eID Interoperability for PEGS

NATIONAL PROFILE UNITED KINGDOM

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Executive summary

The project eID Interoperability for PEGS aims to propose a solution to the legal, technical and organisational issues related to the creation of an interoperable Pan-European identity management infrastructure. The EU Member States, Candidate Countries and EEA Countries are introducing more sophisticated ways to manage identities in the eGovernment area. Different member states are implementing different structures as their identity management solution. The main challenge for the eID Interoperability for PEGS project is to propose a general architecture that, while taking into account the existence of different models, is able to cope with them by obtaining the final goal of interoperability.

The project should conclude with several different proposals how to build interoperability without affecting member states' own existing infrastructures.

This document describes the current situation regarding the use of electronic authentication means in UK eGovernment applications.

Table of Contents

1 Documents

1.1 Applicable Documents

[AD1]	Framework Contract ENTR/05/58-SECURITY

1.2 Reference Documents

[RD1]	eGovernment in the Member States of the European Union – 5th Edition – May 2006 http://ec.europa.eu/idabc/servlets/Doc?id=24769
[RD2]	European Electronic Signatures Study http://www.law.kuleuven.ac.be/icri/itl/es_archive.php?where=itl
[RD3]	DIRECTIVE 1999/93/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 December 1999 on a Community framework for electronic signatures http://europa.eu.int/information_society/eeurope/i2010/docs/esignatures/esignatures_en.pdf
[RD4]	Decision 2003/511/EC of 14 July 2003 on the publication of reference numbers of generally recognised standards for electronic signature products in accordance with Directive 1999/93/EC of the European Parliament and of the Council, OJ L 175, 15.7.2003, p.45 http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_175/l_17520030715en00450046.pdf
[RD5]	DIRECTIVE 2004/18/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts http://eur-lex.europa.eu/LexUriServ/site/en/oj/2004/l_134/l_13420040430en01140240.pdf
[RD6]	IDABC Work Programme Third Revision http://ec.europa.eu/idabc/servlets/Doc?id=25302
[RD7]	DIRECTIVE 2004/17/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors http://europa.eu.int/eur-lex/pri/en/oj/dat/2004/l_134/l_13420040430en00010113.pdf

2 Glossary

2.1 Definitions

In the course of this report, a number of key notions are frequently referred to. To avoid any ambiguity, the following definitions apply to these notions and should also be used by the correspondents.

- *Entity:* anyone or anything that is characterised through the measurement of its attributes in an eIDM system. This includes natural persons, legal persons and associations without legal personality; it includes both nationals and non-nationals of any given country.

- *eIDM system*: the organisational and technical infrastructure used for the definition, designation and administration of identity attributes of entities. This Profile will only elaborate on eIDM systems that are considered a key part of the national eIDM strategy. Decentralised solutions (state/region/province/commune…) can be included in the scope of this Profile if they are considered a key part of the national eIDM strategy.

- *eIDM token (or 'token')*: any hardware or software or combination thereof that contains credentials, i.e. information attesting to the integrity of identity attributes. Examples include smart cards/USB sticks/cell phones containing PKI certificates, …

- *Authentication*[1]: the corroboration of the claimed identity of an entity and a set of its observed attributes. (i.e. the notion is used as a synonym of "entity authentication").

- *Authorisation*: the process of determining, by evaluation of applicable permissions, whether an authenticated entity is allowed to have access to a particular resource.

- *Unique identifiers*: an attribute or a set of attributes of an entity which uniquely identifies the entity within a certain context. Examples may include national numbers, certificate numbers, etc.

- *Official registers*: data collections held and maintained by public authorities, in which the identity attributes of a clearly defined subset of entities is managed, and to which a particular legal of factual trust is attached (i.e. which are generally assumed to be correct). This includes National Registers, tax registers, company registers, etc.

[1] For the purposes of this Profile, the notion of authentication is considered to be synonymous with 'entity authentication', as opposed to 'data authentication'. The notion of 'identification should be avoided to avoid confusion.

- *eGovernment application*: any interactive public service using electronic means which is offered entirely or partially by or on the authority of a public administration, for the mutual benefit of the end user (which may include citizens, legal persons and/or other administrations) and the public administration. Any form of electronic service (including stand-alone software, web applications, and proprietary interfaces offered locally (e.g. at a local office counter using an electronic device)) can be considered an eGovernment application, provided that a certain degree of interactivity is included. Interactivity requires that a transaction between the parties must be involved; one-way communication by a public administration (such as the publication of standardised forms on a website) does not suffice.

- *eSignature*: data in electronic form which are attached to or logically associated with other electronic data and which serve as a method of authentication with regard to this data. Note that this also includes non-PKI solutions.

- *Advanced electronic signature*: an electronic signature which meets the following requirements:

  (a) it is uniquely linked to the signatory;

  (b) it is capable of identifying the signatory;

  (c) it is created using means that the signatory can maintain under his sole control; and

  (d) it is linked to the data to which it relates in such a manner that any subsequent change of the data is detectable;

  Again, this definition may cover non-PKI solutions.

- *Qualified electronic signature*: advanced electronic signatures which are based on a qualified certificate and which are created by a secure-signature-creation device, as defined in the eSignatures Directive[2].

- *Validation*: the corroboration of whether an eSignature was valid at the time of signing.

[2] See http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:31999L0093:EN:HTML

2.2 Acronyms

A2A ..... Administration to Administration

A2B ..... Administration to Businesses

A2C ..... Administration to Citizens

CA ..... Certification Authority

CRL ..... Certificate Revocation Lists

CSP ..... Certificate Service Provider

eID ..... Electronic Identity

eIDM ..... Electronic Identity Management

IAM ..... Identity and Authentication Management

IDM ..... Identity Management

OCSP ..... Online Certificate Status Protocol

OTP ..... One-Time Password

PKCS ..... Public-Key Cryptography Standards

PKI ..... Public Key Infrastructure

SA ..... Supervision Authority

SOAP ..... Simple Object Access Protocol

SCVP ..... Server-based Certificate Validation Protocol

SSCD ..... Secure Signature Creation Device

USB ..... Universal Serial Bus

TTP ..... Trusted Third Party

XAdES ..... XML Advanced Electronic Signature

XML ..... eXtensible Markup Language

XML-DSIG ..... XML Digital Signature

3 Introduction

3.1 General status and most significant eIDM systems

Unlike many other European states the United Kingdom has not generally operated systems of identity cards. Identity documents were, however, issued during the two world wars in the twentieth century coupled with a requirement that these be presented to public officials upon request. In the case of the identity cards issued during the Second World War under the authority of the National Registration Act 1939, the system continued to operate for some years after the end of hostilities, tied in part to the continuing rationing of food and other supplies.

In 1951 the case of Willcock v Huckle[3] came before the High Court. Here a motorist had been stopped by a police office who requested that he produce his ID documents. The motorist refused to comply and was prosecuted. His defence was to the effect that the 1939 Act provided for it to remain in force 'until such date as His Majesty may be Order in Council declare to be the date on which the emergency that was the occasion of the passing of this Act came to an end...[4] The war, he argued was long over and the justification for the legislation had also come to an end. A special court of seven judges was convened to deal with the case. The judges were sympathetic to the argument although feeling constrained by traditional principles of statutory interpretation. Although it held that the Act remained in force it was critical of the effects it produced. The motorist was held to have been guilty of an offence, but no penalty was imposed:

> *"From what we have been told by counsel for the respondent it is obvious that the police now, as a matter of routine, demand the production of national registration identity cards whenever they stop or interrogate a motorist for whatever cause. Of course, if they are looking for a stolen car or have reason to believe that a particular motorist is engaged in committing a crime, that is one thing, but to demand a national registration identity card from all and sundry, for instance, from a lady who may leave her car outside a shop longer than she should, or some trivial matter of that sort, is wholly unreasonable. This Act was passed for security purposes, and not for the purposes for which, apparently, it is now sought to be used. To use Acts of Parliament, passed for particular purposes during war, in times when the war is past, except that technically a state of war exists, tends to turn law-abiding subjects into lawbreakers, which is a most undesirable state of affairs."*

In 1953, parliament finally repealed the 1939 Act although it has been suggested that the potential cost implication of maintaining a national register was as major a consideration in the decision as any concern about the privacy implications of an identity card scheme.

From 1953 the issue of ID cards largely disappeared from public consciousness. Towards the end of the 20th century discussion began again. Although not initially a major feature of the government's plans, the establishment of a system of identity cards has become a central plank of government policy. Initially considered as a means to deter illegal immigrants and benefit fraud, the notion has

[3] [1951] 2KB 844

[4] S12(4).

become more connected with issues of national security. The Identity Cards Act 2006 provided for the establishment of a system of identity cards with the roll out of the system scheduled to begin in 2008.

In addition to the introduction of identity cards systems of electronic identity management a number of other systems are either in place or in the course of introduction. Every person eligible to obtain employment in the United Kingdom is issued with a National Insurance number. This is used both in connection with the provision of social benefits and in dealings with the tax authorities. The national insurance number is currently issued to individuals on a simple plastic card with no element of electronic technology included. It is intended, however, that the national insurance data base will be a key component of the infrastructure for managing identity cards.

Since the establishment of the National Health Service after the Second World War, everyone eligible to receive treatment has been issued with a NHS number. Up to now this has been used in the record keeping processes of any institution providing treatment to a patient but the records have been kept internally and are not subject to any form of central control. Plans are now being progressed to transfer medical records to electronic format and the NHS number will assume much greater significance as a form of identity management. Although extensive security measures are being designed to prevent unauthorized access to the system, much more information will potentially be available than is currently the case.

For a number of years, United Kingdom passports have contained some identification data in electronic format. From March 2006 more sophisticated passports have been issued incorporating facial biometrics.[5] More extensive use of biometrics, largely in the form of fingerprint data, is proposed to be used in connection with the issuing of visas to those wishing to secure permanent or temporary entry to the United Kingdom from countries where visa requirements are in force.[6]

A linkage has been established between the passport agency and the Driver Vehicle and Licensing Centre which issues driving licences. Where passports contain data in electronic format, the Licensing Centre will access the passport database to confirm identity of an applicant for a driving licence without requiring sight of the passport itself.[7]

[5] Information about the specifications of the new passports can be found at http://www.passport.gov.uk/general_biometrics_passports.asp

[6] See http://www.ind.homeoffice.gov.uk/6353/aboutus/Securing_the_UK_Border_final.pdf

[7] See http://www.direct.gov.uk/en/Motoring/DriverLicensing/EndorsementsAndDisqualifications/DG_4022491

3.2 Background and traditional identity resources

3.2.1 eGovernment structure

The United Kingdom is the result of unions between a number of formerly independent countries. Although recent years have seen the establishment of a measure of devolution to Northern Ireland, Scotland and Wales, constitutional theory places absolute power in the hands of the United Kingdom Parliament. At the level of practice also, responsibility many of the most significant aspects of identity management have been retained by the United Kingdom authorities.

In similar vein, local government operates under the authority of central government and is largely dependent upon it for funding. The most significant aspect of activity is in respect of the collection of local taxation in the form of the Community Charge. This tax is linked to the value of property and the obligation is imposed on every home owner to supply details of their property ownership for inclusion on the Community Charge register. [8]

One of the purposes of horizontal integration is to share information so as to avoid requesting it twice from citizens or companies. This is the so-called "authentic source" principle: once information has been requested from the user, it should be stored in a single authentic source. All other eGovernment services are then expected to access the information through the authentic source whenever possible, rather than requesting it multiple times.

In 1997 the general election saw the formation of a Labour government. Modernisation of public services was a prime element in its manifesto. In a 1999 White Paper, 'Modernising Government[9] the intention was indicated to:

- *"provide public services of the highest quality, matching the best anywhere in the world in their ability to innovate, share good ideas, control costs and above all to deliver what they are supposed to.*
- *ensure that government is responsive to the user and is, from the public's point of view, seamless.*
- *ensure that citizens and businesses will have the choice about how and when to access government services, whether from home via interactive TV, via call centres, via one-stop shops or, indeed, post offices, libraries, banks or supermarkets."*[10]

The E-Government Unit was established to work with Government departments to improve the delivery of government services. The original target was that all government services should be available on line by 2008. In March 2000, the Prime Minister announced that the target date would be brought forward to 2005.

[8] See http://www.localegov.gov.uk

[9] Cm 4310.

[10] Ibid at para 8.

As discussed below, sharing of data between government departments has been identified as a major element in the delivery of improved services. In April 2002 the Prime Minister's Strategy Group published a report Privacy and Data-Sharing: The Way Forward For Public Services'[11]. This argued the case for a greater degree of integration between public sector databases stating that:

> *"public services have always had a responsibility to ensure that they are confident about the identity of the individual receiving the service, have the right data about individuals available, and can keep that data secure. More joined-up service delivery, together with more remote interactions through new technologies, raise new challenges in these areas;"*

Speaking in 2007, a UK Government Minister stated that Government:

> *"departments already stored "vast amounts of data about individual citizens" but this was not usually shared, often to the detriment of the public.*
>
> *For example, one family had had to contact the government 44 times to confirm various details after a relative died in a road accident.* [12]*"*

No specific information was given to indicate the particular forms of communication which were required in the example.

The Office of Government Commerce is an independent office of the United Kingdom's Treasury department. Its remit is to improve the efficiency of government procurement. Headed by a Chief Executive it has a supervisory board made up of senior civil servants from major government departments, from the national Audit Office and a range of external organisations. The OGC has produced a OGC's Successful Delivery Toolkit describes proven good practice for procurement, programmes, projects, risk and service management. The Toolkit brings together policy and best practice in a single point of reference. It helps you to ask the critical questions about capability and project delivery; it gives practical advice on how to improve.

Also relevant in the field is the Successful PRojects in an IT Environment (SPRITE) Programme which ran from January 2001 to March 2003 and had an overall aim of improving the management, success and benefits realisation of government IT-enabled business change. The programme took its mandate from the Successful IT: Modernising Government in Action Report which was published in May 2000.

For local government the local e-government programme[13] was established in 2000 and ran until 2006 when it was closed having achieved the target of making all local government services available electronically. Although local governments provide many services, relatively little is required by way

[11] http://www.cabinetoffice.gov.uk/strategy/work_areas/privacy/index.asp

[12] http://news.bbc.co.uk/1/hi/uk_politics/6262455.stm

[13] http://www.communities.gov.uk/index.asp?id=1133577

of identity management, in particular because the system of local taxation, the community charge, is levied on property rather than being assessed on the basis of individual income.

3.2.2 National eGovernment cooperation and coordination

In September 2006 the Department of Constitutional Affairs published an Information Sharing Vision Statement[14]. This indicated that

> *"This Government wants to deliver the best possible support to people in need. We can only do this with the right information about people's circumstances. We are determined that information sharing helps us better target support to the most disadvantaged in our society.*
>
> *There are enormous benefits to sharing information. … (T)here is already a lot of information being shared within the present legal framework - but within existing law we can and must do more. We must, of course, properly use the provisions in the Data Protection Act as a safeguard to protect privacy and confidentiality but it must not be used to justify unnecessary barriers to sharing information. Our vision is to ensure that information will be shared to expand opportunities for the most disadvantaged, fight crime and provide better public services for citizens and business, and in other instances where it is in the public interest."*

The intention was expressed to work with the Information Commissioner who is responsible for the operation of the Data protection Act 1998 to develop codes of practice and guidelines to lay down principles governing the sharing of information. Specific examples given of benefits to be obtained from data sharing was a linkage between the Department for Work and pensions and local authorities would identify those pensioners who would be entitled to rebates on local authority taxes and grant these automatically with no need for the individual to make specific application.

The Statement also indicated a desire to explore the possibilities of increased data sharing between the public and private sectors. In a separate initiative the Treasury has established a Public Private Forum on Identity Management.[15] Chaired by Sir James Crosby, formerly Chief Executive of one of the United Kingdom's largest banks the Forum's remit is to 'examine the evolving technologies used for identity management and consider how public and private sectors can work together to maximise efficiency and effectiveness'. The forum is expected to present its conclusions in Summer 2007.

A further relevant document is the Cabinet Office paper, Transformational Government Enabled by Technology.[16] Published in November 2005 this consultation paper carries a forward from the Prime Minister stating:

> *"The future of public services has to use technology to give citizens choice, with personalised services designed around their needs not the needs of the provider. Within the public*

[14] http://www.dca.gov.uk/foi/sharing/information-sharing.pdf

[15] http://www.hm-treasury.gov.uk/newsroom_and_speeches/press/2006/press_51_06.cfm

[16] http://www.cio.gov.uk/documents/pdf/transgov/transgov-strategy.pdf

services we have to use technology to join up and share services rather than duplicate them. It is a simple fact that we are stronger and more effective when we work together than apart. It is also self evident that we will only be able to deliver the full benefits to customers that these new systems offer through using technology to integrate the process of government at the centre.

…

This strategy has my full support and I am going to do all I can to help make it happen."

In line with other documents, the paper stresses the importance of information in modern government:

"Modern government – both in policy making and in service delivery – relies on accurate and timely information about citizens, businesses, animals and assets. Information sharing, management of identity and of geographical information, and information assurance are therefore crucial."

Government spending on IT, it was indicated amounted to around 14 billion pounds a year and was directly responsible for the employment of more than 50,000 people. In the past, government departments had tended to rely on custom built systems. Whilst some systems had proved successful, the history of government procurement in the IT field had not been greatly successful. One of the most notorious IT failures related to the computer system designed for the child support agency, where several hundred millions of pounds were spent on computer systems which repeatedly failed to work in an acceptable manner.[17] Ultimately the failures led to the closure of the agency.[18] Systems designed for specific purposes and tied to specific items of legislation tended to become technological 'islands' preventing communications between systems across government.

The way forward it was suggested was at one level to give greater priority to identifying and meeting the needs of consumers of government services than to the wishes of the department involved. There should be a shift in emphasis to acquiring 'commercial, off the shelf' IT systems and a move towards a culture of sharing information. The paper makes specific reference to identity management commenting that:

"government will create an holistic approach to identity management, based on a suite of identity management solutions that enable the public and private sectors to manage risk and provide cost-effective services trusted by customers and stakeholders. These will rationalise electronic gateways and citizen and business record numbers. They will converge towards biometric identity cards and the National Identity Register. This approach will also consider the practical and legal issues of making wider use of the national insurance number to index citizen records as a transition path towards an identity card."

[17] http://www.theregister.co.uk/2006/06/30/eds_csa/

[18] http://www.theregister.co.uk/2006/07/24/csa_v3/

The Government gateway[19] provides a single point of entry allowing individuals and organisations to register for access to all central government online services. The services themselves can be accessed via the Government Direct Website[20] or the Business Link[21] website. In addition to providing access to information relating to central government departments, the site provides links to a variety of local government resources. Government policy is to focus on these two portals as the means of access to government information. In January 2007 it was announced that of 951 government web sites, only 26 would definitely be retained, 551 would be closed and the likelihood was that several hundred of the remaining sites would also close.[22] In most cases, content would be transferred to one of the two portals.

Whilst many elements of the site serve to provide information to users, many services can be accessed on line. In order to achieve this, as indicated above, individuals, organisations and agents are required to register. This can be accomplished in 2 ways, Applicants may supply information on line and establish a user1d. An activation PIN will be created by the service and will be posted out to the applicant. Once activated, this will allow access to all services which have been selected for registration. An alternative mode of access involves use of a digital certificate. Two organisations, the British Chamber of Commerce[23] and Equifax[24] are currently recognised by the government for the purpose of issuing digital certificates. Both charge a fee of £25 for certificates which may be used either by individuals or organisations.

3.2.3 Traditional identity resources

Since the formation of the National Health Service after the Second World War, every person entitled to treatment is allocated a unique 10 digit identifier either at birth or at the time entitlement to treatment begins. To date although the NHS number is used by the various medical establishments which may have dealings with a patient to store records, there has been no central record keeping system.

In what has been described as the largest non-military IT project in history with expenditure budgeted at around 12 billion pounds, a key component of the system is the patients NHS number[25].

In the new system, it is claimed:

> *The NHS Number makes it possible to share information across the NHS safely, efficiently and accurately. So it is fundamental to the introduction of the NHS Care Records Service*

[19] http://www.gateway.gov.uk/

[20] http://www.direct.gov.uk/en/index.htm

[21] http://www.businesslink.gov.uk/

[22] http://news.bbc.co.uk/1/hi/uk_politics/6247703.stm

[23] http://www.simplysign.co.uk/

[24] http://www.equifaxsecure.co.uk/ebusinessid/

[25] In Scotland the NHS number is referred to as the Community Health Index.

(NHS CRS) which will give every patient in England an electronic health record, accessible under strict controls whenever and wherever they seek care.

Patient records that are up-to-date, accurate and not duplicated several times will ensure that clinicians have the right information in the right place when they need it, enabling faster and better patient care[26]."

In the initial stages of the scheme, general practitioners will be required to create an 'emergency care summary' giving details of the patient's and doctor's name, address and HHS number, details of any medication prescribed and a note of any adverse reaction to medication prescribed in the past.. Patients have the right to opt out of the scheme and consent must be obtained whenever NHS staff wish to access the emergency care summary. For the longer term it is intended that all medical records will be transferred to electronic format and made available across the NHS.

The National Insurance number is a unique 9 digit identifier issued to everyone entitled to take up employment in the United Kingdom. UK citizens will be issued with an ID number automatically. Non United Kingdom citizens wishing to take up employment or claim benefits will be required to apply for a national insurance number and will be required to provide proof of identity.[27]

Although a plastic card is issued giving details of the national insurance number it is almost never necessary to produce the card. The number will need to be used for employment, tax and benefit purposes but invariably the requirement is that the individual quote the national insurance number on a form.

Driving licences in the United Kingdom are in 2 parts. A small plastic card contains a digitised photograph of the licence holder and basic identification data in the form of name, address and, in slightly jumbled form, date of birth. A second paper based section of the licence is used to record further details of the holder and information as to any motoring offences committed. Generally, the plastic card is the only part of the licence carried by the holder and in addition to use for purposes connected with motoring is one of the most widely recognised forms of personal identification. It is common practice for airlines to require passengers to provide photographic identification at check in for domestic flights and although practices vary slightly, in the case of many airlines only driving licences or passports will be accepted from United Kingdom residents.[28]

A linkage has been established between the computer systems of the Driving and Vehicle Licencing Agency. Individuals applying for a driving licence are required to submit evidence of identity. This will normally involve supplying a passport. In the case of passports issued since 2006, the applicant needs supply only the passport number and this will allow verification to take place across the systems.

Aspects of data sharing have proved contentious in the context of activities of the Driving and Vehicle Licencing Agency. The agency is under legal obligations to respect the confidentiality of personal

[26] www.connectingforhealth.nhs.uk

[27] See http://www.jobcentreplus.gov.uk/JCP/stellent/groups/jcp/documents/websitecontent/dev_011733.pdffor a list of the forms of identification which may be accepted.

[28] See, for example, http://www.ryanair.com/site/EN/faqs.php?sect=pid&quest=photoid

data. Under Regulation 27 of the Road Vehicles (Registration and Licensing) Regulations 2002, however, the Agency is required to release information to the police, to local authorities for the investigation of an offence or decriminalised parking contravention. More controversially, information is to be released anybody who demonstrates 'reasonable cause' to have the information made available to them.

The term 'reasonable cause' is not defined. The Agency has issued a list of situations in which information has previously been released:

- safety recall by vehicle manufacturer – to enable the manufacturer, or an agent acting on their behalf, to trace keepers to ensure that a vehicle is checked and any modifications are made
- abandoned Vehicles – to help trace keepers who abandon their vehicles on private property outside the control of local authorities
- minor hit and run incidents – to help trace keepers of vehicles involved in minor hit and run incidents not warranting a full police investigation. Circumstances could include incidents of personal injury or damage to property
- toll/road charges – information may be released to help trace keepers of vehicles that have failed to pay road/tunnel/bridge charges
- drive-offs – to help trace keepers of vehicles that drive off without paying for goods/services. Circumstances could include incidents of failing to pay for petrol or repairs for a vehicle
- unauthorised parking on private land – to help landlords or their agents to trace keepers who obstruct access, contravene parking restrictions or trespass on private land
- suspected fraud – to establish keepers of vehicles where insurance claims have been received
- investigations into suspected vehicle 'clocking' – to confirm if a vehicle's recorded mileage is genuine
- enforcement of traffic related offences outside the UK – to UK agents acting on behalf of non-UK authorities to pursue keepers for non payment of penalties for parking and toll road violations incurred outside the UK
- stolen cheque payments – to investigate payments related to a vehicle using stolen cheques
- tracing company assets – to a liquidator appointed by the court to confirm the assets of a company following insolvency
- confirmation of keeper details to ensure seizure of correct vehicle by bailiff/debt collection agents under court order

- person acting as an executor of a deceased's estate to confirm vehicle assets[29]

The extent of the disclosures made has prompted the Information Commissioner to express concern[30] and the practice is currently the subject of a review by the Department of Transport.

The United Kingdom applies few requirements for registration on the part of those wishing to engage in trade or business. The major database of business information is maintained by Companies House and covers all companies who seek to limit the liability of their owners. There are more than 2 million limited companies in the United Kingdom and some 30,000 new companies are established each year.[31] Under the Companies Acts information as to the directors of companies is to be supplied and is a matter of public record. Companies are also required to file accounts and these may also be consulted by the public either in person or on line.

3.3 eIDM framework

3.3.1 Main eGovernment policies with regard to eIDM

The eID card

Following a lengthy legislative passage, caused in part by the dissolution of Parliament for a General Election in 2005, the Identity Cards Act became law in March 2006.[32] The system of identity cards is a significant component of what is referred to as the National Identity Scheme.

> *"The Scheme will provide a comprehensive and secure way of recording personal identity information storing it and making it possible for you to use it if you want to prove your identity. It will be available for all those over 16 years old who legally reside or work in the UK. Specifically, it includes biometric visas and biometric documents for foreign nationals, enhanced passports, and ID cards for British citizens."*

In common with many United Kingdom statutes, the Act establishes general principles but leaves much of the detailed implementation to be determined by Ministers and published in the form of items of secondary legislation. The Act provides for the establishment of a National Identity Register. It is provided that:

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[29] http://www.direct.gov.uk/en/Motoring/OwningAVehicle/AdviceOnKeepingYourVehicle/DG_4022066

[30] http://www.ico.gov.uk/upload/documents/library/corporate/notices/release_of_vehicle_keeper_data_from_uk_vehicle_registers.pdf

[31] http://www.companieshouse.gov.uk/about/functionsHistory.shtml

[32] The text of the legislation is available from http://www.opsi.gov.uk/ACTS/acts2006/ukpga_20060015_en.pdf.

"(2) The purposes for which the Register is to be established and maintained are confined to the statutory purposes.

(3) The statutory purposes are to facilitate, by the maintenance of a secure and reliable record of registrable facts about individuals in the United Kingdom—

(a) the provision of a convenient method for such individuals to prove registrable facts about themselves to others who reasonably require proof; and

(b) the provision of a secure and reliable method for registrable facts about such individuals to be ascertained or verified wherever that is necessary in the public interest."

The Act continues to lay down the items of information which are to be registerable. These are:

"(a) his identity;

(b) the address of his principal place of residence in the United Kingdom;

(c) the address of every other place in the United Kingdom or elsewhere where he has a place of residence;

(d) where in the United Kingdom and elsewhere he has previously been resident;

(e) the times at which he was resident at different places in the United Kingdom or elsewhere;

(f) his current residential status;

(g) residential statuses previously held by him;

(h) information about numbers allocated to him for identification purposes and about the documents to which they relate;

(i) information about occasions on which information recorded about him in the Register has been provided to any person; and

(j) information recorded in the Register at his request."

Information is to be recorded in respect of every person over the age of 16 who is or wishes to be resident in the United Kingdom. Each entry must be given a unique number, to be known as the National Identity Registration Number. Information which is classed as se3nsitive personal data under the terms of the Data Protection Act 1998 may not be held on the Register.

Responsibility for implementation of the identity card scheme rests with the Home Office which is the Government department responsible for law and order.[33] A Strategic Action Plan published in December 2006 gives the latest indication of detailed plans and timetables for the implementation of identity cards. It is envisaged that the first cards will be issued in 2008 to foreign (non-EEA) nationals who are planning to stay in the United Kingdom for more than three months. Such individuals may also be subject to new biometric visa requirements as will be discussed below. It is estimated that

[33] Proposals have been put forward by Government for major reform of the Home Office following prolonged criticism of its performance in respect of many aspects of its work. It is not likely that any changes will impact significantly upon the Identity Card scheme.

around 50,000 identity cards might be issued in 2008 although this figure would increase to around 700,000 a year from 2009.

For UK citizens, the intention is that the first identity cards will be issued in 2009. Issuance of identity cards will initially be linked to that of passports. Originally the government proposed that eligibility to obtain a passport would be linked to acceptance of an identity card. Following objections in Parliament this requirement was removed although it is likely that a degree of financial cross subsidization will offer an inducement to individuals to accept an identity card.

At present around 80% of United Kingdom citizens have a passport. The normal validity of a passport is 10 years and around 6 million passports are issued each year. On the basis of this figure around 80% of United Kingdom citizens would be issued with an identity card by 2019. Given that the linkage between acceptance of an identity card and eligibility for the issuance of a passport has been broken, this may be an optimistic assumption. Under the Identity Cards Act 2006 possession and carrying of an identity card is a voluntary act. The Home Office has indicated however that at some stage, obtaining and possibly carrying an identity card might become a compulsory obligation.

> *"It is the Government's policy that registration in the National Identity Scheme should eventually be compulsory for all those resident in the UK who are over the age of 16. The Identity Cards Act 2006 allows for the registering and issuing of an ID card to be linked to the issuing of official documents such as passports and immigration documents. This means that we can issue ID cards to a large proportion of the population while managing the delivery risks. For example, around 8 per cent of the adult population receive a passport each year, but we will never be able to issue everyone in the UK with an ID card by this method. At some time in the future, further primary legislation will be laid before Parliament to provide the powers to issue ID cards to the rest of the population."*

Orders for the provision of equipment relating to the identity card system are expected to begin to be placed in Spring 2007. In a strategic action plan published in December 2006[34], the Government stated:

> *"Some important milestones in the delivery of the Scheme are:*
>
> - *from 2008 the Immigration and Nationality Directorate (IND) will issue biometric identification to foreign nationals; from 2009 the Identity and Passport Service(IPS) will issue ID cards for British citizens; and*
> - *from 2010 IPS will issue significant volumes of ID cards alongside British passports.*
>
> *We will be using new tools to do background checking against identity information from other parts of government and the private sector. Particularly important is improving our ability to check people's identity details against other data within government, most obviously data held by the Department for Work and Pensions (DWP), which covers the vast majority of the UK population. In 2007, checks to validate identity will start being done against the electronic records of deaths (held by DWP) and naturalisation (held by the Immigration and Nationality*

[34] http://www.identitycards.gov.uk/downloads/Strategic_Action_Plan.pdf

Directorate (IND)), followed progressively by data on marriages and births, and matching against identity information on other relevant government department databases from 2008 onwards.[35]

The Government has said1 that it wants ID cards and the NIR to be the 'glue' that allows personal and identity-related data to be joined up across government. Through these joint ventures, we aim to build confidence in and support for the National Identity Scheme among those people who have enrolled, people in the public sector and people in business. We also aim to tackle identity-related business challenges and to improve the customer experience for all those (the individual, as well as the private and public sectors) who interact with government services."

Government estimates place the cost of the ID scheme at around 5.4 billion pounds over a ten year period.[36] Most of this expense it is stated would require to be incurred as a consequence of meeting new international standards for electronic passports which would require additional biometric information such as fingerprints. Other commentators have produced significantly larger estimates of the costs involved. The Identity project[37] hosted at the London School of Economics has calculated that costs could rise to more than 19 billion pounds.[38]

It is intended that the identity cards will have chips incorporated holding data. Individuals applying for a card will be required to provide biographical information and biometrics in the form of fingerprints and facial images. The data will be verified by reference to a range of resources, the government commenting:

"We will be using new tools to do background checking against identity information from other parts of government and the private sector. Particularly important is improving our ability to check people's identity details against other data within government, most obviously data held by the Department for Work and Pensions(DWP), which covers the vast majority of the UK population. In 2007, checks to validate identity will start being done against the electronic records of deaths (held by DWP) and naturalisation (held by the Immigration and Nationality Directorate (IND)), followed progressively by data on marriages and births, and matching against identity information on other relevant government department databases from 2008 onwards.

…

After secure production, the applicant's personal details will be written onto the chip in each document and electronically 'signed' to ensure it cannot be modified."[39]

Cards will be issued for 10 years although it is anticipated that the chips will be guaranteed by the manufacturer for no more than 2 years in line with the situation with electronic passports. The cards

[35] http://www.identitycards.gov.uk/downloads/Strategic_Action_Plan.pdf

[36] http://identityproject.lse.ac.uk/s37report.pdf

[37] http://identityproject.lse.ac.uk/

[38] http://identityproject.lse.ac.uk/identityreport.pdf

[39] http://www.identitycards.gov.uk/downloads/Strategic_Action_Plan.pdf

are intended to be compatible with the chip and pin equipment used in many retail and banking outlets. The particular format has not been specified in detail, the government indicating a desire to allow the private sector suppliers flexibility to determine the optimal approach.

In order to use the resources of the identity card system, private sector organizations will require to be accredited. To date no information has been published as to the nature of the accreditation process. As different levels of identity verification are proposed it is likely that there will have to be a range of accreditation criteria.

Current government estimates are that an identity card will cost individuals in the region of £30 or £93 when issued in conjunction with a passport.. Passports currently cost fees ranging from £66 although this figure is expected to rise with the introduction of more sophisticated electronic passports

Authentication policies

A wide range of identity verification services are envisaged by the government:

> ***"Authentication and identity verification:*** *you will be able to present your card to give consent to having your identity verified. There will be a number of ways of doing this, reflecting the importance of what you want to do. Offering these different levels of identity check allows organisations to balance the level of assurance of someone's identity with the investment they make to support this:*
>
> – ***visual check:*** *the person you present your card to might check whether the photograph on the front of the card is your photograph;*
>
> – ***card authentication:*** *the person you present your card to will be able to check, using information held on the chip on the card, whether it is a genuine, unaltered card;*
>
> – ***PIN check:*** *if they require a higher level of proof, they might ask you to enter a Personal Identification Number (PIN) that only you should know;*
>
> – ***verification online or over the telephone:*** *if you want to prove your identity to someone on the telephone or over the Internet, you will be able to do this by supplying your card details and possibly some 'shared secret' information, like banking services use today. Higher levels of security will be possible by using the chip on the card to generate a temporary password. Small hand-held devices to support this are cheaply available. Using one of these, the chip can provide a temporary code which confirms that your card is the one being used and that you have entered your PIN correctly; and*
>
> – ***biometric check:*** *if they require a still higher level of proof, they might ask you to present a fingerprint to be checked against those which you gave when you enrolled for the card.*
>
> ***Identification:*** *finding out, by searching for your details in the NIR, who you are. This might be used if you do not have your card with you.*

> ***Information provision:*** *this is the ability to make data from the NIR available to other parts of government, to make sure that all parts of government are using the most up-to-date identity information about you, for example to make it much simpler when you change your name or address."*[40]

Not all facilities will be available at once. The government has suggested that:

> *"In terms of initial services offered, the Passport Validation Service (PVS) is a valuable platform to be built upon. PVS is a service which organisations can already use to check that a British passport, which is presented to them as proof of identity, has been issued validly and has not been reported lost or stolen. For British citizens, this means an assurance of their identity; for business, a reduction in the potential for fraud. For example, using PVS we are already making it easier and more secure to apply to the Driver and Vehicle Licensing Agency (DVLA) for a driving licence, if you have a recently issued passport. 28. At the end of September 2006, there were 18 different organisations using PVS, including three high street banks, and IPS was handling thousands of enquiries per week. PVS is currently engaging with a large pool of interested potential user organisations and will continue to grow to maximise efficiency and provide the best possible customer service."*[41]

3.3.2 Legal framework

The main legal framework for the identity management scheme is the Identity Cards Act of 2006. This establishes the overall framework for the scheme although it will be necessary for considerable numbers of items of secondary legislation to be made to implement the general principles.

Other relevant items of legislation include the Data Protection Act of 1998 which will place controls over the processing of personal data and the Electronic Commerce Act 2000 which transposes the E-Commerce Directive but contains no specific provisions relating to authentication.

3.3.3 Technical aspects

The eID card will be the dominant eID token in the United Kingdom. To date only limited information is available concerning the nature of the technology to be applied. Government thinking has changed significantly over the period since the Identity Cards Act was adopted. Initially the proposal was that a single data base would be developed to house the National Identity register. The current plan is that a number of existing data bases will be utilised. The primary source of biographical data will be the Department of Work and pensions Customer Information system which is a part of the National Insurance scheme and holds details of virtually everyone resident in the United Kingdom. Collection

[40] http://www.identitycards.gov.uk/downloads/Strategic_Action_Plan.pdf

[41] http://www.identitycards.gov.uk/downloads/Strategic_Action_Plan.pdf

and storage of biometric data, at present likely to be restricted to finger prints and facial images will use technologies developed in connection with the issuing of biometric visas and documents issued to asylum seekers. Encryption technology in the form of PKI will be based on techniques used in connection with the production of e-passports.

The National identity Register will store the complete set of data concerning each individual. A subset of this data will be stored on the card itself. The card will be the size of a credit card and show the name and image of the card holder. Each card will be allocated an Identity registration number which will also be printed on the card. Each card will be issued with a Personal Identification Number (PIN) which may be changed by the card holder in the same manner as the PIN numbers associated with credit and debit cards.

It is intended that the card will be compatible with the myriad chip and pin reader devices that are used in connection with credit and debit card transactions. An Identity Verification Service will allow accredited organisations in the public and private sector (accreditation procedures are still to be defined) to access details concerning an individual depending upon the limits of their authorisation. The Home Office have commented:

> *"The identity verification service will provide a way for accredited organisations to check an individual's identity. This means that you will have a secure and convenient way of proving your identity in a variety of situations, such as opening a bank account or registering with a GP, for example.*
>
> *The identity verification service works at different levels according to what information is needed. For example:*
> - *for a basic transaction such as proving your age it could confirm simply that your card is valid;*
> - *if you are a foreign national applying for a job it could be used to confirm that the status of your visa allows you to work;*
> - *if you are applying to work in a position of trust (as a nanny for example) it could be used to confirm that you do not have a criminal record."* [42]

Subject consent must be obtained on each occasion identity or other attributes is verified.

In April 2005 a Prior Information Notice was published giving details of the tendering process. This stated that:

> *"It is expected that to deliver some elements of the scheme, a framework arrangement will be procured. From this, as required, a number of procurements will be run for capabilities to implement the National identity Scheme.*

[42] http://www.identitycards.gov.uk/scheme-what-run.asp#nir

It is anticipated that the framework may include provision of Managed Services and Systems Integration capabilities for services such as (but not limited to) the following: (a) biometric systems, (b) application support and development, (d) design of identity products such as Passports and Identity Cards, (e) production and distribution of identity products and (d) systems, estates and people to support application and enrolment."[43]

The Government's intention appears to be that invitations to tender for elements of the identity management system will be couched in high level terms allowing potential suppliers flexibility to determine how best to formulate the technical proposals.[44] This approach has drawn criticism from the Parliamentary Committee on Science and Technology[45] which commented:

"The Home Office's current approach is to allow industry flexibility in producing a solution.

In oral evidence Katherine Courtney said that the identity cards programme team is choosing "to focus on the outcomes we are trying to achieve and not dictate to the industry what the technical architecture should be". The Minister,

Joan Ryan, also explained that the technology that is developed through procurement will be driven by the outcomes required by the scheme. She denied that the Home Office would be hostage to the market, saying that in the first phase when prototypes or pilots are produced the market will bear the risk. This approach presumes firstly that industry will be able to deliver an appropriate solution and secondly that the Home Office and its consultants have sufficient expertise to judge between the solutions proposed by industry.

We are concerned that the Home Office may be leaving the design of the scheme up to the market, because it lacks the scientific expertise to be an intelligent customer. In oral evidence, Nigel Seed acknowledged "we are not the experts in the technology; they are". Furthermore, the Minister, Joan Ryan said to us that "The private sector suppliers are the experts in developing the technology. We want to use their expertise and continually stretch them throughout the procurement process".

This issue has been raised in written evidence by Peter Tomlinson from Iosis Associates who states that "procurement by the public sector of ICT systems and services is today largely in the hands of people without expertise in this technology area, whereas until the early 1990s public sector purchasers of IT systems generally had the expertise". It was echoed in oral evidence by Dave Birch from Consult Hyperion who said that "you have people who are, frankly, scientists giving evidence to people who are, frankly, not"."[46]

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[43] http://www.identitycards.gov.uk/downloads/National_Identity_Scheme_Prior_Information_Notice2007.pdf

[44] A listing of potential suppliers and their area of expertise has been published at http://www.identitycards.gov.uk/working-suppliers-profiles.asp in order to provide a basis for organisations to attempt to establish consortia for the time when the formal tendering process begins.

[45] http://www.publications.parliament.uk/pa/cm200506/cmselect/cmsctech/1032/103202.htm

[46] http://www.publications.parliament.uk/pa/cm200506/cmselect/cmsctech/1032/103209.htm#a25

3.3.4 Organisational aspects

The National Identity Scheme will be run by the Immigration and Passport Service which was established as an Executive Agency of the Home Office in April 2006. The Immigration and passport Service will liaise with the Immigration and Nationality Directorate which deals with those wishing to take up residence in the United Kingdom and also with asylum seekers. An independent Commissioner is to be appointed to oversee the operation of the scheme and to provide an annual report to Parliament on the working of the scheme.

Individuals wishing to apply for a card will be required to attend an enrolment centre. A considerable number of these will be established around the country with mobile units used to cover more remote areas. At enrolment, individuals will be required to provide biographical information which will be verified against data currently held by government. Biometric information will also be collected at this time.

Immigration and passport Service staff responsible for running the scheme will be required to obtain security clearance. Any unauthorized disclosure of information will constitute a criminal offence exposing the offender to a penalty of up to two years imprisonment.[47] The attempt to obtain unauthorized access or to tamper with data held on the National Identity register is regarded as a more serious offence which may attract a term of imprisonment of up to ten years.[48] This penalty may be compared with the maximum penalty of 5 years imprisonment which may be imposed under the Computer Misuse Act 1990 in respect of the unauthorized modification of data held on a computer system[49] and the penalty of 6 months imprisonment in respect of unauthorized access *per se.*[50]

3.4 Interoperability

For the immediate future possession of an Identity Card will be a voluntary act on the part of UK citizens and also of those foreign nationals legally resident in the United Kingdom. When the scheme enters into force any person intending to be resident in the United Kingdom for more than three months will be eligible to apply for a card. The intention is that shortly after the introduction of the scheme, all foreign nationals (including citizens of European Union countries) arriving in the United Kingdom will be required to obtain an Identity Card.[51] This will replace current provisions regarding the issuance of residence permits, residence cards or registration certificates.[52]

[47] Section 27 Identity Cards Act 2006

[48] Section 29 Identity Cards Act 2006.

[49] Section 3 Computer Misuse Act 1990.

[50] Section 1 Computer Misuse Act 1990

[51] http://www.identitycards.gov.uk/faqs-other-foreign-choice.asp

[52] http://www.identitycards.gov.uk/benefits-individual-foreign.asp

3.5 eIDM Applications

This section will provide a short overview of key applications for the eIDM systems.

At the moment uses and users of the National Identity Scheme are aspirational rather than specified in nature. It is the intention that the identity card will be used widely in relation to the provision of public services and benefits and it is likely to be the case that those seeking social security benefits will be obliged to obtain a card. The government's intention is that the card should be widely used by the private sector and has suggested that it may be valuable to:

- banks and building societies
- Royal Mail and other delivery and courier services
- libraries and video/DVD rental companies
- mobile and fixed line phone companies and service providers
- travel agencies and airlines
- universities and colleges of higher education
- retailers of all kinds, including internet-based companies
- property rental companies
- vehicle rental companies.

Many more companies and organisations will use the scheme to check the immigration status of potential employees and to ensure those applying for positions of trust are who they say they are. It is suggested that possession of an identity card may become a prerequisite for employment by major companies.[53]

3.6 Future trends/expectations

As indicated above, the United Kingdom government views identity cards and the 'glue' which will tie together systems of identity management across the whole range of government. At present possession it is the case that application for an identity card will be voluntary and given the nature of the work involved it is perhaps unlikely that a compulsory scheme could be introduced in a short period of time. Linking possession of an identity card to eligibility for state benefits may make possession necessary for a considerable percentage of citizens. Figures released by the Home Office suggest that fifteen million people are likely to refuse to produce identity cards and that compulsion will require to be introduced by 2014.[54]

[53] http://business.scotsman.com/index.cfm?id=1985382005

[54] http://www.timesonline.co.uk/tol/news/uk/article1626768.ece

3.7 Assessment

The United Kingdom approach has a number of advantages and disadvantages, which can be briefly summarised as follows.

3.7.1 Advantages:

- Linking identity card technology to existing data base minimises the need for investment in unproven technology.

- The use of identity cards in the private sector may make some activities such as the opening of bank accounts a simpler task than at present.

- Use of national identity numbers across government could simplify tasks and avoid the need for duplication of information

3.7.2 Disadvantages:

- Identity cards are alien to the United Kingdom tradition and it is unclear how extensive the take up will be. Even when possession of an identity card becomes compulsory there is no stated intention to make the carrying and production of a card a requirement.
- It is possible that many of the benefits of data sharing could be obtained through the use of existing identifiers such as the National Insurance number.
- Many questions remain unanswered as to the nature of the technology which will be used and indeed concerning the costs associated with the introduction and operation of identity cards.