

ECEBS NEWS

REVOLUTIONARY
TECHNOLOGY
SIMPLIFYING THE
DEPLOYMENT AND USE
OF SMARTCARDS

ISSUE 2

MULTEFILE MAKES SMARTCARDS EASY

'A new era of low cost solutions' says Technical Director
Barry Hochfield



For many years, everyone involved in the industry has believed that smartcards have massive potential and are ideal for use in a bewildering range of applications. However, the expected rapid take-up never happened.

Why? Because the irony of a product designed to make life simpler for everyone is that the technology behind it is quite complex and implementations always end up involving complicated multi-faceted architectures.

At Ecebs, we believe the smartcard market needs a fresh, open approach. So we created Multefile in order to:

- simplify the smartcard development and management process
- move control of smartcard applications closer to the people who actually use them for growing their businesses

The philosophy behind Multefile is quite simple too. Anyone remember life before spreadsheets, the 'killer application' that drove the initial growth of the PC market? Spreadsheets represented a radical shift away from 'analyst-definable code-driven computation' to 'user-definable data-driven computation'. Ecebs now has Multefile, a 'user-definable data-driven'

smartcard application development and management product. In essence, then, Multefile is the spreadsheet of smartcards.

Single-handedly, Multefile tackles head on the high cost and long delays of smartcard application development and management, putting friendly and powerful tools in the hands of business owners.

Try it out yourself

But don't just take our word for it. We'd like you to evaluate Multefile and decide for yourselves.

Contact us now for a Multefile evaluation kit so you can see the full power of Multefile in your own environment. The kit provides a subset, of course, but is still powerful enough to help you appreciate what Multefile offers and how it can benefit you.

For more information, contact

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WHAT DOES MULTEFILE DO?

- simplifies the deployment and use of smartcards and allows users to get the most from smartcard technology. Any business can now devise, implement and manage its own smartcard products without the need for lengthy development processes
- empowers card issuers and their system integrators by giving them the ability to create and maintain applications for both card and terminal simultaneously
- all but does away with the prolonged and laborious process of technical development. The potential for cutting the cost of development and maintenance is enormous
- integrates smoothly with legacy installations and existing card and application management systems and supports an extensive range of features and functions commonly required by such applications as transport, payment, ID and health

Read more about
Multefile inside ...

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Mel Pashley

WHY YOU NEED DYNAMIC APPLICATION MANAGEMENT?

Mel Pashley, Head of Business Development, looks at the reasons Ecebs created Multifile

In the early days of smartcard schemes, cards were issued that were dedicated to a single application, and indeed that's a model that still suits some environments.

However, such schemes didn't allow for modifications of the application once the cards had been issued, and the risks meant that only well-established bug-free applications could be deployed.

Then came Multi Application Operating Systems (MAOSs) – built in the belief that clients would own the card and load their own applications. Obviously, very strong firewalls were essential to prevent the data owned by one application being looked at by another, although in practice, most implementations allow some data, under very strict control, to be shared between applications.

It's important to emphasise that we are talking about subsets of data here, not all the data. For example, it might make sense to share some information between two adjoining Local Authorities, or between a 'central' government agency and the LA. Clearly, these policies will need to be modified either for an individual card or for the whole card population.

There are also many complex operational issues with MAOSs that need considering:

- any update in the field due to data change means you must create a new applet with the card data stored in a back office database. This is essential to prevent data being lost within an application. However, because one applet per card needs to be created at back office then loaded on to each card, as more cards are issued in the scheme, managing updates becomes increasingly complex
- data sharing is difficult across applications because of partitioning at the application level and the restrictions placed on data ownership and access
- changes need to be made by the smartcard application provider and this invariably requires code changes and thorough testing. This takes time and money
- changes to smartcards usually mean changes to terminal applications as well, across different platforms. Configuration management is more difficult as the system grows and more terminals are added

So what's the answer? In a word – Multifile. As well as all the benefits of Multifile mentioned on the front cover, here are a few other key points:

- Multifile resides on card and terminal and back office and all are kept in synch using an automated versioning system
- Multifile's on-card environment provides any number of business applications. Each business application can include its own keys, certificates and authentication objects such as PINs, biometrics and so on
- each business application can be versioned separately
- security is configurable in accordance with each business application's requirements, including role based certificate schemes
- Multifile allows multiple versions of cards to be running at the same time
- Multifile allows updates to cards to be managed at scheme, group or card level
- Multifile configures card application and terminal middleware at the same time using Multifile configuration tools. The configurator includes easy to use point and click tools for setting up contents of the card, the operations that can be carried out and the associated security, including adding and updating keys and authentication objects. Now business/security analysts can carry this out with no need for coders
- Updates, including card security, are carried out securely to cards in the field
- updates do not affect the data already residing on the card

So now you know why we created Multifile and what it can do for you. Contact us for more details.

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ITSO GAINS MOMENTUM



ITSO Chairman Neil Scales

The interoperable smartcard has taken several major steps forward in the past year, according to ITSO Chairman Neil Scales.

Speaking at the ITSO AGM in September 2003, Mr Scales said that the last 12 months was not only a period of continued growth, but also saw the Government support ITSO with a £3.5m contract award.

This will ensure the completion and release of the final specification and will finance many essential developments, in particular Royal Bank of Scotland building the Security Management Service (SMS) which is the key to interoperable smartcards.

Also, said Mr Scales, ITSO has now moved from having a developmental role to being an operational organisation, the first ISAMs were sold, and the race has begun among scheme operators to get the first ITSO systems up and running.

ECEBS DEVELOP FIRST 4MB SMARTCARD

ITSO has announced that its Secure Access Module developed by Ecebs with support from Atmel and Sagem will be available as a 5V version as well as 3V.

"This enables smooth integration of existing infrastructure such as Transport for London towards an ITSO compliant scheme," says Peter Stoddart, ITSO General Manager. "We can now meet the transport industry's needs for securely performing and storing thousands of high speed transactions while being fully backward compatible with the installed base of ticketing equipment."

Barry Hochfield, Ecebs Technical Director, says: "The ITSO SAM is a ground breaking application of our high performance high capacity Multefile ultra rapid application technology. In developing the hardware and software for the ITSO SAM, we've come up with what is the industry's first production worthy 4 Megabyte smartcard."

ITSO TRAINING

Ecebs is now offering training courses which are designed specifically for organisations wanting to implement ITSO environments and who need to have a much fuller understanding of the technology involved.

Anyone wanting to learn more about ITSO should contact Mel Pashley on 01355 272911.



TRANSPORT MINISTER SEES 'ITSO LIVE'

Picture shows Transport Minister Tony McNulty (left) getting a live demonstration and up-to-date briefing on the progress of ITSO by General Manager Peter Stoddart on the 'ITSO Live' stand at Coach & Bus 2003 in September.

'CHIP AND PIN' DRIVES UK SMARTCARD REVOLUTION

David Braddock, Ecebs Managing Director, looks forward to 2005

Many people in the UK are simply unaware that in recent years there has been a major change in the plastic cards they carry in their wallets. Magnetic stripe technology is gradually being phased out and smartcards with integral chip are becoming the norm.

More and more, users are seeing their cards put into readers rather than swiped, then they are asked to sign a payment slip as before.

However, from 2005, even this recent development will be 'old technology'. In future, all payment transactions will be completed by a customer entering their Personal Identification Number (PIN) instead of providing a signature.

This system, known as 'Chip and PIN', has been introduced with the aim of eliminating card fraud which in 2002 cost the UK £424m. If no action had been taken, this figure was expected to grow to more than £800m in just a few years. Chip and PIN is the UK implementation of the EMV smartcard banking standard for which Ecebs has provided several implementations.

The first major trial of Chip and PIN was completed in September 2003 in

Northampton, with some 200,000 PIN enabled smartcards issued and around 1000 retail outlets equipped to accept the technology. The five month trial has been declared a great success and already retail outlets elsewhere in the country are announcing the coming changeover.

In case you were wondering why Chip and PIN goes national in 2005, it's simple. After December 2004, retailers will be liable for fraudulent transactions conducted without using PIN based authorisation.

In the UK, people have unknowingly carried smartcards for years in GSM phones but Chip and PIN means that people will use them knowingly for the first time. The Northampton trial shows that acceptance is not a problem and it looks likely that smartcards will be used for a whole variety of applications.

Clearly, when a person feels comfortable with technology, its use rapidly accelerates and we believe smartcards will soon be used in ticketing, medical, welfare and a host of other areas ... 2005 here we come!

ECEBS FORGES LINKS WITH ACADEMIA



Ecebs has been awarded a TCS programme with the School of Computing and Mathematical Sciences at Glasgow Caledonian University.

As a result, Dr Michelle Govan will take up the two year post of research engineer and will carry out research into biometrics and authentication within smartcard technology. Michelle will spend most of her time on site at the Ecebs offices in East Kilbride, Scotland, while also spending time with the staff at the University.

Photo shows Michelle being welcomed to Ecebs by Program Manager Russell McCullagh (front right) and Dr Tom Buggy (front left), Senior Lecturer in Computing and Mathematics at Glasgow Caledonian University. Barry Hochfield from Ecebs is stood to the left and Vikram Jha of Glasgow Caledonian University to the right.

TAKING SMARTCARDS FORWARD IN LOCAL GOVERNMENT



Mick Davies, London Connects and LASSeO, looks at what's required

Enthusiasm for smartcard schemes in the public sector is probably at an all-time high. Local government delivers over 80% of all government/citizen interactions and streamlining access to services is one major objective of e-government. This work must be completed by 2005 and smartcards are seen by many as a key enabler.

For maximum take-up, smartcards must add real value for the citizen. If cards are difficult to understand, hard to use, unreliable in any way, or just become unfashionable, we will have missed the boat. Public sector cards need to add value, support everyday functions, work where and when customers want them to, and hit the right buttons for a range of audiences.

Of course, one size will not fit all. We need to develop and deploy a small, well regulated, family of cards (or chips in other devices) that delivers what our market segments want. We also need to get cards out on the streets and see where the market takes us. The key elements are to set the environment where they can flourish and to be highly sensitive to what works.

Flexibility, trust, sustainability, and widespread usability should be the watchwords. The cards need to be

able to hold all sorts of services, from all sorts of providers, and to work across geographical and organisational boundaries.

To make this work, we need a whole background infrastructure. We need to establish a framework for interoperability. We need ways of managing schemes that involve a lot of players where multi-application, multi-issuer schemes with appropriate levels of authentication and security can co-exist and even interoperate on the same card. If we are to avoid the potential pitfalls that can kill such schemes, it is vital that the citizen is kept in control. If they control the applications and information on their card and how it is used, then fears about civil liberty issues are hugely diminished, if not removed.

Without standards we will not be able to deliver any of this. We need to tread the line between having fixed standards where we must and having the maximum flexibility where it doesn't matter.

What we need is a specific group of standards that will enable us to deliver what our citizens want. ITSO has been a trailblazer developing interoperability specifications for the transport industry. LASSeO (Local Authority Smartcard Standards e-Organisation) is doing similar things for the broader public sector.

Central government, through the Office of the e-Envoy (OeE) has active working groups developing smartcard standards that have been incorporated in the latest version of the electronic government interoperability framework (e-GIF).

The Office of the Deputy Prime Minister (ODPM) is sponsoring a national smartcard project to address many of these issues and to remove obstacles to the widespread use of this technology. The ODPM has also funded a National Standards Body project that is looking to map public sector standards, to maintain them and to act as a repository.

It is clear that links must be maintained between the work of LASSeO in local authority standards, ITSO in transport standards, the ODPM national smartcard project, the e-GIF, and the National Standards Body. We also need to find ways of making sure that we deliver interoperability for the future. We need combined arrangements for maintaining and developing standards, for monitoring compliance to specifications, for accrediting systems and equipment.

The time is right for smartcards in local government but we must build it together with a flexible, sustainable future in view.



Mick Davies

Mick Davies is interim Chair of LASSeO, and is a Strategic Consultant to London Connects where he is leading the implementation of the London-wide smartcard initiative. He is also a member of the Smartcard Networking Forum Core and is leading the standards workpackage for the national smartcard project.

A version of this article was first published on the London Connects web site.

