alliance for Smart Cards
- Smart Card Alliance Hosts Teleconference on Contactless Payment
- 800 Redundancies at LogicaCMG
- Name Change for Bural
- Sagem and Iridian in Alliance
- ERG Facing Insolvency
- Marconi Continues to Sell Its Assets
- G&D to Acquire Stake in NamITech Holdings Limited
- Mobilway Appoints Amedeo D'Angelo
- KPN NV and NTT DoCoMo Consider Further Investment in Hutchison
- Datakey Europe Opens Benelux Sales Office
- Datacard Acquires Gilles Leroux S.A. Assets
- LeapPoint Technologies Partner With PC Systems
- Former NPC CEO Goes It Alone
- Malaysian CA Thai The Knot
- An Expensive Break Up
- ACG AG Announce Year-End Results
- STMicroelectronics Buys Proton World
- Oberthur Returns to Profit
- SAGEM Win \$50M UAE Contract

Banking

- Malaysian Banks Take the Lead With Chip Cards
- EMV Chip Infrastructure In Asia Pacific By 2008, Says Visa
- MasterCard Cuts The Price of Smart Card
- MasterCard to Get Smart
- Secure Bank Web Sites
- MBNA Ireland Launches Country's First Smart Card Based Credit Card
- Bank Negara Reports
- Verified by Visa for Thai Banks
- MasterCard Claims Lead in Asia/Pacific
- Smart Card Needs More Cash

Government

- US Army Expands Use of Smart Cards

ID & Authentication

- Students Verified by HandReaders
- Cubic Software Allows Agencies to Self-Clear

- Biometric Security for Sun's Smart Card
- RSA SecurID(R) Passage Smart Card Software Selected by US Army
- ID Needed to Cross Border
- Seattle-Tacoma Airport To Get Biometric Support
- ScreenCheck Integrates HID Technology
- Baltimore Wins \$2.8M Contract
- Citizens of Aberdeen Now Have Smart Cards
- AccessPoint Integrates Multiple Biometric Technologies into a Single Product
- BioMatch(TM) Supported by MULTOS OS
- Smart Card Alternative to Passport/Visa

Telecoms

- Phones Versus Smart Cards
- Wireless-Only Not For Orange
- Commercial Wi-Fi Infrastructure is Inspired
- Nokia and Huawei Cross-License for 3G Mobiles
- Mobile Phone Sales in 2002 Higher Than Forecast
- Switzerland Bans Sales of Anonymous Pre-paid Chips For Mobile Phones
- Incard New Tools For SIM Phonebook Management
- 60,000 3G Subscriptions
- One Million Multimedia Phones Sold Already
- Successful Test of GSM/GPRS for C&WJ
- 220 New Mobile Base Stations Planned
- Vodafone's Dreaming of a 3G Christmas
- Stolen Australian Phones Useless

Technical

- Samsung to Invest \$257M Upgrading Smart Card Range
- New Multi-ISO LEGIC Advant
- Don't Panic Smart Cards
- Internet plc. Uses Smart Cards to Secure Content
- eToken Interface-Certified By SAP(R) Solutions
- ACG Launches Integrated Card Reader for HP's iPAQ pocket PC
- SCM Microsystems Certified For Common Criteria EAL 3+
- Less Secure Down Under
- eToken Wins FIPS 140-1 Level 2 and 3 Certification
- Smart Label from ASK

Retail

- Marks and Spencer To Launch National Loyalty Card?

Transport

- Hong Kong Taxis to Have Octopus Readers
- Changes at Cubic Transportation Systems
- Payment and Mass Transit On One Card
- Orange County Considers Contactless Pay-and-Display
- Flexcar Continues Fleet Expansion
- Smart Cards On The Buses
- Routemaster Buses To Be Scrapped - New Buses To Be Cashless
- Worry Over Digital Tachographs
- Kapsch CarrierCom Selects Nortel Networks to Provide GSM-R for Slovak Railways
- Nissan Motor Selects Schlumberger DeXa. Badge

Leisure

- BBC Satellite Broadcasts No Longer On The Cards
- Caribbean Regional Support For GAMBIT Gaming Technology
- Golfers To Get Smart Card Loyalty Scheme
- BSkyB Takes A Swipe At Auntie
- EDS Go Crying To Court
- NDS v. DirecTV Fight to Continue
- NDS Contracts With Swedish Pay TV

Misc

- Telular Gets Type Approval from Russia
- SchlumbergerSema Launches Rating Package
- Thales to Equip Societe Generale with EFT Solutions
- 13M Smart Cards in Malaysia by 2005
- JR East Wises Up to Smart Cards
- Sagem Awarded UAE System Integrator Contract
- Points Mean Prizes - At Langdon Secondary School They Do
- McNealy's Vision
- On The Move
- Chip Cards for Estonia
- Alcatel Wins Contract in Vietnam
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A Smarter ACI

by Patsy Everett, MD, Smart Card News Ltd



Barry Maidment

“ACI is still in Smart Cards.” That statement came out in a recent interview with Barry Maidment, ACI’s Business Development Manager. Barry admits that ACI have kept quite a low profile in the Smart Card area, which now needs beefing up. He is working on this.

The Smart Card division operates out of Gouda, Holland and originally derived from the people who developed the Chipper electronic purse scheme. They are now developing ACI’s Smart Chip Manager. The Smart Chip Manager manages the data that goes on the chip, it knows what the chip operating system is, which version is running and what applications are on the chip. It can produce data that goes on the chip encoding machine and can also download applications. Barry is responsible for new product concepts, one of these being a pre-authorised card concept based on EMV Smart Cards.

ACI Worldwide started life in 1975 as a custom development company and is today better known for its BASE 24 products. ACI develops application software for e-payments from the initiation of the transaction through real-time processing and final settlement. They employ over 1,100 people with offices in the principal cities around the world and have over 520 customers in seventy countries. Last year nearly thirty billion electronic transactions were processed using their software.

From conversations Barry has had with customers it is evident that they are unhappy with smart chip cards which are aimed at the purse and stored value card market. There is an obvious problem with putting together an EMV infrastructure on the one hand and then paying for quite a separate infrastructure to deal with purse cards and stored value cards on the other. Another area of concern when talking to banks, implementers and issuers of EMV cards was that they were struggling with the concept of the risk limits on those who use the cards.

Because EMV allows the cardholder to have control over the average spend on the card, the number of transactions and the number of consecutive offline transactions, what ACI are looking at is using EMV

to avoid this credit risk entirely and at the same time use the EMV card to act as a quasi purse to give the same functionality which would get the banks away from having to pay for two separate infrastructures. In discussion with the banks and networks ACI came up with the concept of keeping reserved funds, equivalent to the amount the cardholder can put on their EMV card in a shadow account. This is pre-authorisation, so in effect the cardholder has two accounts, a shadow account and the account on the EMV card. When a transaction takes place it hits both accounts at the same time so the whole of the account is reduced as the off-line transaction comes in. When the account reaches zero the cardholder reloads value onto the card. This takes away the risk of unauthorised use of the card.

When Barry was asked if he thought there was a future for multi-application cards he said his customers were showing more interest. Banks wanted to start off with EMV and keep it simple so they could find out how to use the EMV parameters on the card. Then they could start to worry about issuing multi-applications. It makes a lot of sense to start simple. There is also the question of when the terminals will be able to download the applications and how long it will take. Nobody wants to be standing in the rain with a suspicious looking person peering over their shoulder whilst they wait for a new service to be loaded onto their card.

A lot of the smaller banks will not be ready for Chip and PIN in January 2005; they are dragging their heels. There is a real shortage of Smart Card resources out there. If these banks and retailers leave it to the last minute they are going to find there is no one out there to help.

ACI are heavily engaged in a Smart Card bank and e-card for South Africa where that government is keen to remove cash from the economy; also countries like Russia where low value payments are of interest.

□ *Barry Maidment has deep experience in the payments industry, gained working for two major retail banks, a consultancy specialising in the innovative use of technology in finance and two software suppliers serving the industry. His payments project experience covers the telecommunications, petroleum, retail, leisure and banking sectors. Originally a commercial banker, Barry acquired IT knowledge to become a hybrid manager who understands both business and IT issues. Today, at ACI, Barry is focussed on creating innovative e-payments solutions that can be used profitably by payments providers. Contact Barry via email: maidmentb@aciworldwide.com, telephone: +44 (0) 1923 812760 or website: www.aciworldwide.com*



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