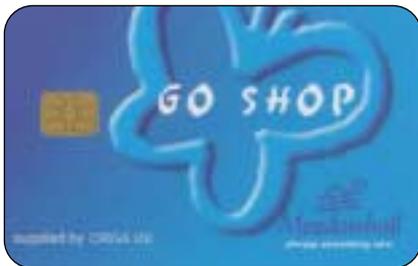


SMART CARD NEWS

November 2001

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Number

10
11



Subscribers will receive Meadowhall's Go Shop Card free with this issue of Smart Card News.



ERG Group of Australia Acquires Proton World

Australia's ERG Group has acquired outright Belgian-based Proton World International, the global, high-security payment and identity Smart Card company recognised for its Proton electronic purse technology.

ERG will issue the former shareholders - American Express, Banksys, Interpay Nederland and Visa International - with approximately 75.5 million shares (representing 8.4 per cent of ERG's capital) and pay cash consideration of approximately A\$58.8 million. The shares will be subject to escrow agreements. The agreements with Amex and Visa also provide for an entitlement to eight million ERG options that are exercisable if certain performance criteria, which will enhance the value of Proton World, are achieved.

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ERG Headquarters in Perth, Western Australia

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Don't Forget!

Our Website containing daily News On-Line, and information about the full range of SCN services, can be found at the following address: www.smartcard.co.uk

ERG Acquires Proton World

Continued from page 201

Proton World was formed in 1998 as a joint venture between ERG, Banksys (a joint venture between the Belgian banks), American Express, Interpay Nederland (a joint venture of the Dutch banks), and Visa International.

There are more than 35 million Porton-based Smart Cards in circulation worldwide and more than 500 banks have deployed the technology. Proton World's total revenue for the year ending December 2000 was approximately A\$33 million.

ERG's Chief Executive, Peter Fogarty, said the full acquisition of Proton World would enhance ERG's strengths in the Smart Card arena.

"ERG's existing MASS technology is the world's leading transport Smart Card technology. The combination with Proton Prisma technology means that ERG will now have the ability to deliver full multi-application Smart Card solutions, including high-level security for the financial services and identity markets.

"In addition, the ERG Group is very pleased to have American Express, Banksys, Interpay and Visa as investors in ERG and the benefit of long-term recurring revenue contracts with American Express, Banksys and Interpay."

Dr Armand Linkens, Proton World's CEO, commented: "Proton World has made a name for itself with its security architecture and Smart Card solutions in the financial industry. Our know-how is very complementary with the achievements of ERG in mass transit. The commonality of vision and cultures of the two companies assure me of an even greater worldwide success of the ERG Group and its subsidiary Proton World in the key markets of transit, finance, mobile telephony and identity."

ERG is to merge its existing operations in Belgium, which currently employ about 70 people, with the Proton World operations (also based in Belgium), which employ about 130 people who are mainly experts in Smart Card and security technology.

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Collector's Corner

Meadowhall, one of the country's leading shopping Centres, has recently introduced the world's first interactive shopping centre loyalty scheme, to reward its loyal shoppers. The scheme, which is called 'GO SHOP', makes use of the latest in Smart Card technology developed by ORGA Card Systems. Customers registering for the scheme receive a 'GO SHOP' Smart Card which they can then insert into interactive loyalty kiosks around the Centre to access a host of offers tailored to their personal shopping preferences, as well as a raft of general Centre information, such as a store directory, maps and a product/brand search.

The Meadowhall scheme is database driven, developed in conjunction with Inter-Act Systems, responsible for the hugely successful loyalty kiosks in branches of Sainsbury's and Boots nationwide. The scheme was launched at the end of July and has already been a huge success, with both customers and retailers alike.

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ID Cards for Asylum Seekers

British Home Secretary David Blunkett took a step closer to introducing a national identity card (SCN Vol 10, No 10, p181) last month with sweeping changes to the government's asylum policy, including "smart" identity cards to keep track of asylum seekers.

Announcing the end of vouchers, criticised as being demeaning for asylum seekers, he said they would be superseded by early autumn with identity cards featuring a photograph and a biometric fingerprint which would "guarantee identification". Refugees will also have to attend reporting centres regularly.

Last year, Britain received some 80,000 refugees with 20,000 dependants and the Home Secretary also announced a new system of accommodation centres and an end to the policy of dispersal around the country, which has been blamed for fuelling racial tension.

Security Pilots with Biometrics

Four pilot projects to enhance security at two international airports and two corporations with high security needs are planned for the current year, according to ORGA Kartensysteme of Germany. The names and locations of the four organisations have not been released.

At the Inter Airport Europe trade fair last month at Munich airport, Bundesdruckerei, ORGA Kartensysteme and ZN Vision Technologies exhibited integrated border-management systems using a range of biometrics to improve security standards without prolonging the check-in process.

Facial recognition systems developed by ZN Vision Technologies are already in international use. In collaboration with Bundesdruckerei and ORGA Kartensysteme, the intelligent, Smart Card-based systems have been adapted for use in border clearance and passenger check-in.

The Smart Card is based on ORGA's MICRADO Smart Card operating system which uses Smart Card technology to develop high security applications.

Surveillance of larger areas require high-speed cameras and with Canadian company BioDentity Systems Corporation of Ottawa, a high performance camera system has been developed which is able to pursue people, isolate them from the crowd and make biometric comparisons within a specified area.

Bundesdruckerei, in collaboration with ORGA and the Fraunhofer Institute, has also developed fingerprint solutions for access authorisation to sensitive areas.

Each fingerprint is stored in the barcode or a chip. (ORGA has supplied such a solution in the Indian state of Gujarat where one million people with driving licences already identify themselves using a Smart Card with an integrated fingerprint.)

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Philips Launches SmartMX

Philips Semiconductors has introduced its new family of Smart Card controller ICs called SmartMX aimed at single and multi-application markets ranging from banking/finance and mobile communications to secure network access, payTV and transportation.

SmartMX has expanded memory configurations of more than 500K bytes of on-chip memory and claims to have significantly improved execution speeds. It features cryptographic co-processors for public key algorithms including Elliptic curve, DES and AES, and a memory management unit to handle security levels within a multi-application setup. SmartMX offers three different interface options - contact interface ISO 7816, contactless interface ISO 14443A and a USB 1.1 interface.

Website

✉ www.semiconductors.philips.com

VASCO New Digipass 850

VASCO has introduced the Digipass 850, a secure, intelligent, multi-function Smart Card reader which can either be connected to a PC's USB port, acting as a secure PC/SC-compliant Smart Card reader, or used as a wireless device to add channel-independent authentication and e-signature capability, to any Smart Card platform. Digipass 850 is described as a flexible and secure tool for supporting the deployment of Smart Cards for applications ranging from PKI, e-banking, e-commerce, e-purse and network security - all in a single device.

Website

✉ www.vasco.com

Smart Card Milestone

Over 100 million Smart Cards have been issued by MasterCard and Europay member financial institutions. This figure was achieved as of Q3 2001 and more than half of the cards carry value-added, non-payment applications such as loyalty, digital identification, e-ticketing or personal data storage.

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Smart Swiss Ski Resorts

Contactless Smart Card identification technology from Swiss manufacturer LEGIC IdentSystems is to be installed at all cable cars, chair lifts and ski lifts of the Oberengadiner Bergbahnen ski region of Switzerland for the winter season of 2001-2002.

The scheme involves the installation of 77 cash registers and access terminals in the ski regions of St Moritz, Corvatsch, Furtschellas, Celerina, Muottas Muragl, Diavolezza, Lagalp, Pontresina, Samedan, La Punt and Zuoz. Included in the scheme will be the indoor pools of St Moritz and Pontresina, including access to the sauna. Some 40,000 ski tickets are expected to be in circulation annually.

The LEGIC hands-free technology, with chip cards which can be read over a distance of around 80 cms, means that skiers do not have to take off their gloves and fumble for cards as the ticket is automatically read as they approach an access terminal.

Further services can be added. Already planned are some 50 readers for buses and mobile hand terminals to check electronic tickets on trains of the local railway. The new system was designed by LEGIC partner TeamAxess.

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New Version of Script Builder

Datacard Group has introduced a scripting process that makes issuance of Visa branded Smart Cards faster, easier and less costly for Visa member banks in Latin America.

The new version of the Datacard Script Builder is based on GlobalPlatform standards and is used to generate data and personalise TIBC-III, Visa's new Smart Card designed exclusively for the Latin American market.

The issuer can also use this scripting process when moving to GlobalPlatform multi-application cards.

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XLSmart Loyalty System in France

Twenty-two McDonalds restaurants and other partners in the south of France are to launch multi-application Smart Cards this month. In partnership with other high street stores and two regional universities these cards will combine Welcome Real-time's XLS software as well as a student ID application.

The loyalty network, which will be branded XLSmart, is currently in deployment phase for the towns of Aix-en-Provence and Marseille and will initially count about 50,000 cardholders. All XLSmart Cards will be able to process points, instantly award gifts, coupons and tickets at the various point of sale and over the Internet.

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Austria Prepares for Euro

The change to the Euro currency has created "a huge surge in demand" for new Smart Card-enabled systems according to Intellect, the Belgian payment terminal developer and supplier.

The company reports a \$6 million contract for several thousand indoor payment terminals for Euro-pay Austria.

Jan de Smet, Intellect's CEO, said: "All shops will have to deal with new consumer prices, new price tags, new coins and new banknotes as well as unfamiliar exchange rates. In this environment, many customers will prefer to pay with electronic cash and shops are keen to offer the flexibility of using Smart Cards."

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EMV Capability in Jordan

Nomad Software and VISA Jordan Card Services have announced that VJCS member banks are now able to accept EMV enabled transactions at PoS.

ORGA Expands Into Spain

ORGA Kartensysteme is opening a new branch in Madrid, Spain, to focus on the card and system requirements of the telecommunications and banking sectors. The German-based company plans to cultivate Spain's position in Europe as the fifth-largest market for mobile telecommunications and the third largest market for bank cards.

Contact

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New Chip from ST and Advancel

STMicroelectronics has introduced the ST22WJ64 Smart Card chip based on the Smart-J 32-bit RISC platform developed by Advancel Logic Corp., a subsidiary of NCTI.

Samples of the chip, which executes Java code, will be available at the end of 2001, whilst volume quantities, for which NCTI will receive per unit royalties, will be available in Q1 2002.

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ID Card for The Netherlands

Miotec, of Finland has won a contract to supply the Ministry of Justice in The Netherlands with ID Smart Cards which incorporate fingerprint biometrics, PKI (Public Key Infrastructure) and RFID (Radio Frequency Identification) technology in the same card.

The new card enables users to log on to networks, conduct electronic transactions, monitor working time and provide access control.

According to Jeen de Swart of the Ministry of Justice: "This is the first governmental organisation in The Netherlands to introduce a multi-functional Smart Card that enables encryption of e-mail, digital signatures and login using biometric identification instead of user IDs and passwords."

The hybrid card contains a microprocessor chip and an RFID component that permits contactless operations. The MioCOS card operating system developed by Miotec underlies the microprocessor chip and Match-On-Card technology provides security as the fingerprint data is stored in the chip and verification takes place in the chip itself. The solution uses card readers from Precise Biometrics (Sweden) and software from Utimaco Safeware (Germany).

Contact

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Smart Card Security Model

A common model to evaluate the security of Smart Cards, based on the Common Criteria for Information Technology Security Evaluation, has been recognised by the financial services industry.

Called the Smart Card Protection Profile, the model has been developed by the Smart Card Security User Group (SCSUG) and defines the security requirements of the financial services industry.

Members of the SCSUG include American Express, Europay International, JCB, MasterCard International, NIST (National Institute of Standards and Technology) and Visa International.

The Protection Profile specifies the security requirements that Smart Cards should meet to address the needs of the financial services industry, and identifies the framework for verifying compliance.

Smart Cards will be evaluated in accredited laboratories that determine whether or not the design specifications and implementation meet the security requirements.

The Protection Profile is available at:

Websites

- ✉ <http://www.scsug.org>
- ✉ <http://csrc.nist.gov/cc/sc/sclist.htm>

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ANZ Plans Chip Card System

ANZ has announced details of its new multi-application chip credit card system in Australia.

As part of a A\$50 million investment in new chip technology, ANZ is upgrading one million ANZ-branded credit cards to chip technology and replacing 80,000 merchant credit card terminals in Australia and New Zealand with new chip-enabled MultiPOS terminals.

Some 15,000 terminals are scheduled to be replaced by mid-December whilst the majority of ANZ-branded Visa cards and merchant terminals will be upgraded by September 2002. The service will not be activated until the card and terminal roll-out has reached a critical mass during 2002.

Brian Hartzler, ANZ Managing Director Cards and e-Payments, said: "We are putting in place the foundation for the broad-based introduction of chip cards in Australia, capable of evolving over time to deliver services from banking to mass transit."

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Results Affected by Lost Contract

OTI (On Track Innovations) has announced that an undisclosed customer has terminated an agreement with OTI for the supply of Smart Cards and OTI says that its target of breaking even in Q4 2001 cannot now be achieved.

OTI says that it has "fulfilled its contractual obligations" to the customer and sees no legal basis for termination of the agreement. It has, therefore, not ruled out legal action against the company.

"We believe that our customer's inability to secure its commercial goals led to its decision to terminate the agreement. Reasons for that can be highly complex and are sure to be due in part to the poor economic situation all over the world," said Oded Bashan, President and CEO of OTI.

Contact

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Cubic Security Launched

Public concern about the need for increased security has led to the formation of Cubic Security, a new group within Cubic Transportation Systems. Headed by Cubic's Mark Gaertner, it will address Cubic's public transit customers' concerns about enhanced security.

The company believes its transit-based Smart Card technology - already in use in Washington DC and Chicago - is a natural base for Smart ID cards that incorporate fingerprint and facial recognition technology.

Gaertner said: "With our expanded GO Card applications, we can now move people safely through buildings and airports as well."

GO Card is a contactless Smart Card with a chip and antenna that communicates via radio frequency with special readers at the point of entry into transit faregates, ticket vending machines, parking systems, building doors and potentially airport boarding gates. Cubic says that by incorporating biometrics into the system, the reader can compare the facial, fingerprint or other biometric "images" of the cardholder to the image on the card.

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Infineon and UltraCard Partner

Infineon is to supply IC chips, system software and technical support to UltraCard as part of a technology partnership.

Infineon has indicated that it believes the partnership has the potential to lead to business opportunities on a global basis with particular concentration on projects in China and the US.

The companies say that the combination of an UltraCard and an IC Smart Card chip as an on-board processor will essentially allow the UltraCard to function as a personal computer and, when commercialised, will store up to 20Mb of information.

Contact

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1.6 Million Chip Card Order

ACG and partners have secured an order for 1.6 million contact and contactless Smart Cards to replace paper tickets used in local public transportation in the Rhine-Ruhr and the Rhine-Sieg areas starting in mid-2002. The contract is valued at Euro 10 million.

The cards will be delivered to card.etc, also of Germany. ACG will work with several partners to deliver the electronic ticketing system and says that Infineon will produce the dual-interface-controllers, Siemens will supply the operating system for the cards, and the cards themselves will be produced by "several leading German card manufacturers" yet to be named.

Olaf Jacobi, ACG's Smart Cards Director, said: "This project will pave the way for many more to come in the local public transportation sector in Germany. That is why we are particularly proud that our partner companies and customers will develop and deliver the Smart Cards."

The new e-Ticket will be presented live in mid-2002. All the chip cards delivered will include an open electronic purse function.

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CardBASE and UbiQ team

CardBASE Technologies has announced an OEM relationship with UbiQ to bring together the CardBASE Multi-application Smart Card Management system and UbiQ's personalisation and key management software for easy migration from magnetic stripe to Smart Card-based systems.

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New SIM Technology

Oberthur has partnered with French mobile operator Bouygues Telecom to launch its new SIMphonIC SIM card. The SIMphonIC RSA-enabled card hosts 64K of EEPROM and is aimed at providing electronic signature and secure authentication for mobile-transmitted data.

GemSAFE Logon from Gemplus

Gemplus launched GemSAFE Logon, a Smart Card-based password management system which enables users to store login codes on their own personal card. It can be used at any Smart Card reader at any PC within an organisation for access to the network. To prevent corruption of passwords or unauthorised use, each card is protected with a PIN number.

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Croatian Bank Contract

Croatia's leading bank, Zagreba ka Banka has announced that ActivCard Gold Smart Card software combined with Baltimore's UniCERT PKI technology, enables customers of its e-zaba corporate services to conduct digitally signed and encrypted fund transfers over the Internet.

A few hundred of the bank's corporate customers have already piloted the e-zaba service which was launched in summer 2001.

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Portable Parking Terminal

The new Avantix Mobile electronic point-of-sale parking terminal from SchlumbergerSema issues parking vouchers, calculates and records fees and prints receipts. It is designed to provide operators with a cost-effective means of implementing a secure revenue management system wherever payments are calculated and collected by attendants.

The battery-operated, hand-held device is fitted with a reader to handle chip and magnetic stripe debit and credit cards.

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Ask the Experts

Q: What is a Clean Room?

A: A Clean Room refers to the environment in a chip fabrication plant where the air is filtered to remove dust in the atmosphere. The quality is referred against the maximum particle size allowed through the filter.

Q: Is there the possibility of a payment deducted off the Smart Card with no direct contact, IR or Laser?

A: There are already contactless cards using RF modulation that can be used for making payments. Philips and Sony are the main manufacturers. SCN is not aware of any IR/Laser Smart Card.

Q: Could you tell me the baud-rate during the ATR? According to the standard it must be 372 cycles per etu. I have read else where that it is 9.6 kbps. Which is true?

A: For the ATR the card uses the ISO 7816-3 defaults for communications. This defines a clock divider of 372 (you can change it later). So if you fire up the card with a 3.58MHz clock (commonly used) you get a baud rate of 9623 which is within spec for 9600.

Q: What is SAM (Secure Access Module)?

A: SAM is the term usually applied to the security module used in a retail environment to represent the acquiring bank's security interests.

Q: What are the security and risk implications associated with using a contactless Smart Card in retail applications for purchases with regard to fast transaction times (200ms versus 2-3 sec in a contact card transaction)?

A: There are two key points:

The chip must be tamper resistant
It must invoke a strong cryptographic protocol

These requirements are more demanding on the chip selected which significantly increases the cost. Performance is not necessarily a problem, although Mondex for example takes about 1 sec for a transaction. There are however strong protocols that could be implemented in less than 200mSec.

Infineon Chips for CAC Card

Infineon Technologies reports that it is supplying the secure microcontroller chips used in Smart Cards being issued by the US Department of Defense in the DoD Common Access Card (CAC).

The chip is being used by Schlumberger in 600,000 32K Cyberflex Access Smart Cards provided to the DoD under a contract awarded to Electronic Data Systems (EDS). The card is currently the only card certified by the National Institute of Science and Technology (NIST) to FIPS 140-1 Level 2 security.

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G&D Increases Card Capacity

Giesecke & Devrient is expanding card production capacity at its North American headquarters in Dulles to over 15 million Smart Cards annually. G&D also has production facilities in Twinsburg, Ohio; Markham, Ontario; and Mexico City, Mexico.

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People on the Move

ActivCard has appointed **Steven Humphreys**, 40, to CEO and its Board of Directors. He joins from SCM Microsystems where he served as Chairman and, previously served as President and CEO.

ID TECH has appointed **William G Rorick, Ph.D.**, as Group Vice President for sales, marketing and engineering. Previously he was SVC and General Manager of American Magnetics.

ID Data has appointed **Claire Stone**, formerly European Sales Director of WorldPay, as Director of Retail Sales.

ACG has appointed **Roger Hornstra** as Sales Director North America. Previously he was Sales Manager with Infineon Technologies. **Michel Chapot** has been appointed Sales Manager Microcontroller and joins ACG from Atmel.

ATMI's Smart Card subsidiary Emosyn has hired ex-Bull Smart Card executive **Chin Seong Lee** to head the company's business development in Asia.

Highlights from CarteS 2001

SESAMES Awards



Winners of the SESAMES awards were announced at the CarteS show in Paris last month as follows:

Best Software: Proton World for CALC (Card Application & Life Cycle Manager)

The Proton Prisma Card and Application Life Cycle manager is an implementation of the Open Platform 2.1 specifications for card application management and is used to manage the life cycle of multi-application Smart Cards, including personalisation and dynamic downloading of applications.

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IT Security Application: Schlumberger for SSB, Schlumberger Smart Badge, for Royal Dutch Shell

SSB uses Smart Cards to provide physical access to buildings, network access and corporate ID.

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Transportation Application: Ask for C. Ticket

C.Ticket is a paper contactless Smart Card enabling contactless secured transactions in public transport. Thus all travellers can use contactless Smart Card technology instead of the transport network having the expense of also providing barcode or magnetic stripe tickets for occasional users.

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Banking/Finance Application: Schlumberger for Lloyds TSB Key Online Banking

UK bank Lloyds TSB is piloting a Schlumberger Smart Card-based PKI (public key infrastructure) system for an Internet-based business to bank service, enabling customers to access their bank account online and undertake transactions using a Smart Card holding the public and private keys to encrypt data and to generate digital signatures.

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Healthcare Application: MoneyLine for Migrantis Assiha health card

A Smart Card is credited or prepaid by a third paying party, either a migrant or a co-operation institution, and debited for the profit of persons staying in the country of origin. The e-purse is dedicated to buying medicines or healthcare services in a network of chemists, hospitals or doctors equipped with Migrantis terminals.

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GSM Application: Banksys for Banxafe Mobile

Banksys' solution for secure m-commerce payment transactions enables mobile phone users to make secure Internet purchases, banking transactions and pre-paid card reloads anywhere.

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Electronic Commerce Application: AmaTech USA for The WavePass Internet Smart Card network

The system allows consumers to make purchases on the Internet and load the purchase value, via a low cost home reader onto a WavePass contactless Smart Card allowing purchases initiated online to be completed at home.

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Loyalty Application: TeleCash for PSK / Post Kundenkarte

The PSK/Post Kundenkarte is a chip-based loyalty card with functions which include personal identification of customers in the post office by PIN verification, a bonus system by Post AG, point of sale payments in post offices and on POS terminals at co-branded partners, cash advance in post offices.

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Best Overall Application (selected from the above seven winning applications): Ask for C. Ticket

Best Technological Innovation: Infineon Technologies for its 32 bit Chip Card Controller SLE88CX720P

The main features are 144K bytes EEPROM, 160K bytes ROM, 8K bytes RAM, crypto co-processors for RSA, ECC and 3DES, virtual language acceleration for Java SC, MULTOS and WPSC and an integrated security concept.

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SUMO card unveiled

Gemplus Labs unveiled SUMO (Secured Unlimited Memory On card) for securing storage of online digital content. SUMO, with 224 megabytes of memory, is designed to tackle the big issues of secure downloading and file protection, digital

rights management, and digital content interoperability.

Downloading digital content from the Internet is popular and controversial. The Recording Industry of America estimated recently that it has lost \$4.5 billion to online piracy.

Gemplus, partnered with Hitachi to embed seven flash memory chips in a Smart Card. The Hitachi memory chips store content, which is protected by the Smart chip which stores access rights and appropriate keys. Working together the chips add a previously unseen security dimension to content storage.

The current version of the SUMO card supports a high-speed data link of up to 20 megabits per second in an ISO-format card. The prototype, demonstrated at CarteS, showed a card that can store up to eight hours of music files (MP3 or Real Audio), 12 minutes of video (MPEG) or over 100 e-books. In the future the card will support feature-length movies.

Michel Luduc, of Gemplus Labs, said: "In April a survey revealed that over 37 million Americans downloaded music files from the Internet. Much of this activity was carried out without any thought to the rights of the content creators. This concept card gives digital rights owners a valuable new tool, encouraging businesses to deliver more and better products via the Internet."

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New card production plant in Italy

Gruppo PCU Italia announced the inauguration of its new card production plant, CardNet, with a capacity of over 150 million cards per year.

Sandro Camilleri, CEO of Gruppo PCU Italia, said: "CardNet allows us to complete, with card production, the solutions offered by our Group in the field of card management, complementing our subsidiary's Mataica System's, production of personalisation systems and the software developed by our R&D centre."

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EuroTag Launching

EuroTag, a new forum for the tagging and RFID industry will hold a launch meeting organised by the Smartex Group in London on 29 November.

The forum aims to provide members with an in-depth understanding of the various types of tagging products and technologies, clarify the emerging standards and address the harmonisation of European tagging initiatives and promote inter-operability between products and across borders.

Annual membership, with discounts for founder members who join prior to the launch meeting, will be £1,000 plus VAT. Members will also be entitled to a range of privileges.

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Java Card interoperability group

SIMalliance announced the launch of its specialist Java Card Interoperability Group to accelerate progress towards full seamless interoperability of GSM Java applets and deliver the benefits of Java technology's capabilities to GSM operators and their subscribers.

Its key initial focus will be interoperability of GSM applets at the execution and administration level, the cornerstones of rapid service development and flexible deployment.

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Pocket-sized reader

Xiring launched the Xi-Max, a new pocket-sized Smart Card reader which enables card-to-card and card-to-terminal (PC, phone) data transfer. Security can include a SAM (Secure Application Module).

According to the company, the Xi-Max is the solution for authentication, electronic purse payment, signature and other specific applications.

Iris Scans at Schiphol Airport

Bell ID announced that the Schiphol Group has started using a border control system, based on iris recognition and Smart Cards, at Amsterdam's Schiphol Airport in a one year pilot by The Dutch Ministry of Justice.

Passengers' iris scans are stored on their personalised Smart Cards. Bell ID's ANDiS Card and Application Management System is being used to personalise the card and the chip and to manage the cryptographic keys used to secure this process.

The new iris scan border control system forms part of Schiphol's Privium service programme for frequent travellers. Besides border passage, the Privium card also comprises parking and check-in facilities. From December 2001 passengers holding the nationality of one of the European Economic Area countries can opt to use automatic border passage only.

Bell ID will also provide the ANDiS Card Management System (CMS) and Application Management System (AMS) including the Post-Issuance Personalisation module, to Schiphol Group for its new employee card system.

Schiphol will apply the technology to the Schiphol passes issued to staff working in all protected airport areas and equip all passages to these areas with iris recognition technology from mid-2002.

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Oberthur launches Proton Prisma cards

Oberthur Card Systems announced that it has been selected as a supplier of Proton World's new range of card solutions using Proton Prisma technology. The company said it would be supplying Smart Cards which incorporate an EMV debit/credit application and an electronic purse.

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Smart Card market growing

Eurosmart, which represents 90 per cent of world-wide Smart Card production made its card shipment figures available at the CarteS show.

Lutz Martiny, Eurosmart's Chairman, said: "The Smart Card market has been growing steadily over the past few years. Since 1997, the total worldwide market has grown from 900 million cards to an estimated 2015 million in 2001, more than 100 per cent in five years."

Shipments per sector first semester 2001

	Memory (Mu)	Microprocessor (Mu)
Banking	10	75
Healthcare	5	6
Telecom	550	200
Transport	10	5
Pay-TV/IT	0.5	10
Others	15	11
Total	580.5	307

Web site: eurosmart.com

ORGA's Smart Card operating system, MICARDO Public V2.1, has gained certification to the ITSEC E4 security criteria. The operating system is aimed at applications in the Public Key Infrastructure (PKI) environment where qualified certificates and keys in the Smart Card make it possible, for example, to sign electronic business processes digitally.

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Smart Card for Windows XP

SchlumbergerSema announced at CarteS that it is integrating a Smart Card for Windows XP into its Cryptoflex Smart Card product line.

The Cryptoflex for Windows XP card - already implemented at Microsoft France to secure the company's Web site dedicated to its major accounts - supports secure login and e-mail and secure Web and VPN access.

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New French facility for Fujitsu

Fujitsu Limited and Fujitsu Microelectronics Europe (FME) announced the opening of a new facility near Paris, France, as Fujitsu's European base for R&D and marketing of FRAM (Ferroelectric Random Access Memory) devices.

According to Fujitsu, its comparisons of FRAM with EEPROM (Electrically Erasable Programmable Read-Only Memory) currently used in IC cards, FRAM demonstrated clearly superior results, delivering write speed about 1,000 times faster, requiring only 1/100 of the power consumption for write operations, and a rewrite capability approximately 100,000 times higher.

The new centre plans to integrate security and software technology with its FRAM technology to deliver FRAM-based solutions for a wide array of IC card requirements.

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Datacard Applet Development Kit

Datacard Group introduced an Applet Development Kit (ADK) for its Aptura Smart Card Operating System. Launched officially at CarteS, it features tools to develop and debug Java Card applets intended to run on Aptura, and is compliant with Java Card 2.1.1 and Open Platform 2.0.1 standards.

According to Martin Kearsley, Managing Director of Datacard's software solutions division, the new ADK will allow Smart Card developers and integrators to more accurately assess the quality and performance of their Smart Card applications before they are released to cardholders."

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Hitachi launches AE-5 controllers

Hitachi announced the AE-5 family of high end 32-bit Smart Card controllers and the first to be manufactured using a 0.18 m EEPROM process.

The AE-5 controllers enhance the AE (Advanced Engine) series and are upward compatible with already available AE-4 devices, making Hitachi the only manufacturer to offer a complete object code compatible Smart Card line-up from 8-bit to 32-bit.

Hitachi also announced a range of Smart Card controllers specifically for next generation SIM card applications. The company said that the enhanced AE45C1 and AE46C 16-bit microcontrollers are capable of handling current and future high data rate mobile telephony services, with a guaranteed upgrade patch to 3G applications.

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ARM extends SecureCore

ARM announced the extension of its 32-bit SecureCore family with the introduction of the SC200 and SC210 microprocessor cores.

The SC200 core integrates ARM's Jazelle for Java Card technology, specifically adapted to the Sun Java Card OS, and a range of new security features whilst the SC210 adds a cryptographic accelerator, which provides sub 100ms RSA, without the use of CRT, at 20MHz.

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Contactless and connectable reader

SCM Microsystems demonstrated its personal Smart Card reader, the E-25 which is not only portable but can also be connected to a computer via USB or RS-232 serial ports.

This enables the user the flexibility to use it at the office, at home or on the move for secure authentication to networks, Internet payment, or e-coupon downloads and loyalty applications.

In addition, it features a radio frequency transmitter to open doors or make payments in cafeterias or on public transport. Slightly bigger than a Smart Card,

the E-25 reader can be worn around the neck or simply attached to a belt. It contains a keypad for PIN entry and an LCD to read data from the card.

SCM revealed that Dalmatinska Bank Zadar in Croatia has implemented more than 100,000 E-25 readers for its Secure Internet Banking solution based on Public Key Infrastructure (PKI).

Website

- 🌐 www.scmmicro.com

Oil giant selects Banksys terminals

Spanish oil giant CEPSA Estaciones de Servicio is to install Banksys terminals in 1,700 petrol stations throughout Spain and Portugal by the end of this year.

The Banksys C-ZAM/SMASH Java-based terminal, can be used for multiple applications including debit and credit card payments, fleet card services and loyalty programs.

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First Data and Cards etc partnership

First Data Corporation and Sydney, Australia-based Cards etc announced the finalisation of a global partnership agreement covering software, strategy and professional services.

Arterium, the Smart Card infrastructure management solution developed by Cards etc, has played a key role in First Data's multi-application Smart Card program.

In a separate announcement, FDC said its card issuing services subsidiary, First Data Resources, has become the first US processor certified to personalise MasterCard Smart Cards on the MULTOS operating system, further boosting its profile as a Smart Card service bureau.

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Dutch PKI banking contract

SchlumbergerSema announced that Dutch partners Telfort and Postbank have selected its Simeramotion SWIM (Subscriber WAP Identify Module) card to provide the PKI for their WAP m-banking service. The service, launched during the summer, is claimed to be the largest m-banking rollout to date with over half a million users.

The implementation of the new card will allow customers to securely recharge their prepaid accounts and check their account balances via their mobile phones and will provide a combination of SIM (Subscriber Identity Module) and WIM (WAP Identity Module) functionality.

Also at CarteS, the company announced that leading French bank Credit Mutuel had selected its end-to-end Codalio Internet payment platform for secure online banking and e-commerce service.

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High-speed card issuance system

Datacard Group previewed a new high-speed card issuance system code-named Project Mercury at the show. The company said that the new system will deliver up to 3,000 cards per hour and offer a full range of card issuance capabilities, including Smart Card personalisation, embossing, indent printing, topping, magnetic stripe encoding, thermal graphics printing and laser engraving. The new system will not be available until the fall of 2002.

Datacard and MobileWay Go Mobile

Datacard and MobileWay announced in Paris a joint development and marketing alliance, based on Datacard's Affina platform management architecture, to deliver applications to mobile devices. The Affina-based solutions are intended to allow organisations working in the wireless realm to deliver content and add, block or delete applications remotely, and provide the framework for m-commerce applications and mobile pre-payment.

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Colour card inspection system

Germany's Mühlbauer Group, manufacturer of production lines for semiconductors, Smart labels and Smart Cards, unveiled the PI 36000 high speed colour inspection system which performs print image and surface control of Smart Cards and provides double-sided inspection at the a rate of 10 cards per second or 36,000 cards per hour.

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Change of Venue

The annual CarteS show in Paris is changing its venue from the CNIT at Paris La Defense to the new conference site at Paris-Nord Villepinte. The announcement, made at the Sesames Awards, brought a generally less than favourable reaction from delegates.

CarteS organisers pointed out that they needed to move due to the expansion of the show, as the new venue is much easier to get to for visitors flying in to Charles de Gaulle Airport or arriving on the Euro train. Also there is a large selection of hotels close at hand and a 20 minute train service into the heart of Paris.

However, most overseas delegates we spoke to said they would prefer to stay in the city. Some exhibitors welcomed the move as it would give them more space.

There is no doubt that CarteS is currently the premier Smart Card show in Europe and the number of exhibitors, visitors and delegates has been growing every year and becoming more international. In fact it has become a recognised world showcase for the industry and improving every year.

On the down side it has lost some of its intimacy and, regrettably for such a romantic and atmospheric city, some its style.

A source close to the industry commented that long-time supporters of CarteS remember such events as the delegate dinner at Paradise Latin and dining on a bateau mouche sailing down the floodlit Seine. The annual dinner for delegates has now disappeared from the attractions which bring delegates to Paris from all over the world.

Promoting Standardisation

The GSM Association and the WAP Forum have formed an alliance to promote international standardisation by contributing to the establishment of global standards in the wireless telecommunications industry.

They plan to collaborate on areas such as identification of network operator and service provider requirements; device, protocol and application requirements; roaming and billing; development of WAP specifications; and interoperability.

“The GSM Association and the WAP Forum have agreed to work together to improve and evolve the wireless Internet,” said Rob Conway, CEO of the GSM Association. “This is good for the consumer, for our members and for the global wireless industry. Both organisations recognise the need to collaborate closely to ensure a smooth, consistent and co-ordinated development path in the future.”

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Nokia Wins in China and Malaysia

Nokia reports a \$100 million contract with Beijing Mobile Communications Company to expand the Chinese operator's GSM 900 and 1800 networks to reach a customer base of 10 million subscribers.

Nokia has also signed supply and service contracts worth \$20 million with Chinese GSM 900 network operator Jiangxi Mobile Communications. The expansion will include radio-access network equipment to extend coverage to 90% of the villages and towns in the Jiangxi province.

In Malaysia, Nokia has signed a Euro 40 million agreement with TIMECel for a GSM 1800 infrastructure to expand network capacity and improve coverage.

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64K SIM Contract

Philippines' digital wireless operator Smart Communications has chosen SchlumbergerSema's Simera Classic 64K Java SIM Smart Cards as the platform for its new short message services (SMS) expansion program.

Smart currently handles approximately 45 million outgoing messages per day and the new SIM application is set to double the memory available to subscribers in an attempt by the company to boost revenues from the SMS channel.

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Subway Tickets by Cellphone

Customers of Chilean GSM wireless network operator ENTEL PCS can now pay for subway tickets via a mobile phone following the implementation of ORGA's new wIQ (Wireless Information Query) System.

Each fare type is identified by a three-digit number. The customer keys in this number and the number of the ticket machine on their mobile phone. The machine issues the ticket which is charged to the customer's telephone bill.

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GSM-compatible Satellite Phones

Globalstar L.P. and Telit Mobile Terminals, Italy's largest producer of cellular and satellite phones, have announced the commercial introduction of data communications software for Telit Globalstar phones, giving users access to the Internet or other data networks, even when they are far outside the range of cellular or other telephone services.

Telit Globalstar phones allow users to make calls either over the Globalstar satellite telephone network or through regular GSM-based cellular networks.

Trusted Computing by Dr David B Everett

Today we are totally dependant on the PC to conduct our daily business no matter whether it is Business to Business (B2B), Business to Consumer (B2C) or Peer to Peer (P2P). Yet in this world nobody actually trusts the PC which is central to the whole trust model.

We have frequently discussed the Smart Card as the security token in a business transaction but it is clear that no matter how secure the Smart Card we are still dependent on the interface device that is integral to the user in terms of data entry (keyboard) and display. If we cannot trust the communication path between the user and the security token then any transactions effected by the token must be suspect.

This problem is well known and has resulted in the design of secure Pin Pads at the Point of Sale so that the merchant and consumer can trust the security of a payment transaction. Others such as David Chaum have proposed a secure wallet, which is really a portable interface device to a Smart Card, with a keyboard and display that the user owns and can trust. Today we can almost certainly argue that the mobile phone fulfils this role. The trouble here is that the mobile phone is becoming a programmable device just like a computer and it is therefore vulnerable to all forms of malicious code.

For e-business transactions over the Internet we need to trust the integrity of the PC platform and the security of the protocol effecting the transactions as shown in fig. 1:

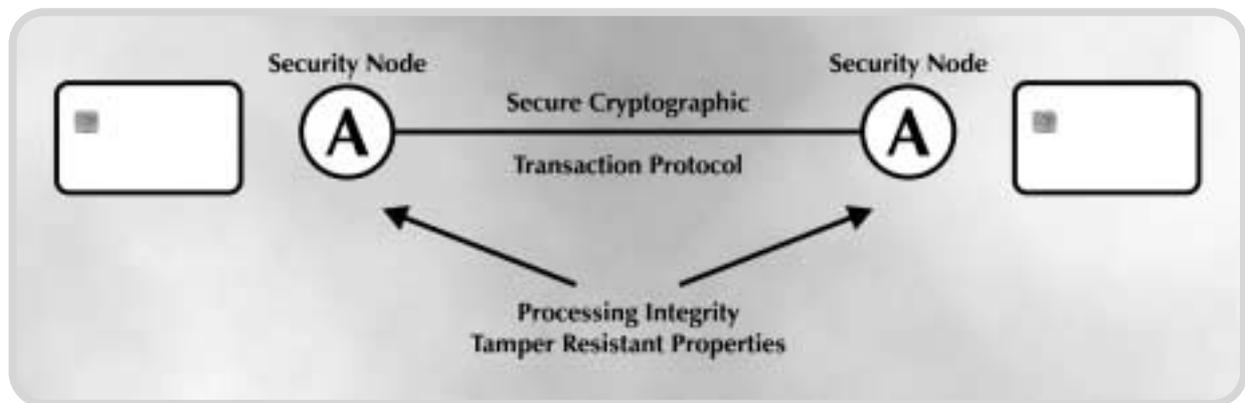


Figure 1:
Secure Transaction Environment

In general we can arbitrarily chose the security of the cryptographic protocol because this is well understood. The tamper resistant properties of an integrated circuit chip (ICC) are also now better understood but there is no way that a PC or a phone offers adequate tamper resistance. But even worse is the software integrity of the PC. The widespread use of mobile code for the PC results in significant vulnerabilities. Even the most robust PC operating system can not prevent unauthorised software from loading before the operating system itself loads. For all these reasons there is a real business need for a trusted PC platform.

This is the goal of the Trusted Computing Platform Alliance (TCPA), a PC industry working group announced in Q3 1999 by Compaq, Hewlett Packard, IBM, Intel and Microsoft. The TCPA membership has now grown to over 160 companies and has produced version 1 of the TCPA specification. This trusted platform specification has three primary goals:

- Authenticity, that users are confident that they know to which entity they are talking.
- Integrity, that users are assured on the correctness of information communications
- Privacy, that users can preserve the appropriate level of confidentiality regarding their information.

The TCPA defines a separate subsystem to be implemented in the PC that forms the security kernel at the end of the trust chain. This subsystem is designed to provide reliable mechanisms for the measurements and reporting of integrity metrics and consists of two components:

- A trusted platform module (TPM) which forms a hardware instantiation of the TCPA specification
- Software modules to perform integrity metrics in conjunction with the TPM

The TPM is effectively a security/cryptographic kernel contained in a tamper resistant domain. Infineon has produced an ICC the SLF9630 TPM chip based on their well known Smart Card chip family (SLE66). This chip incorporates Infineon's advanced crypto engine (ACE) for rapid RSA calculations. The chip also has a SHA-1 hashing accelerator, a true random number generator and an asymmetric key generation function. Bulk encipherment is outside of the TCPA

specification but the chip can optionally provide accelerators for DES and 3DES.

The TPCA subsystem is integrated into the PC at the BIOS level so that it is invoked in the initial power up cycle:

1. The BIOS (TCPA compliant) and TPM invoke an integrity handshake. This means the BIOS can be trusted.
2. The BIOS authenticates the user
3. The BIOS in conjunction with the TPM invokes an integrity handshake with the operating system (OS) loader. This means that the OS loader can be trusted.
4. The OS loader then has a handshake with the OS kernel. When the OS kernel loads it knows the current loading state of the PC software. The OS kernel is now able to control what follows.

The TPM chip is interfaced to the PC motherboard using Intel's low pin count (LPC) bus which provides a 4 Mb/sec data path.

Hidden behind all this is the fact that the TPM is a uniquely identified end point in a PKI system. During system boot-up the platform creates a cryptographic hash of the system BIOS using an algorithm to create a unique identifier for the platform. These integrity metrics are stored in the TPM. When the platform is challenged by a remote application the

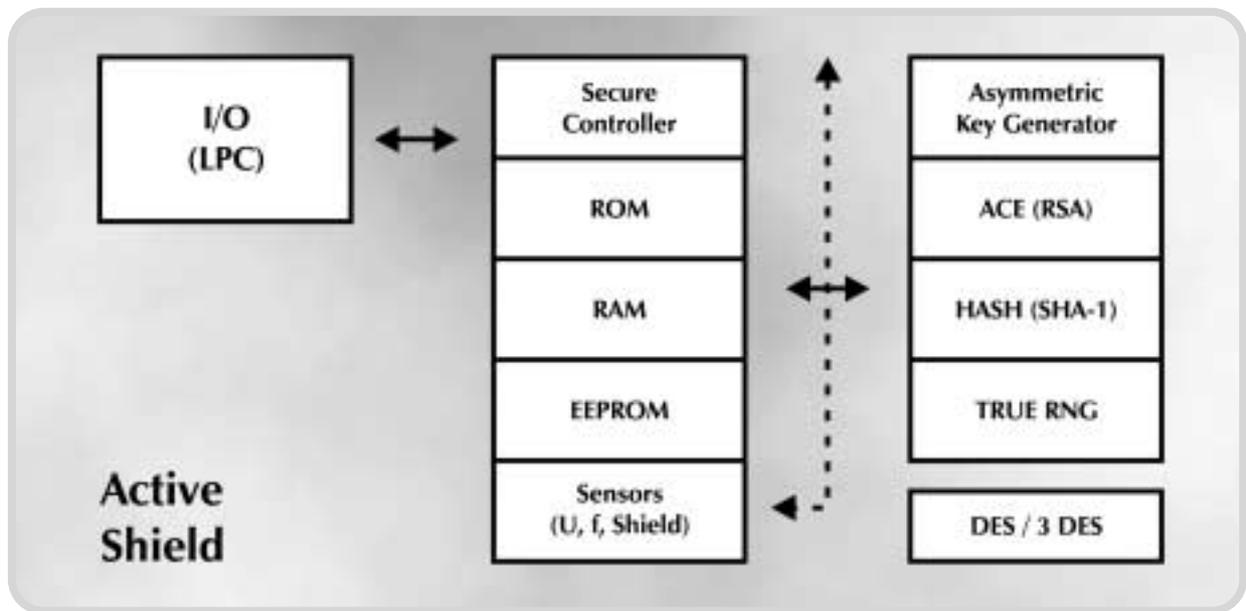


Figure 2:
Trusted Platform Module (TPM)

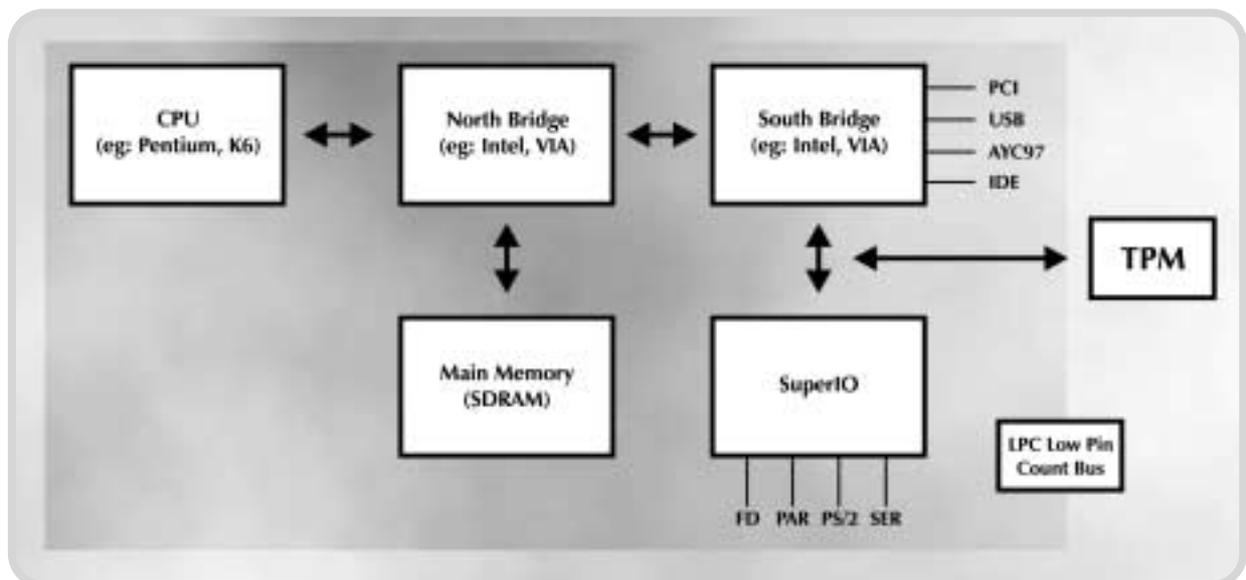


Figure 3:
TPM System Integration

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platform responds by digitally signing and sending the integrity metrics. The challenger can then determine whether the identity metrics are trustworthy.

The TCPA also provides an authenticated anonymity process. The user goes to a third party authenticated anonymity web-site (AAWS) and requests site verification. Using the TCPA subsystem the AAWS provides the user with credentials in the form of a public key certificate. This certificate asserts that the platform is authenticated by a trusted third party. The AAWS vouches for the authenticity of the platform but does not provide any information that can be traced back to the user. The platform is trusted but anonymous.

So where does all this take you? If we have a world of trusted PC's what can we do? This is a content provider's dream, not only can you prevent unauthorised copying but "pay per click" becomes a viable possibility. You could give away the hardware and just charge for the use of the software. Clearly the use of a trusted platform in conjunction with a Smart Card significantly enhances the security of electronic commerce. But other ideas abound, how about the ability to control the performance of an application or even the PC itself!

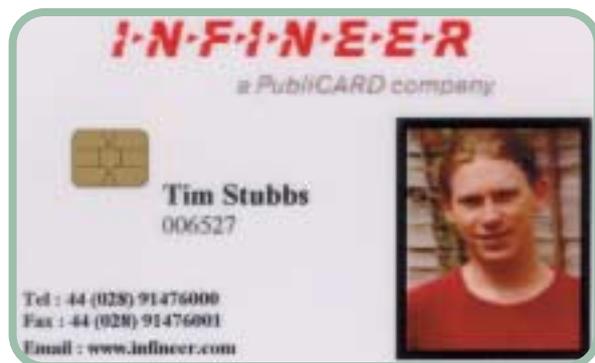
Resources

- **Infinion TPM Chip**
<http://www.infion.com/tpm/>
- **The Trusted Computing Platform Alliance**
<http://www.trustedpc.org>

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Smart Card Vending Terminal



Infinier is to release a new Smart Card vending terminal based on ChipNet, its Smart Card system for educational and corporate sites. The Infinier 7550 terminal will feature a built-in modem for remote dial-up for data transfer and SAM sockets for potential security applications.

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FD Ships 10 millionth Smart Card



First Data Europe has announced that it has issued its 10 millionth Smart credit card. Chief Executive Officer, Gerald Hawkins, said: "The adoption of Smart Cards is already significantly faster than that of the magnetic stripe in the 1980s and, as technology developments result in multiple applications on Smart Cards, such as loyalty schemes, ticketing and electronic cash, banks must adapt to survive."

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Ottawa University Campus Card



A Smart Campus Card is being introduced at the University of Ottawa, which has 25,000 students, by ITC systems. The common electronic purse implementation will include the installation of Unattended Point of Sale (UPOS) terminals for a variety of charge-for-use applications.

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PicoTag® 16KS

One chip - Dual communication standards
(ISO 15693 & ISO 14443 B)

"We just launched a new contactless memory chip PicoTag® 16KS with a enough power and memory to handle:"

- ID - Biometrics and Photo IDentification
- Transport - Automatic Fare Collection
- Vending - Payment with Debit-Credit
- Security - Data protection by cryptographic security
- Two Protocols - Fast Proximity and Long Range
- Access control - Building access and parking

"We think its magic"

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SPECIAL FEATURE

Double Standards?

A New Contactless Smart Card Offering Two Standards: Proximity (ISO 14443 TYPE B) and Vicinity (ISO 15693)

A new contactless 2K byte memory based Smart Card chip PicoTag® 16KS developed by INSIDE contactless (www.insidefr.com) which is able to combine support for multi-applications, secure payment (debit/credit), Proximity (10cm) and Vicinity (60 cm) communication distance on the same card was launched recently at Cartes 2001 in Paris. Many applications such as transport, Identification and access control can benefit from the chips unique combination of two protocols and greater memory capacity.

Identification

Following recent events security has come to the forefront of many applications especially Identification and access control. The PicoTag16KS chip has enough memory to store a Biometric template, a high quality photograph and user information. To ensure that large amounts of data (eg: photo) can be downloaded within acceptable timeframes from the chip (ie: the user does not notice a delay when the card is presented in front of the reader), a combination of special fast memory access commands and the ISO 14443 fast proximity protocol (424 kbps) is used.

Transport

In the transport market ISO 14443 A and ISO 14443B are two

of the most commonly used standards. The TYPE A originated from Philips MIFARE® and the TYPE B is used for most microprocessor based chips. PicoTag16KS uses the TYPE B for debit-credit and fare collection. The advantages of having more communication distance with the ISO 15693 vicinity standard in a transport card can be demonstrated in two areas where many transport operators are looking to link to applications outside of automatic fare collection, the first of these is parking and access control. Arriving at a station car park and being able to have entry access with your transport card is possible with existing proximity cards provided you wind the window down and stretch to within 10cm of the reader. With a vicinity capability and 60cm distance the ability to just present your card from inside your car is obviously a considerable benefit and convenience. The second is passenger flow management for bus routes, which aims to detect where and when a passenger leaves the bus.

Multi-Applications

The PicoTag16KS® chip is also designed to bridge the gap between the more complex and expensive micro-processor based chips and the lower storage capacity contactless memory chips. The chip offers multi application support where each application configured may be uniquely protected and run independently of each other. The chip does not have the overhead of an OS (Operating System) and manages different applications via individually assigned secret keys, which may be updated following an authorization procedure.

by Steve Lewis, Inside Technologies

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