

Department for Education and

Feasibility Study of a Unique Learner Number

25 September 2003

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Prepared by: PA Consulting Group

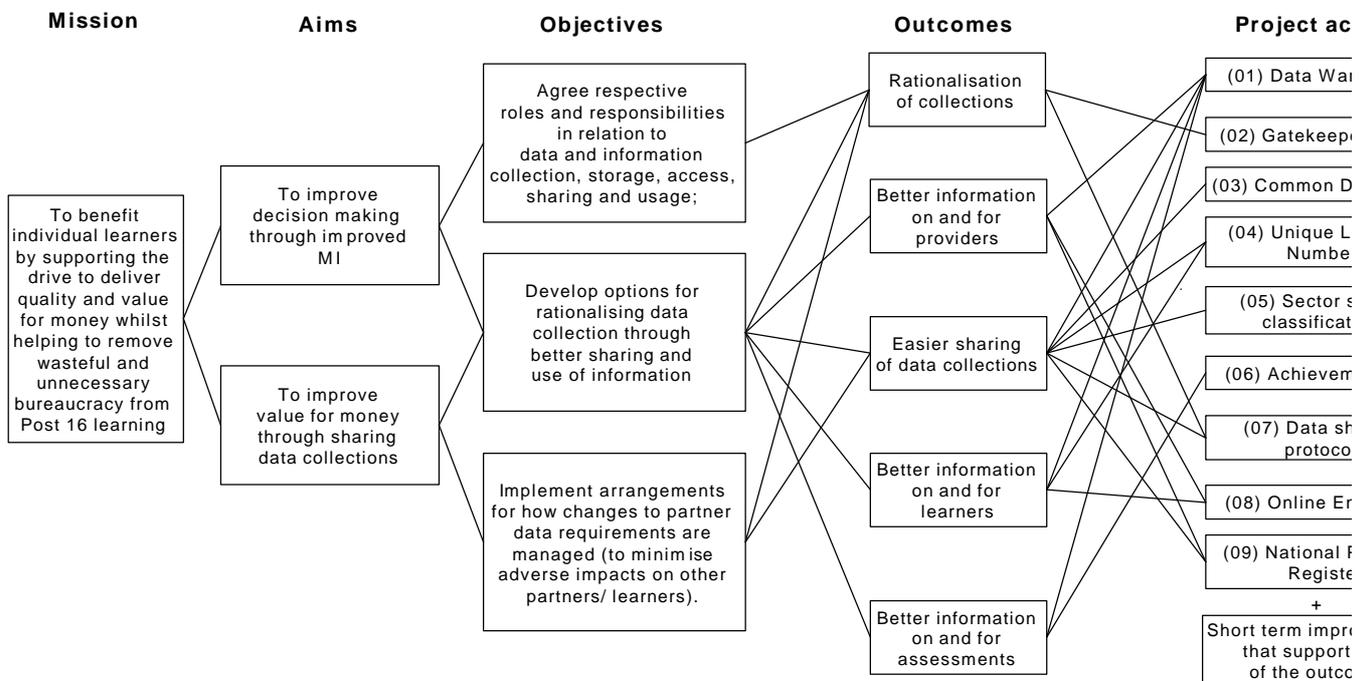
FOREWORD

This report presents the findings, conclusions and recommendations of a study undertaken by PA Consult the feasibility of introducing a single Unique Learner Number (ULN) for all individuals engaged in the national study was commissioned by the Department for Education & Skills and was overseen by the Management group convened by the Department to bring together the numerous stakeholders in learner information are included:

- ? A review of current and pending developments for unique learner numbers and a review of relevant
- ? Options for the scope of the ULN, including target learner groups and the uses of a ULN
- ? Costs, savings and benefits associated with principal options, where benefits and costs are defined costs and savings will be examined, but 'order of magnitude' costs and savings will be important
- ? Stakeholder benefits, including discussion of those who would benefit directly and those for whom
- ? Options for data sharing and holding for the ULN, including possible physical implementations of a card could be carried and whether the ULN should appear on certificates
- ? Security implications from ULN options
- ? The practical systems and process implications of implementing a ULN, including the impact of
- ? Recommendations on the way ahead.

Foreword...

This review and report form one element of a wide -ranging programme of projects which the MIAP group transforming the quality and effectiveness of services to learners through better collection, sharing and use of this programme, and the place of the ULN study within it, is illustrated by the figure below:



Foreword...

The ULN study has been undertaken separately from the other, related studies within the MIAP program findings and conclusions from them. However, as will be clear from our report, the conclusions presented heavily dependent on positive outcomes from some of the other current or planned studies – especially the common data definitions and data warehousing.

We have benefited from the help of very many people in the course of this study, including all of the members including learning providers, other Government departments and agencies, and representatives of current to them all.

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1. MANAGEMENT SUMMARY

Pressures for a Unique Learner Number

This report summarises the findings and conclusions of a study commissioned by the Department for Education. It shows that the need for a single Unique Learner Number (ULN) for every individual engaged in life long learning of a different learner identifiers and of associated personal records has been identified by numerous reviews of the current learner identifier bureaucracy and as a constraint to the effective use of learner -centred information. This has led to calls for a single learner identifier as a basis for better information management across the learning system.

Our study was firmly set in the context of the Government's commitment to raising levels of participation in learning at all levels, and the importance of effective information sharing in support of that commitment. We were interested in the impacts and benefits of a ULN for learners – individually and collectively - and for those providing services. We consulted extensively among learner groups, providers and other stakeholders, many of them already involved in information sharing within the learning system. We found strong support for the concept of a ULN in support of learning, notably as an enabling device for:

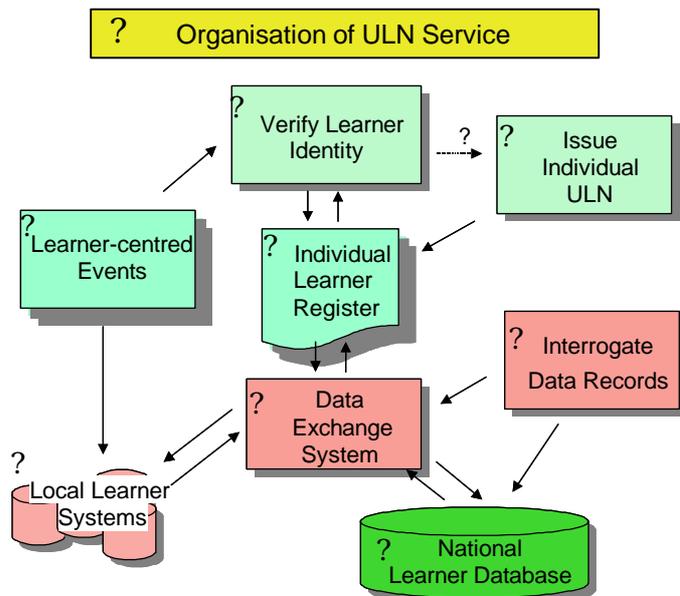
- ? Encouraging participation through simplified entry to learning, for example, simplifying application processes
- ? Encouraging individual progression and cumulative achievements, for example through centrally managed records
- ? Better informed planning and targeting of learning provision, for example through entitlements, individual learning plans and groups.

Balanced against this widespread support for a ULN as a step towards realising these benefits, there were concerns, notably within the university sector – that a ULN would offer limited benefits for their immediate operations and on them.

Development of a ULN Service Model

It was clear that the potential benefits of a ULN stem less from having a unique identifier in itself than from the services based on that identifier. In order to distinguish the different elements of possible ULN -based services, we worked with stakeholders to assess the requirements, impacts and benefits of different levels of ULN-based services.

1. Management Summary



- Elements of a ULN Service**
- ? the organisational and management of the ULN and related services
 - ? the initial assignment of a ULN to every individual learner
 - ? the record of personal bio-data held against each ULN
 - ? registering for courses, exams, funding, and other learning 'events'
 - ? processes for using the ULN to check learner identity at key events
 - ? updating of providers' and other locally held learner records
 - ? processes and systems for accessing and exchanging learner information
 - ? consolidation of individuals' learner records within national database

It was apparent from this work that the greatest benefits and value from a ULN are expected from its use to record learners' experiences and achievements. A single, authoritative record of learning of this kind, which could provide a powerful basis for better services to learners, for better planning and targeting of policies to encourage participation and reduce bureaucracy through better use of information. However, while a ULN would be an essential part of a national infrastructure for learning, it provides only one of several requirements for such a service. Others include the national infrastructure needed to collate learner data from many different sources, and the conceptual and detailed design of the systems for these issues are being considered by the DfES Management Information Across Partners (MIAP) programme. Our study and precluded us from drawing conclusions about the feasibility of a ULN service of this kind.

1. Management Summary

Propositions for a basic ULN service

We therefore concentrated on considering the feasibility of a more basic level of ULN service, embracing the model shown above, which might serve as a worthwhile development in its own right while providing the foundation for a more extensive record of learning service. Our proposition for this basic ULN service has the following characteristics:

<p>1. ORGANISATION</p> <ul style="list-style-type: none"> ? Centralised service provider to operate the ULN service across the UK ? Remit for supporting learner participation, progress and achievements ? Functions include: <ul style="list-style-type: none"> ? issue ULNs ? maintain National Learner Register ? provide learner and provider services ? support data sharing ? maintain Record Of Learning? 	<p>2. ISSUE PROCESSES</p> <ul style="list-style-type: none"> ? Options open on numbering scheme, either UPN-linked or NINO ? Issued to all Y10 state pupils, based on UPN records (via LEAs to schools) ? Issue for non-state pupils at GCSE entry (direct via schools) ? Issue at first registration 'event' for others, on individual application to central service ? ULN holders issued with number, smart card and PIN/password 	<p>3. NATIONALITY</p> <ul style="list-style-type: none"> ? Basic service ? ... ? ... ? ... ? ... ? Password protection ? Listing of each ULN
<p>4. LEARNER REGISTRATION</p> <ul style="list-style-type: none"> ? Used by schools and awarding bodies to register candidates for GCSEs ? Used by post-16 providers to register learners on funded programmes ? Used by individuals to claim financial support, fee remissions, etc. ? Used by providers and others to provide targeted advice to learners 	<p>5. LEARNER AUTHENTICATION</p> <ul style="list-style-type: none"> ? Onus on individual to have and provide ULN (for post 16 registration events) ? Central contact centre for learner queries (e.g. forgotten or new numbers) ? Providers confirm valid ULN/bio-data checks when registering learners ? More secure verification processes can be added where warranted 	<p>6. MAINTENANCE</p> <ul style="list-style-type: none"> ? Provide returns and reports ? Up to state vs. local ? Local service capabilities

1. Management Summary

Feasibility of a basic ULN service

We assessed the feasibility of this proposition in terms of six critical tests:

a. prospective levels of demand and utilisation

The ULN service would have three customer groups. First, the 9 million or more people enter modes of lifelong learning each year. Second, the 3,500 or so learning providers and service post-school learning provision. And third, the national stakeholders, notably DfES and also HESA with policy and programme interests in the development and success of the lifelong learning constituencies, the strongest support for the ULN comes from the national stakeholder interest in an essential enabler for the development of lifelong learning in the UK, and the national service operational benefits from the service. Reactions from learners and providers were mostly (but) enthusiastic.

b. technical feasibility of implementing the service

The basic ULN proposition suggested here would not be unduly complex or technically sophisticated. It would use 'off the shelf' technologies and delivery solutions already well proven elsewhere (not least by an implementation that also illustrates a smart card's ability to provide related educational benefits such as library and building access). There would be a requirement on providers and other data owners to update their systems to be able to record and share data using the ULN. Subject to the changes required can readily be accommodated within routine system upgrades.

c. costs of development and implementation

The costs of developing and providing a basic ULN service are driven primarily by the number of cards issued, and the subsequent demands on the service provider. We estimate that for 10 million learners (and not just those emerging from the schools system), the initial costs of establishing the service are approximately £5 million, and the annual operating costs thereafter between £20 million and £30 million for ULNs and cards to new learners.

There will also be cost implications for providers and other data owners who will have to update their systems to accommodate the ULN. Provided that the ULN implementation is undertaken over a sufficient period, it is possible for most of these costs to be absorbed within routine system maintenance and upgrades.

d. impacts and benefits

1. Management Summary

The immediate impacts of a basic ULN service will be on administrative costs for learners, learning services, and will arise from time savings on data provision, entry, verification and reporting. Without any precision, not least because no data exists on the 'baseline' costs of the status quo. If a ULN is widely held and used, the opportunity cost value of the direct impacts might be between £2 billion and £4 billion. This would indicate the basic ULN service - introduced on a staged basis over two to three years - would have a net value in Year 17.

There is a strong view among stakeholders that the 'real' value of a ULN is as an enabler of better data, ideally within a national record of learning held for every learner. This would reduce the burden of planning and delivery of provision to learners, and would also provide a basis for targeted additional credit accumulation and transfer schemes. We have not been able, within the scope of this study, to estimate these benefits, since the particular applications of a ULN within these areas have yet to be fully articulated. Given Government spending on life long learning in excess of £16 billions a year, the potential benefits could outweigh the costs many times over.

e. compliance with privacy and data sharing safeguards

While there will doubtless be some opposition to the ULN proposition from those concerned about civil liberties and data sharing within Government, our considered view is that the proposals for a basic service are consistent with the requirements specified in the Data Protection Act. This view was supported, without prejudice to more detailed analysis, by the Information Commissioner.

f. service delivery considerations

There is no existing administrative machinery capable of providing the ULN services sought. Therefore, specific service delivery arrangements will therefore be required, and would need active sponsorship (and funding) from devolved administrations) to put them in place. There will be a range of options for securing these services, from in-house delivery by DfES through to a third-party PPP contract.

<p>We conclude from this analysis that the 'stand alone' case for a basic ULN service is positive but not an absolutely compelling case for a ULN as part of the wider development of learner-centred information learning goals. Judgements on whether to proceed to the next stages of design and development for a ULN must rest on the importance attached to the wider case.</p>

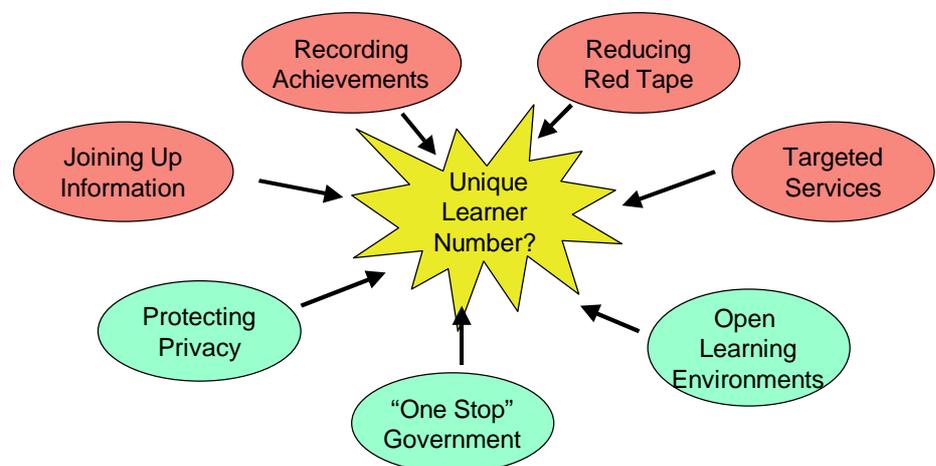
2. WHY CONSIDER A UNIQUE LEARNER NUMBER?

2.1 PRESSURES FOR A SINGLE LEARNER IDENTIFIER

The concept of a ULN is firmly rooted in the Government's commitments to raising levels of participation in long learning, and especially in developing attractive learner-centred experiences across learning provision.

The current structure of learning provision and services has evolved over many years to meet the huge demand. A drawback of this diversity is a system that can often appear fragmented and disjointed, and which can be difficult for providers and potential learners alike. Many efforts are being made, across all parts of the sector, to provide more coherent pathways and experiences, based on better sharing and use of information about learners at both the personal and organisational levels. The difficulties of linking and tracking individualised data, held in many different provider systems, across the sector have seriously inhibited progress towards more effective policies, programmes and services.

The current study reflects a convergence of many different initiatives seeking to resolve aspects of these difficulties. This diagram illustrates the range of these initiatives, and also some of the directly related wider developments to be taken into account.



2. Why Consider a Unique Learner Number?

It is relevant to describe briefly each of these initiatives and the reasons why the concept of a ULN has arisen.

? *Joining Up Information About Learners*

In contrast to other ubiquitous public services, like health or taxation, information about learners is held in hundreds of different systems, including schools, colleges, universities, training providers, funding bodies, examination boards, financial support agencies (like the Student Loans Company) and other providers (like UCAS) or for providers (like HESA). There is little harmonisation between all of these local systems, resulting in many different records – each with its own “unique” identifier – during her or his learning career. The lack of a single, unified record (with 10 million transactions each year) in individualised learner information between these systems, for current and past achievements, which is made complicated and burdensome by the need to reconcile it to an aggregated level, DfES and other policy and planning agencies have a growing need for longitudinal data, extracted from different local and intermediary systems such as those held by the LSC and HESA for evaluation. This again is a cumbersome, expensive and imperfect process, relying heavily on ‘fudged’ data.

A number of important stakeholder groups have formed in recent years to address these concerns. The Information Across Partners (MIAP) group and the Higher Education Information Management Team (HEIMT) are core members drawn from the major information users in the HE sector. The MIAP group includes another dozen or so members representing the interests of schools, 16+ and adult learning, away from HE. Both of these groups have commended a single learner identifier, which would facilitate the linking of records held in different systems, as a potential key to more effective planning and delivery of services to learners.

? *Recording Learners' Achievements*

After leaving compulsory schooling, learning careers tend to be episodic, and focused on the quality of the current episode. These are usually at most two or three years in the future, and often much longer. The aim of aiming for greater participation and achievement levels has been to encourage learners to plan to build up a personal record of their learning achievements. Programmes to this end are currently being developed in Northern Ireland, closely connected to national schemes for building up recognised and transferable learning episodes. The recent DfES White Paper, “21st Century Skills”, proposes similar arrangements to those being developed in learning in England.

The need for each individual to have a unique personal identifier, against which their record of learning can be accessed, is recognised as a requirement for all of these programmes. In the absence of a single national identifier, the prospect is for each administration to introduce their own personal identification scheme in order to meet this need.

2. Why Consider a Unique Learner Number?

which would add to the proliferation of identifiers and to the costs and complications of linking in agencies concerned – Scottish Enterprise, Education & Learning in Wales (ELWa), the Department Northern Ireland (DELNI) and the Learning & Skills Council (LSC) – have indicated their strong preference for a unique identifier to support records of learning.

? *Targeting Services for Learners*

A third cross-cutting theme in recent learning policy developments has involved measures to target the provision of different learning modes and pathways, information, advice and guidance service assistance of different kinds. Many of these developments have embodied the concepts of entitlement of less well-off students to exemptions from tuition fees and the proposal for free learning Level 2 standards. Other proposals for targeted services include the extension of Education Maintenance Allowances to 16-19 year-olds, and increased block grant provision for disadvantaged students in higher education.

High levels of confidence and continuity in the identification of individual learners are essential for encouraging take-up of targeted entitlements of these kinds. For example, the provision of free learning for those who have already achieved Level 2 requires a reasonably robust way of confirming individuals' statements to do so within current systems. Similarly the extended administration of EMAs will depend on rapid verification between central EMA 'accounts' and local attendance systems in schools, colleges and universities.

? *Reducing Red Tape*

We have already noted the bureaucracy generated by the current proliferation of learner identities both on individual learners, who may be called upon to produce essentially the same information several times in order to apply and register for a single course, and also on learning providers and support services. We estimate that there are more than 10 million registration 'events', including course application and support applications every year¹. For individuals, the time and cost impacts of these requirements are significant, especially when previous achievements and eligibility must be verified. We were told that many find them off-putting and over 9 million individuals the cumulative time and costs become significant, especially when previous achievements and eligibility must be verified. We were told that people full time simply to verify and cross-check queries on applications.

¹ For England only, comprising 400,000 sixth form registrations, 4.1 million FE college registrations, 2.3 million HEI registrations, almost 1 million applications for student loans, and 75,000 starts on adult WBL courses, plus (between 1m -2m?) re-

2. Why Consider a Unique Learner Number?

Concerns over the avoidable burdens generated by current systems for data collection and sharing led the Better Regulation Task Force to recommend that the IMT and the Higher Education Forum should actively explore the feasibility of a unique learner number as a possible means of reducing red tape for learners and providers across all parts of the sector. This was discussed in a MIAP group on behalf of the IMT.

? *Moving Towards “One Stop” Government*

This is by no means the only national study into the use of unique personal identification to facilitate public services. Important work is being taken forward on several fronts towards the development of single identifiers which could work across a wide range of public services, including:

- ? work by HM Treasury and the Office of National Statistics to develop the concept of a single national identifier – the Citizen Information Project – which could be accessed by all of the multiple public services and link up separate records with essentially the same personal information
- ? work by the UK Passport Agency to develop a national Entitlement Card, to control access to public services for non-UK citizens
- ? work by the Home Office on a national identification card, to incorporate and replace driving licences and provide a single form of identity verification for all citizens
- ? work by the Office of the e-Envoy to develop a “single sign-on” protocol and service which could provide a single point of access to a whole range of on-line public services
- ? work by HM Treasury, DWP and Inland Revenue/Benefits Agency to develop the concept of a single identifier for financial transactions between individuals and the state
- ? a major project to integrate the collection and sharing of patient information across the National Health Service to create a single, unique NHS patient number.

None of these schemes is yet at a stage where it might meet the purposes sought from a unique learner number. However, some of them of themselves support the particular applications envisaged for a ULN (which we discuss in section 3). Nonetheless, it would clearly be highly desirable that any solutions developed for the learning sector should have the potential to converge with wider national identity schemes if and when these are introduced.

² see *Better Regulation Task Force: “Higher Education – Easing the Burden”, July 2002*

2. Why Consider a Unique Learner Number?

? *Building Open Learning Environments*

One of the most exciting areas of growth, affecting all modes and levels of learning, is the development of online based services to provide an integrated and potentially personalised environment for participants, including recording progress and achievements. There are several important development programmes in line with DfES' e-learning strategy, including the JISC programme for Managed Learning Environment:

There is strong support for a single unique learner number among those involved in these projects. It would provide manageable access to a wide range of open services. Some have proposed that the introduction of a ULN is a key element of these projects.

? *Protecting Personal Privacy*

Privacy is more of a constraint than a driver for a ULN, but nonetheless critically important to the concept, in line with the Data Protection Act and related legislation. For participants, individuals in this regard are represented by the Information Commissioner and his Office. Wide consultations (see Appendix A) have indicated that the Information Commissioner would oppose measures intended to encourage the use of a ULN. Concerns about learners have been a significant factor in the proliferation of different identifiers and data requirements. Consultations with the Office of the Information Commissioner (OIC) during this study have indicated that, while privacy remains paramount, there is recognition that the potential wider benefits to learners and society are significant.

It would be premature to suggest that the Information Commissioner is yet persuaded of the case for a ULN. The OIC has been consulted formally (though the OIC are now represented on the Project Board responsible for driving the project forward). There are however clear guidelines and tests which must be satisfied by any new proposals for information systems. The concept is essentially about – and no suggestion that the ULN would automatically be judged in favour of – privacy. This issue is addressed in more detail later in our report.

2.2 STAKEHOLDER VIEWS ON IMPACTS AND BENEFITS

There has been very extensive consultation with the wide range of stakeholder interests in learner data from the start, starting with a consultation paper to MIAP members and continuing with interviews, workshops, further correspondence during the study. A detailed summary of the interests consulted and the views expressed is given in Appendix A. With some important reservations, the response from all of the key stakeholder groups has been positive about the ULN, although it has to be noted that views still differ widely on the most appropriate form and application of the ULN.

2. Why Consider a Unique Learner Number?

Stakeholders' reasons for favouring a ULN mostly stem from one or more of the pressures noted in section 1, the difficulties of verifying and sharing learner information across different systems, and the constraints that exist for learner-centred services and support. There is an almost complete consensus that, while a ULN may well have benefits for providers and policy stakeholders, the case for change must be built on the benefits for learners and worthwhile, falling mainly into three broad categories of potential improvements:

POTENTIAL BENEFITS OF ULN	ARISING FROM CHANGES ENABLED IN
Encouraging participation through simplified entry to learning	<ul style="list-style-type: none"> ? Application and registration for courses, especially for re-registration, to verify personal details with less time and trouble ? Easy access to e-learning and other managed learning environments and open 'accounts' ? Verification of eligibility for courses based on prior achievement: documents or references, as ULN supports checking ? Access to financial support, especially for multiple and repeat applications and eligibility once established
Encouragement to progression and cumulative achievements	<ul style="list-style-type: none"> ? Credit accumulation and transfer schemes (CATS), based on national ULN for CAT accounts ? Centrally held and accessible records of all recognised learning achievements that learners can build up and cite as needed ? Portable and continuous personal learning plans, carrying forward from schools, colleges and Connexions
Better informed planning and targeting of learning provision	<ul style="list-style-type: none"> ? Facilitation of flexible personal learning pathways across modes of learning to maintain continuity ? Tailored information, advice and guidance for learners from Connexions based on individual achievements and needs ? Faster and more accurate information about learning patterns and provision to plan and adapt national and local provision ? More accurate targeting of entitlements, information and support (especially for Level 2 qualifications)

2. Why Consider a Unique Learner Number?

These benefits, if they can be realised, are believed to offer real and significant impacts on the shared goal of higher achievement levels across all modes and levels of learning. We return later in this report to discussion of those impacts. It is important to note at this stage the nature of the potential links between a ULN and enabled changes in processes:

- ? on the one hand, a ULN of itself would deliver limited benefits: it is the *enabled* changes in processes which offer the major benefits to learners
- ? on the other hand, few of these changes are possible (at least to the extent sought) *without* a ULN. Learner benefits can be regarded as depending on the introduction of a ULN.

Although, as noted, the great majority of stakeholders are strongly in favour of a ULN (of some kind), there are still reservations:

- ? a number of providers expressed concerns about the need to adapt their existing student record to accommodate a ULN, and that this would prove costly and/or burdensome. For example, in the higher education sector, where some bodies were keen on the ULN, some HEIs said that they would accept a ULN. Other voices remain vociferously opposed. Concerns to know the cost impact of any changes apply also to the Connexions Card and EMAs, albeit that the former in principle would welcome a ULN. Cost should be a criterion for designing and assessing options for a ULN
- ? the potential benefits of a ULN were much less important to schools, who regard the existing data sharing processes as satisfactory for their purposes. It was apparent from our consultations that a ULN accrues mainly after compulsory schooling, although they build on individual experiences and achievements
- ? there was a disappointing lack of interest among the employers we consulted in the ULN concept. The record of learning which is often presented as offering benefits to employers. It may be that targeting of the potential benefits to employers, which can be remedied. The very heavy emphasis on skills development in the latest DfES White Paper on "21st Century Skills" adds to the argument for a ULN as a prerequisite.

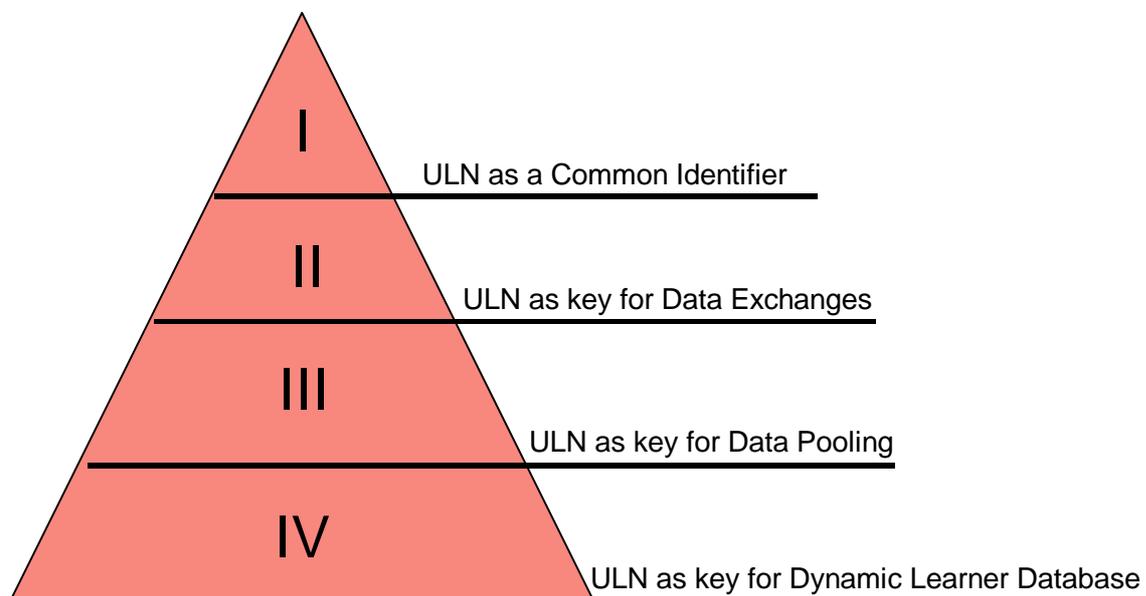
2.3 CONCLUSIONS: THE ARGUMENTS FOR A ULN

There is a strong *prima facie* case for introducing a single unique identifier for learners, used across all modes of learning in response to current constraints on information sharing and also as the enabler for a range of learner-centred services. However, a diversity of opinions over the appropriate approach to implementing a ULN. Moreover, the benefits of the ULN concept remains to be tested. We now move on to discuss the functions which a ULN service can offer and the conditions for the success of any ULN implementation.

3. CONDITIONS FOR THE SUCCESS OF A ULN

3.1 FUNCTIONAL REQUIREMENTS FOR DIFFERENT LEVELS OF A ULN SERVICE

It is clear from the foregoing discussion that the impacts and potential benefits of a ULN derive less from 1 for every learner than from the changed processes and systems made possible by using a ULN. For this consider the concept of a ULN *service* which could be implemented progressively on four distinct levels :



3. Conditions for the Success of a ULN

Each level of ULN service, in this construct, provides the foundation for the subsequent levels, offering the strategy for implementing changes. The potential scope of the UL N service, and the related functional re range of stakeholders in a series of workshops, and the conclusions are summarised for each level of ser

LEVEL I: ULN AS A COMMON PERSONAL IDENTIFIER	
CONCEPT	All learners would be issued with a single and unique personal identifier recognised by all learning providers and would be attached to all of their records created from that point forward and which could use smart card technology.
APPLICATIONS	Used by learners, providers and other learning services (Local Education Authority, exam boards, etc.) for all applications, registrations and achievements throughout an individual's learning career.
FUNCTIONAL REQUIREMENTS	<ul style="list-style-type: none"> ? ULN should be used UK-wide, and for all modes of life-long learning ? ULN should be available from 16+, and preferably from age 14/Year 9 ? ULN register should hold enough information to verify unique identity ? Use of ULN should be linked to individual entitlements for publicly-funded education ? Onus should be on the learner to know and produce their ULN, with a backup plan for lost numbers.
RELATED REQUIREMENTS	<ul style="list-style-type: none"> ? Recognition, acceptance and use of ULN by all providers and agencies ? New national organisation would be needed to administer the ULN; remit.

3. Conditions for the Success of a ULN

LEVEL II: ULN AS A COMMON KEY FOR INFORMATION EXCHANGES	
CONCEPT	ULN would provide a common key for linking and exchanging learner records across service agencies, and for building up longitudinal data views from different agencies.
APPLICATIONS	Used by providers to verify learner identities and to check candidates' records from other provider systems, and by support schemes (SLC, Education Scotland) to verify attendance and notify changes. Used by providers for individualized learning policy and service planners to analyse patterns and trends using individual learner data.
FUNCTIONAL REQUIREMENTS	<ul style="list-style-type: none"> ? Providers and others must adapt systems and processes to incorporate existing identifiers, as an additional field, or using an alias table in the system to look up the ULN of a learner as a link to their existing identifier ? Networks of bilateral links between separate provider systems – the networks should be streamlined and perhaps automated using the ULN ? Consent from learners for use of their ULN to share and exchange personal data ? Compliance with the eight principles specified for compliance with data protection legislation
RELATED REQUIREMENTS	<ul style="list-style-type: none"> ? Standard framework for managing learner data exchanges (already in place) ? National Register of Providers, so that we can link every learner record to a provider (being addressed by MIAP).

3. Conditions for the Success of a ULN

LEVEL III: ULN AS ENABLER FOR NATIONAL LEARNING DATABASE	
CONCEPT	Extracts from each learner's (distributed) individual records would be collected of learning achievement, using the ULN as the common key, and held by learners and others authorised
APPLICATIONS	Used to provide a 'one stop' source of information for verifying individual records and entitlements, replacing current melange of bilateral exchanges. Provides guidance to individuals. Also could be used by service planners to analyse and better target policies and services.
FUNCTIONAL REQUIREMENTS	<ul style="list-style-type: none"> ? The current study did not investigate the requirements for implementation which falls within the separate MIAP project to assess the feasibility ? Stakeholder aspirations for a national record of learning range from a single point summary of learners' experience and achievement through a single point summary of learners' experience and achievement to a planning service, whereby learners can record agreed learning plans for their whole learning career. The detailed processes, access and use will be examined as part of any work assessing the feasibility of the record ? Pilot schemes for national records of learning are being developed in Wales (ELWa) and in Scotland by Scottish Enterprise
RELATED REQUIREMENTS	<ul style="list-style-type: none"> ? Common data standards among all providers and other users ? Alignment of data collection processes, to ensure that local records can be shared ? New statutory powers and/or Information Commissioner approval for data sharing

3. Conditions for the Success of a ULN

LEVEL IV: ULN AS ENABLER FOR INTEGRATED LEARNER SYSTEMS	
CONCEPT	A single information system for managing all learner records, including progress/achievements, providing a 'one-stop' central service for learner modes of learning. This level of service goes considerably beyond the level of this study, but indicates the potential development routes that could be achieved by a (Level I or II) ULN service.
APPLICATIONS	Potential applications could arise in two forms – the 'one point of entry' single learner portal to a whole range of on-line applications and individual Government services through which learners and providers would be registered with agencies and sources, for example to verify eligibility for financial support, benefits records.
FUNCTIONAL REQUIREMENTS	<ul style="list-style-type: none"> ? Major on-line transaction processing capabilities, linked into or replacing existing records systems ? Detailed individualised records of learning, containing the data needed for registrations, and updated in real time ? A centralised learner contact service, offering multi-channel access to individual support and advice as required ? Changes to providers' application, registration and recording system service, and changes to databases linked to government initiatives.
RELATED REQUIREMENTS	<ul style="list-style-type: none"> ? Substantial progress in establishing the technical environment for implementation, for example using the Government Gateway and related information systems ? Substantial progress in current projects to open information sharing, notably Inland Revenue/Benefits Agency and Passports Agency/Immigration Directorate (IND) ? Progress in current national identity initiatives, such as the Citizen Identity Project and/or the Home Office national identity card project would help to spread the implementation costs.

3. Conditions for the Success of a ULN

Clearly, any kind of Level IV ULN-based service remains some years in the future and depends on many study. It would nonetheless represent the logical extension of the Government's e -delivery strategy into also link learning services to a number of other important long -term Government initiatives, such as that i

In the meantime, the focus of the ULN feasibility project is on the progress achievable within the next two stakeholder workshops and our related consultations supported the following preferred approach to the se described here:

- ? A Level I service, based on the issue of a new identifier to all learners, might of itself add costs to providers decide to maintain two numbers on their local systems, but would offer benefits to learn accept the ULN in simplified registration processes. This additional cost would also apply to gov Connexions Card) where they choose to hold two numbers, although, depending upon the suitab initiatives could play in a role in piloting approaches to the ULN.)
- ? A Level II service, using the ULN to streamline and improve information exchanges between pro would offer considerable cost savings and operational benefits for existing processes for verifyir their status, and is judged worthwhile of itself. We discuss the valuation of these benefits in deta
- ? However, it is the Level III ULN service at which most stakeholders foresee the most significant services which are not possible – or at least would be significantly limited – without a ULN. The learner services built around it, is seen by most stakeholders as the “Big Prize” from a Unique L

Although further work is needed to assess the options and feasibility of establishing the data warehousing Level III “record of learning” ULN service, it is clear at this stage that the preferred strategy is to develop ; services that can underpin the Level III provision if and when that can be implemented.

3.2 REQUIREMENTS FOR FEASIBILITY

Our discussion thus far has established that a ULN Service provided to at least Level II of our suggested Level III would be (a) highly desirable in terms of the potential benefits offered to learners and hence to n; participation and achievement, and (b) would command strong, but not universal support among the num; stakeholders in learner-centred information. Neither of these conditions, however, is sufficient to establis; represent a feasible proposition.

3. *Conditions for the Success of a ULN*

Feasibility – that is, judging whether at this stage the project appears likely to meet the conditions for success in four distinct dimensions:

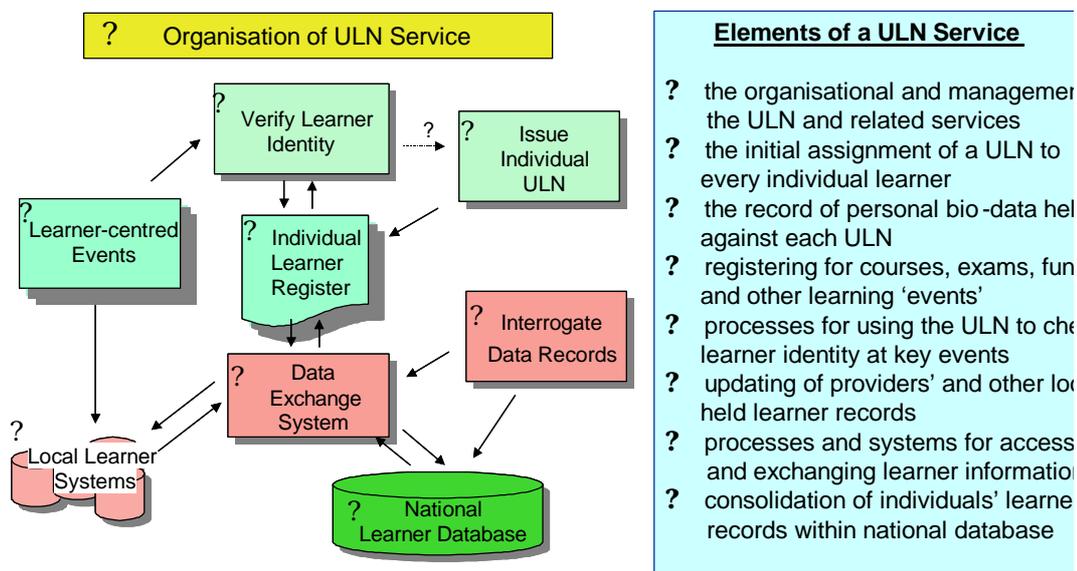
- ? Technical viability – does proven technology exist for supporting the proposed functions, and are the costs of implementation understood and manageable? Can existing provider and intermediary systems be adapted to support the services?
- ? Economic viability – are the costs of implementing the proposed solution understood and reasonable, and are the benefits and the available funding? How is the potential mismatch in the incidence of costs and benefits addressed?
- ? Political acceptability – which in this context relates mainly to satisfying the privacy and data protection requirements. The Information Commissioner is aware of the proposals and will be involved in reviewing and approving the service.
- ? Resources and powers – although there is widespread support for a ULN service, much of this is provided by providers and learner services agencies none of which has the resources or the powers to make a national service. The concept will be feasible only if it secures active support and funding from national authorities.

At this stage, each of these questions remains, like the ULN concept itself, somewhat abstract. In order to make it more concrete, we present in the next section a working proposition for a Level II ULN service, against which the

4. PROPOSITION FOR A ULN SERVICE

4.1 OVERVIEW OF PROPOSITION FOR A ULN SERVICE

The figure below illustrates a generic model of the basic elements of a ULN service, distinguishing the different components. We then go on to present and discuss a set of working propositions for implementing this model to deliver the functionality identified in our consultations with users and stakeholders.



Our working propositions for implementing each of these basic elements are described in a one page summary discussed in detail in the following pages. These propositions are not intended as the only or even the best requirements, but simply as workable measures against which the costs, impacts and practicalities of implementation can be assessed.

4. Proposition for a ULN Service

<p>1. ORGANISATION</p> <ul style="list-style-type: none"> ? Centralised service provider to operate the ULN service across the UK ? Remit for supporting learner participation, progress and achievements ? Functions include: <ul style="list-style-type: none"> ? issue ULNs ? maintain National Learner Register ? provide learner and provider services ? support data sharing ? maintain Record Of Learning? 	<p>2. ISSUE PROCESSES</p> <ul style="list-style-type: none"> ? Options open on numbering scheme, either UPN-linked or NINO ? Issued to all Y10 state pupils, based on UPN records (via LEAs to schools) ? Issue for non-state pupils at GCSE entry (direct via schools) ? Issue at first registration 'event' for others, on individual application to central service ? ULN holders issued with number, smart card and PIN/password 	<p>3. NA</p> <ul style="list-style-type: none"> ? Ba ? Pa ? pre ? Lis ? eac
<p>4. LEARNER REGISTRATION</p> <ul style="list-style-type: none"> ? Used by schools and awarding bodies to register candidates for GCSEs ? Used by post-16 providers to register learners on funded programmes ? Used by individuals to claim financial support, fee remissions, etc. ? Used by providers and others to provide targeted advice to learners 	<p>5. LEARNER AUTHENTICATION</p> <ul style="list-style-type: none"> ? Onus on individual to have and provide ULN (for post 16 registration events) ? Central contact centre for learner queries (e.g. forgotten or new numbers) ? Providers confirm valid ULN/bio-data checks when registering learners ? More secure verification processes can be added where warranted 	<p>6. MA</p> <ul style="list-style-type: none"> ? Pro ? retu ? Up ? loca ? Loc ? cap
<p>7. INTERROGATING LEARNER RECORDS</p> <ul style="list-style-type: none"> ? Members request checks and reports using lists of ULNs and data sought ? Standard checks can be automated? ? Central service provider could offer data exchange service for registered members ? Learners can check their NLR entry and advise changes 	<p>8. NATIONAL RECORD OF LEARNING</p> <ul style="list-style-type: none"> ? Abstracts from NPDB, LSC's ILR and HESA, plus awarding bodies/QCA ? Record of institutions, courses, awards, dates for each ULN ? Summary of CAT account, NVQ Levels attained, etc. ? Option for free form personal learning plan record? 	<p>9. INT LEARN</p> <ul style="list-style-type: none"> ? 'or ? lear ? 're ? incl ? 'ro ? lder ? and

4. Proposition for a ULN Service

4.2 SERVICE PROVISION ARRANGEMENTS

There was an almost unanimous view from stakeholders that new service provision arrangements would be needed for a ULN. Although numerous existing organisations already issue and maintain individual identifiers for parts of the population, none has a sector-wide or UK-wide mandate. The need to maintain a single issuing process and to avoid the costs and risks of duplicated processes and/or records, points towards having a single source of service provision options for implementing ULN service provision, for example in-house delivery by DfES (acting on an agency basis), outsourcing through a public-private partnership arrangement, or setting up a dedicated body such as UCAS or HESA, funded by the major stakeholders.

An important consideration in determining the most appropriate service provision arrangements is how it might be possible to make the ULN service self-funding, by charging learners and users, this would be straightforward and would probably be counterproductive to universal take-up and usage. As noted throughout this report, the main aim of the ULN and related services is to support greater participation and progression in life-long learning, and a self-funding arrangement is not compatible with this aim.

However if it is constituted, the service provider would be responsible for the issue of ULNs, and for the introduction and maintenance of a national learner register and related services. If and when those related services are established, this would most sensibly also be supported by the national ULN service provider.

4.3 OPTIONS FOR A ULN NUMBERING SCHEME

A variety of options have been proposed for a ULN numbering system, of which the most frequently suggested are the Unique Pupil Number allocated to all state-school pupils or adoption of the National Insurance Number (if child benefit is claimed). Other possibilities include the identifiers issued to large groups of learners, such as the Company identifiers issued to most (but not all) students in higher education, or the Unique Learner Identifier issued by the Skills Council for post-16 learners. The range of possible existing learner identifiers was discussed in the previous review, "Stocktake of Identifiers potentially relevant to a ULN"; this document also reviewed some international identification schemes.

4. Proposition for a ULN Service

Having reviewed the range of options, the choice for a UK-wide ULN is effectively between:

- ? a new identifier, based upon but different to the existing Unique Pupil Identifier issued to most children in the school system (in England and Wales)
- ? use of the National Insurance Number (NINO), issued to almost every child in the country (when not currently made operational until age 16)

There are pros and cons to both options, and further work is needed before soundly based decisions can be made.

A new, UPN-based identifier

The widespread stakeholder view is that the information 'trail' required to support life-long learning should start at the point where pupils select their GCSE options, that is at age 14 to 15 for most school pupils. At that age, all state-school pupils have an associated learning record, but DfES have agreed with the Information Commissioner that use of the UPN for education, so it is not possible simply to carry forward the UPN. Other constraints to a simple extrapolation of the UPN are the fact that Scotland, Northern Ireland and privately educated pupils do not have a UPN; that none of the 7 million post-16 and adult learners has a UPN; and that the format of the UPN may not satisfy the functional requirements for use in e-based service applications.

Initial assignment of the ULN number for 14 year-olds (Year 10) could be based on UPNs, accepting schools on a batch basis, perhaps using the National Pupil Data Base (NPDB). The ULN would be assigned at the same time as the UPN for Year 11 pupils in the initial round.

It should also be possible to assign ULNs to non-state school pupils in Year 10 through modifications to the existing processes for registering pupils for GCSE, and to notify both schools and exam boards of the numbers issued. A major challenge for schools would be the elimination of work and potential confusions arising from the need to reconcile UPN identifiers (UCI). The awarding bodies have indicated that they would be willing to replace their UCI with ULNs.

The drawbacks of the 'new, UPN-based' option include the need to establish and verify personal identities outside the school system – that is, the great majority of the target audience, if the objective is to extend the learning population as quickly as possible. This consideration lends weight to the NINO option.

4. Proposition for a ULN Service

Using the NINO as the ULN

Existing non-learning identifiers such as the NINO could provide a unique individual number, and would mean that every UK citizen has a NINO this would appear to provide a ready-made solution to the issue of ULNs as it is likely that a NINO-based ULN (it would not necessarily have to be the same number, but could be a different one) is more acceptable than a UPN-based scheme for assuring the identity and eligibility of learners claiming financial educational maintenance allowances or access to 'free' courses under the Skills Strategy. An added advantage is the convergence with other national identity schemes being considered elsewhere, notably the Citizen Information Service, National Statistics and the national ID card scheme being developed by the Home Office. Both of these schemes could use their basic identifier.

Some significant difficulties would have to be overcome. For example, personal data would be held in two places: the DWP/Inland Revenue NINO record, and the ULN register – with the likelihood of records moving out of sync. Moreover, the necessary level of security and associated costs applied to the issue and checking of NINOs for citizens and immigrants - is potentially greater than might be appropriate for a ULN, which could contradict the desire for a simple ULN service. Although using the NINO might facilitate the issue of ULNs to learners already past compulsory education, linking school pupil id's (based on the UPN) to NINOs to produce a 'clean' learner register might be complicated.

Further detailed work is needed before conclusions can be reached on the most appropriate basis for issuing ULNs. The issues to be addressed are:

- ? the functional specification for the ULN, in terms of length, format and security levels needed to allow learners to link uniquely and securely to the national learner register and to other learner records
- ? the process for issuing ULNs to those currently active in the life-long learning system and those entering learning in future, and in particular how this can be achieved with the minimum burden on providers
- ? the data protection and personal privacy issues associated with transferring personal details – from either the UPN record or the NINO record, and also for verification (especially for NINO records)
- ? the most appropriate arrangements for issuing a ULN card, and the associated PIN/password security, taking account of the need to avoid duplicating existing learner services - notably the Connexion card for the new EMA service.

4. Proposition for a ULN Service

4.4 A NATIONAL LEARNER REGISTER

The National Learner Register associated with the ULN will hold the minimum data needed to verify uniqueness. It is a question to be resolved over the necessary levels of security against identity fraud provided by the ULN. The over-arching emphasis on inclusiveness and accessibility, and the wish to minimise administrative burdens should not be too high, and that even photographic cards (possibly with encoded measurements) may be cumbersome to administer. On the other hand, a 'low security' register of this kind may not provide the level of protection against risks of fraud where these are judged material, and additional verification checks may be required. Security levels for ULN verifications should form part of the detailed specification exercise.

There should be no need to hold sensitive personal data (such as ethnicity) on the National Learner Register. This data should be on the UPN record and could be accessed using the ULN/UPN link on strict 'need to know' conditions (subject to DPA and Human Rights Act (HRA) criteria).

The NLR entry for each ULN would also hold the agreed PIN and/or password for each holder, which would allow individual learners and/or authorised providers to contact the national learner support service.

The third element of the Register would be a listing, by provider number, of the local records held for each learner. This would be a running log of the provider systems (including awarding bodies and financial support services) which have records for the given ULN holder, probably held in the form of provider reference numbers and (perhaps) facilitate and possibly automate data checks and exchanges using the ULN, and could in due course be used for each learner.

Only the service providers' staff and the individual learners themselves would be able to link a ULN record to a name. Names would of course have their own local links of names to numbers (which they would need to keep secure with appropriate requirements).

The National Learner Register would not provide a 'one-stop' record of learning for individuals, since that would be spread among the different provider systems with which each learner has been registered. It might, however, offer a record of learning in future, depending on the approach adopted to data warehousing and record sharing. It would facilitate tracking and linking records for learners moving across the boundaries of existing learning categories, for

4. Proposition for a ULN Service

4.5 USE OF THE ULN IN LEARNING EVENTS

The most basic level of ULN services, for the benefit of individual learners and of providers (including learning support providers), is to streamline the administration of what we have termed 'learning events'. These refer to all the activities that learners engage in for or registers onto a course or for learning support entitlements, or registers for public examinations. There are many such events or transactions every year, most of them requiring the same information from learners and many of them requiring verification by providers. Although the costs – in learner time and provider staff time – are generally small, the accumulated cost implications of all of this activity are high (and are discussed further in Section 5).

The relevant learning events begin in Year 10 of compulsory schooling. At present schools register pupils using the UPN, but then receive confirmations and subsequent correspondence using a different identifier (the candidate number) provided by each exam board. In future, schools would be able to use the ULN when registering pupils for public examinations. Exam boards would also adopt the ULN instead of their candidate number (UCI). This would simplify the process and enable subsequent linking of learners' Key Stage 4 achievements to their later registration applications (and to their records – something many stakeholders have identified as a vital requirement).

The first learning events that actively engage individual learners commence after compulsory schooling, when learners subsequently register for post-16 provision. Again, the information requirements for administration of these events by providers, are individually irksome but collectively significant. Post-16 providers – sixth forms, sixth-form colleges, and other providers – would be able to register learners onto courses using only their ULN, verified using their card (or other means). It should remain possible for providers to register students without a ULN (e.g. if the learner has lost or forgotten their card) provided they are subsequently able to attach verified ULNs to registered individuals at the point where they are enrolled (e.g. FECs' ILR returns). Similar arrangements would apply for applications to HE institutions, with providers able to verify ULNs before passing applications to institutions. Since learners will require their ULN to seek assistance – see below – most should have their ULN when they register.

The design of the learner verification function is critical to the impact and effectiveness of the ULN Level 1 service. The procedure will simply require providers to record a learner's name, date of birth and ULN (and possibly other identifying documentary evidence or written corroboration of identity from a trustworthy source³) and then to verify it.

³ see HMG's Minimum Requirements for the Verification of the Identity of Individuals, Office of the e-Envoy February 2005

4. Proposition for a ULN Service

provider (e.g. through E DI links). The same procedure will serve to add the provider's identifier to each a the identity check throws up exceptions, the provider will need the applicants/candidates concerned to ma help service to resolve the mismatch. Providers would be expected to provide verified ULNs in their retur individualised accountability reports

The balance struck between administrative simplicity and security will determine the level of user confide sharing and learner-centred services, and hence the ultimate benefits of the scheme. The governing prin verification of learner identities using the ULN should be sufficiently robust to enable reasonable confiden records for each learner, without imposing counterproductive authentication requirements that would defe centred systems. This would equate to Level One of the Government's proposed "Authentication Framework *probabilities* the registrant's true identity is verified and false or misappropriated identities are deterred.⁴

For some financial learner support services, for example student grants and loans, the Level One verificatio provide the required level of fiscal assurance. It might be necessary for these providers to require additio services (such as sight of a birth certificate or passport). The ULN would still enable simplified data links elements of such services, for example to verify attendance and changes in course or institution for st ud

Placing the onus on individuals to produce a valid ULN is compatible with positioning the ULN within a lea ULN and card presented in order to secure entitlements to publicly -funded learning and related s support. compulsory schooling, the requirement in practice is simply that they remember and present their ULN w/ learners during the early years of the scheme, there will be a once -off imposition of having to obtain a UL but this need be no more onerous than obtaining a photocard to purchase a weekly train or bus pass (for i want to help learners to obtain and/or verify their U LN, and the service provider's processes must suppor

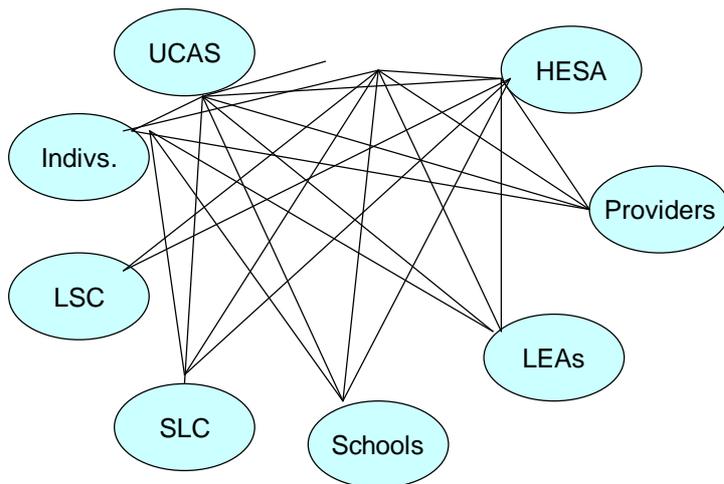
Having a contact centre service for learners who have forgotten or lost their ULN, and for those needing a success of the scheme. It should offer telephone, SMS (mobile phone Short Messaging Service or 'phor services, available 18hrs/7days with high service response standards. This will represent a significant op valuable benefits for learners.

⁴ HMG's Minimum Requirements for the Verification of the Identity of Individuals, op cit

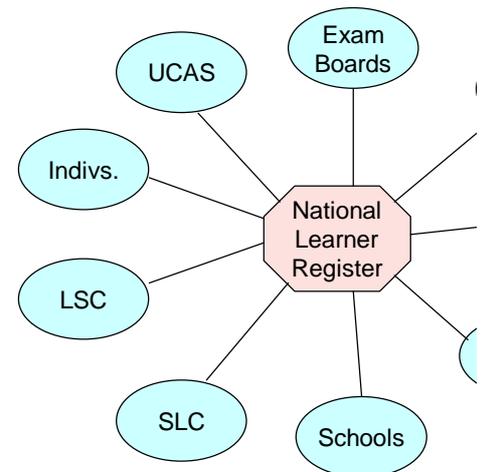
4. Proposition for a ULN Service

4.6 DATA SHARING USING THE ULN

Most current requirements for individualised data sharing are predictable and can be systematised on a automation of most data sharing transactions, possibly through a ULN -users intranet to manage security and all schools and 'official' post-compulsory providers would become user-members of the ULN service sharing framework including use of ULN. The ULN service provider could act as the information exchange members, on a hub and spoke model (illustrated schematically below). To support this, the service provider (in liaison with the service provider) would issue provider identification numbers to all member data owners (as a separate project within MIAP), which would be used within the National Learner Register. Thus, an exam results for an HE applicant would be passed to the ULN service provider (quoting the ULN), who would then pass back their response(s) to UCAS. The process would be on a batch basis.



(a) Current Bilateral Data Exchanges



(b) Data Exchange via ULN/NLF

Learners have a right in law to see their record on the NLR, and also (potentially using the ULN) to see in and other local systems. We would expect facilities for learners to query or update their NLR records off

4. Proposition for a ULN Service

(with appropriate checks, e.g. proof of new name or address), with appropriate documentary checks where existing sources.

Use of the ULN in providers' local systems

All providers of publicly-funded learning services would be expected to use the ULN in their external data to be incorporated into MIAP protocols and also into the regulations of public funders. The imposition would have benefits, and specific benefits to learners, of the proposals depend on universal use of ULNs.

It can be left up to local system owners – providers, etc. – how they implement ULN compatibility. Options include the replacement of existing identifiers, or to create one-to-one look up tables between existing local identifiers and the ULN. That adoption of a new learner identifier may impose one-off costs for established provider systems, many MIAP initiatives such as common data standards. In order to streamline data reporting and responses to queries it is desirable that providers and others can produce reports from their systems using the ULN as the access point. This would reduce the access costs for many system operators. It should be possible to subsume these costs within providers' normal data management costs provided that the requirements are determined and communicated in good time, and the time scale sufficiently long.

4.7 TOWARDS LEVEL III AND LEVEL IV SERVICES

Use of ULN to Support National Records of Learning

We have noted already that this level of service – extending the ULN to a Level III service and beyond – has feasibility factors beyond the scope of this study, such as the technical and economic feasibility of a national standardising data definitions, and the data protection issues around a new data record.

Decisions will be needed on whether to assemble individual Records of Learning (ROLs) from 'original' sources such as NPDB, ILR and HESA records. The ROL could serve to support a national CAT system – any such system – and could also help individuals to determine and record whether their learning achieves requirements. Beyond this, the ROL could be a simple, factual record of formal, publicly-supported learning. Extensive options are possible such as a 'live' register of personal learning plans. At this stage, a personal 'nice to have' feature of the ROL, enabled by the ULN (to link PLPs from different stages/periods of learning), is a future option in specifying the scope of the ULN and ROL for DPA, etc purposes.

4. Proposition for a ULN Service

Towards a Level 4 Service – ULN within a Single Learner Information System

Just as a single national system is being introduced for the administration of student support in HE, it is possible to be used to integrate learner applications and registration for places, financial support and other administrative programmes, even though the delivery of those programmes may remain distributed among many different services require – but do not necessarily obtain – almost ‘real time’ linkages between centralised registration local systems maintained by providers. The verification of course registration and continued attendance for EMAs, is an example. An integrated Level IV ULN service could support these links.

This type of service might be a logical future development from an integrated national record of learning, the integration of provider systems and processes for registering and progressing learners, possibly within the Learning Environments currently being explored by the Joint Information Systems Committee (JISC) and others. It is also influenced by factors outside of the scope of the current project, including common data standards, on-line links between providers’ business processes, etc.

We are aware that the ULN feasibility project is taking place in parallel with several important Government projects for the sharing of individualised information across different public services. The most important of these are the National Identity Cards, the Treasury/ONS project for holding Citizen Information, and the Office of the e-Envoy’s project for on-line services. If and when these projects come to fruition – and all are on longer prospective time scales – it will clearly be desirable to converge the ULN with any wider national identity and information-

5. FEASIBILITY OF THE ULN SERVICE PROPOSITION

5.1 SCALING THE REQUIRED SERVICE – HOW MANY WILL USE IT?

The ULN service has the potential to affect almost every young person and adult living in the UK, in keeping commitments to almost universal levels of participation in either post-16 or higher education and also to ensure skills and learning achievements. It will however take some time to build to this level of penetration through:

- ? the 'stock' of learners in learning at the time that the ULN is introduced, increasing continually by
- ? the 'flow' of learners entering learning
 - ? Pupils of compulsory school age as they reach the age for issue of a ULN
 - ? Post-16 and adult learners enrolling for the first time in a learning episode covered by the ULN programmes.

The figures that follow assess these 'flows' of school pupils and other new entrants to life-long learning system. Discussions with DfES concluded that initially the ULN should be used primarily in the context of report does not include estimates for the very large numbers engaged in privately-funded and voluntary learning which could quickly subsequently be extended to this group. The very large number of courses and providers in the system will have a (positive) effect on the balance of costs, savings and benefits.

In section 5.2.2 we discuss why the quantitative analysis that follows requires heavy caveats.

Learner Numbers

The current target population for the issue of ULNs could total approximately 9 million people⁵, comprising

- ? 610,000 school students currently in Year 10, rising towards 650,000/year, of whom 44,000 are in independent schools. In the first year ULNs would be issued to a similar number of Year 11 school students

⁵ Figures for England only

5. Feasibility of the ULN Service Proposition

- ? 410,000 enrolled in school sixth forms (Years 12 and 13)
- ? 4.15 million enrolled in LSC-funded sixth form colleges and FE colleges
- ? 300,000 enrolled on LSC-funded work-based learning
- ? 2.2 million enrolled in higher education institutions
- ? 75,000 on DWP-funded WBL for adults
- ? around 1.0 million on LSC-funded adult and community learning programmes.

Provider Numbers

The ULN service also involves some 6,500 schools, colleges and HEIs, as well as another 1,600 training other data holders and major users (including agencies such as LSC, HEFCE, UCAS, HESA, SLC and v agencies).

In more detail, the provider population⁶ includes around:

- ? 3,500 state secondary schools (involved up to Year 11/age 16)
- ? 750 independent secondary schools
- ? 1,800 school sixth forms
- ? 400 further education colleges
- ? 140 HE institutions
- ? 1,200 LSC-funded training providers.

⁶ [Figures for England only]

5. Feasibility of the ULN Service Proposition

Learning Events, or ULN transactions

The third determinant of the scale of the ULN service operation is the number of ULN -based transactions verifications and other information exchanges between providers. The main drivers for this traffic level are registrations from learners each year, and the number of verification checks required for each such 'ever verification checks required by providers and other agencies, but can estimate the broad annual volume of post-16 data⁷ :

- ? 200,000 new registrations for school sixth forms each year (repeated for Year 13)
- ? up to 4 million new registrations in FE colleges (assuming average course lengths of under one year)
- ? 360,000 first degree registrations in HEIs each year (currently repeated for years 2 and 3)
- ? 450,000 applications to UCAS
- ? 360,000 new applications (and around 600,000 repeat applications) to the Student Loans Company
- ? 300,000 new starts on LSC -funded WBL each year
- ? 74,000 new starts in adult WBL each year
- ? up to 1 million registrations/year on LSC-funded adult and community learning programmes
- ? plus registrations with awarding bodies, post 16 for which data was not available during the study

The nature, number and frequency of transactions per learner will have an effect on the benefits. However, the nature and source of the ULN as well as on the detailed way in which the ULN would be used. The feasibility for the ULN project is to examine the potential processes for using the ULN in greater detail. Where the ULN is used, these differences would be multiplied by the number of transactions of each type.

⁷ [England only]

5. Feasibility of the ULN Service Proposition

Overall, the current data suggests that the ULN service will be required to support well over 10 million UL perhaps more than double this number. The more successful the service can be in simplifying and reducing checks, the lower the volume of such traffic it must support.

5.2 DEVELOPMENT AND IMPLEMENTATION COSTS – CAN WE AFFORD IT?

5.2.1 Identifying costs

The feasibility study was charged to provide indication of the costs associated with implementing the ULN comparison with the expected savings and benefits. The relationship between them will be an important case for a ULN.

The costs of a ULN depend on many factors and variable elements. Some of the variability arises from defining the operational service. This will include, for example, whether learners receive a card and if the which they will be able to use it. Other variables relate to aspects beyond the control of the service. These which may dictate, for example, how often and for how long learners will contact the ULN service, as well forget their ULN or lose their ULN card.

While the early stages of the ULN implementation should include detailed modelling to determine more accurately identify reasonable indicative costs. It can do this by breaking the overall cost into the main constituent parts assumptions in order to present expected order of magnitude costs.

There are three main cost areas:

- ? Systems changes and ULN media costs
- ? Service costs, which could include customer service through a contact centre
- ? Project costs to implement the ULN.

5. Feasibility of the ULN Service Proposition

The first two types of cost break down further into two elements:

- ? Set-up costs, which include providing ULNs to currently engaged learners
- ? Annual operating costs in providing ULNs to the flow of learners entering or re-entering learning and ongoing customer support service to existing learners.

The feasibility has considered three implementation scenarios, each of which varies the timings, volume and cost. The three scenarios are:

1. Provide the ULN to all learners engaged in publicly-funded post-compulsory learning, including Further Education Based learning as quickly as possible
2. Phase the introduction of the ULN to the learner groups in scenario 1 over two to three years
3. Issue the ULN only to Year 10 school pupils and build up the penetration as they move through the system

The discussion below focuses on scenario 1 - the inclusion of all learners and issue to the stock of current and future flow of learners into publicly-funded courses. It then addresses the differences in the other scenarios.

5.2.2 Issues with costing the ULN at this stage

Before discussing the scenarios this section discusses the factors that affect the outcome of the costs, and the effect that these have on the business case.

A. LEARNERS

Paradoxically it is very difficult to quantify the benefits of introducing a ULN without already having one. It is very difficult to determine the number of learners who return to learning each year and who would already be learning by the multiple and varied routes that learners can take through the different episodes of learning. This situation leads to assumptions about the number of learners who return to learning with a ULN. Assuming a *high* proportion of learners to be issued to post 16 learners and lays the costs open to the justified criticism that it represents too high a cost of the service, thereby favouring the ULN's introduction on cost terms. Assuming a *low* proportion of learners to be issued over time to post 16 learners and invites the criticism that it represents an unrealistically high number of learners. But the report has chosen the latter because it errs on the side of caution with costs. The actual costs (other things being equal) the costs of issuing ULNs would be lower than shown, possibly substantially so.

5. Feasibility of the ULN Service Proposition

B. COSTING THE SERVICE

The report estimates the costs of providing the ULN service. This has two elements, both of which have

- ? The costs of the mechanism to provide the service are based upon PA's previous experience of similar operations. Although the cost basis that the report uses is realistic, the ULN service would cost effects of which would become apparent only in detailed planning
- ? The costs of providing a ULN card are based on research, knowledge of the smart card industry experience of the Connexions Card. But assumptions have been necessary because the actual costs of the final production of the card for issue to customers depend upon the nature of the contract that would be used for the ULN, a difference of a few pence in the contract costs would have a significant effect. We know anecdotally that long term contract supply costs for smart cards are only a fraction of the costs in the absence of 'real' costs, therefore, after analysing different options, the feasibility study has chosen base costs for the Connexions Card plus an estimated additional amount for final processing and distribution. For a large number of ULN cards, the actual cost could be significantly lower than for the Connexions Card. This remains unknown
- ? Different implementation processes have different effects. The way in which the ULN is implemented will affect the benefits. For example, the favoured candidate schemes for generating the ULN are either to generate the ULN using the NINO. The choice between these numbers will have a very significant effect on the issue of the ULN. For the NINO option, these impacts cannot even be assessed at this stage, because they depend upon initiating a project with the DWP and Inland Revenue to determine the scope and benefits.

C. SAVINGS AND BENEFITS

Savings and benefits are very difficult to estimate. This report has used the same benefit model for learning from the Statistics' Citizen Information Project. But these are based upon estimates of people's activities, the personal time spent on the improved information service and the value of their time.

Determining provider benefits is made difficult because of the variety of providers and variations within the sector.

- ? Benefits are dependent upon the application and registration processes and their existing efficiencies across the different provider groups
- ? There is wide variation in the volumes across not only the different types of provider but also with the different services. Any savings would be proportional to the volumes, a level of detail that was not open to this report

5. Feasibility of the ULN Service Proposition

- ? In discussions, providers found it difficult to distinguish between the Level 3 record of learning service and therefore, some of the potential quantitative benefits perceived from a Level 2 service would in fact be Level 3 or 4 services. This feasibility study was not able to carry out a detailed process analysis to quantify staff time savings. Most providers would save a staff time equivalent percentage of one. Full Time staff might not notice any time savings where the provider is small and/or has effective and efficient systems.

D. EFFECT OF THE ISSUES

For costs, the nature of the assumptions and the ability to provide an estimated ULN card and management costs are sensitive to volume changes. The assumptions for savings and benefits are not equally sensitive to higher level of abstraction necessary. These issues combine so that the net present value⁸ (NPV) analysis to compare the relative merits of the three issuing options the report discusses. It should also be viewed as a Level 2 of operation is unlikely to return a positive NPV, at least at any early stage, because it provides the service for the potentially more beneficial uses of the ULN at Levels 3 and 4.

5.2.3 Systems and media costs

Systems costs are those associated with establishing the central systems to support the ULN service, and the ULN, either replacing existing identifiers or adding the ULN. The media costs are those necessary to provide ULN cards to learners, with the most significant costs associated with providing a card.

Central system costs have been estimated for the operational requirements and volumes indicated in this report. An allowance for changes to provider systems, because in some cases these can be mitigated by giving providers a budget for these to be accommodated within existing systems maintenance and upgrade budgets - and the Department would pay for system upgrades.

Media costs vary with the type of media. Simply providing a letter would be the cheapest, but the feasibility of providing a card. Using a card (discussed below) would require an investment of £37.3M in Year 1 (of which £28M is capital costs), with ongoing costs reducing annually towards steady state, with an initial estimate that costs would be £10M to provide new learners with ULN cards and replace lost cards (where 10% need to be replaced annually).

⁸ An investment appraisal method which examines quantified costs against savings and benefits over a period of time (discounted account of the effects of time on value)

5. Feasibility of the ULN Service Proposition

This produces a total on-card storage requirement of 920 bytes, which is approximately 1 kilobyte (=1024

There are several types of card in common use that allow machine readable data to be held. The feasibility study was carried out for the Universal Passport Card and entitlement card advice.

Technology	Description	Storage capacity
Magnetic stripe	Black stripe common on credit cards.	~ 140 bytes
1D barcode	Standard black longitudinal stripe barcode	~ 400 bytes
2D barcode	Area barcode appears as pixels, but essentially barcodes within barcodes	~ 300 bytes / cm ²
Smart chip	2 types: contact chip makes physical contact with the reader; contact-less uses a small RF antenna for proximity reading	Contact chips 64 – 128 Kb Contact-less 32Kb, with expected increase to

The magnetic stripe and 1D barcode will not meet the projected data storage requirements. 2D barcodes writing to the card is not necessary, the more expensive smart chip cards would not be necessary, so the magnetic stripe is satisfactory. A 4cm² barcode would enable 1200 bytes of storage. However, using the 2D barcode would be necessary should this be needed later. The feasibility business case has, therefore, included approximate costs for basing the cost upon the price paid for the base Connexions Card (£2.36 for each blank chip card) and additional subsequent processing, to produce a cost of £3.25 per card.

5. Feasibility of the ULN Service Proposition

As stated above initial estimates of the cost for using a card to all learners in Year 1 would require an investment in ongoing costs reducing annually towards steady state, with an initial estimate that costs would be in the region of £28.5 million for new learners with ULN cards and replace lost cards. This is shown in the table below.

Estimated learner numbers	Yr 1	Yr 2	Yr 3	Yr 4	ULN cards to be issued		
					Yr 5	Yr 6	Yr 7
Annual Year 10 school students	1,220,000	620,000	630,000	640,000	650,000	650,000	650,000
sixth form students	410,000	0	0	0	0	0	0
LSC-funded sixth form colleges and FECs	4,150,000	3,444,500	3,444,500	3,272,275	3,108,661	2,953,228	2,805,000
LSC-funded work based learning	300,000	150,000	75,000	37,500	18,750	9,375	4,687
HEIs	1,600,000	456,378	456,378	456,378	456,378	136,785	136,785
DWP-funded wbl for adults	75,000	67,500	60,750	54,675	49,208	44,287	39,208
LSC A&CL	1,000,000	750,000	562,500	421,875	316,406	237,305	177,254
No of new cards to issue	8,755,000	5,488,378	5,229,128	4,882,703	4,599,403	4,030,980	3,814,000
No of lost cards to replace		875,500	875,500	875,500	875,500	875,500	875,500
Total number of cards to be issued	8,755,000	6,363,878	6,104,628	5,758,203	5,474,903	4,906,480	4,690,000
Total cost of cards	28,453,750	20,682,602	19,840,040	18,714,159	17,793,434	15,946,059	15,243,000

⁹ This figure would be reduced and spread over 4 years for a phased introduction and would be minimised for the 'seed' school pupils and growing the population of ULN holders. The latter 'seed' option, however, would also proportionately increase the benefits possible because of the high proportion of learners who would not have a ULN (i.e. anyone who was not still in school at the start of the introduction)

5. Feasibility of the ULN Service Proposition

These estimates assume that 83%¹⁰ of FE students are adults and first time entrants to the system, the majority already have a ULN even after the scheme has been running for 10 years. The table also assumes that 42% of undergraduate applicants will need to obtain a ULN. These are almost certainly unduly conservative assumptions making these very much 'top end' estimates of the number and card issuing costs.

C. SYSTEMS CHANGE AND MEDIA COST SUMMARY

The Year 0 set-up costs for systems changes and the implementation of ULN cards to the stock of active students are summarised below.

Cost element	Cost	Total
Card readers (Yr 0)	£ 696,000	
ULN cards (Yr1)	£ 28, 453,977	
		£ 29,149,977

The ongoing media costs, for years two to six are summarised below. After year six, a relatively steady state is expected upon the currently unknown proportion of post -16 learners who are returners to learning and in possession of a ULN.

Yr 2	Yr 3	Yr 4	Yr 5
20,682,602	19,840,040	18,714,159	18,714,159

¹⁰ Source, LSC 'Student Numbers At Colleges In The Further Education Sector And External Institutions In England'

5. Feasibility of the ULN Service Proposition

5.2.4 Service costs

The ULN service will issue ULNs and ULN cards and provide the customer services associated with the ULN. It will provide advice on applying for and using a ULN and assistance for learners who have forgotten their ULN or lost their card.

A. SET-UP COSTS

Surveying planning estimates and a review of three contact centre projects provides the following planning figures for the service centre within the ULN operation:

- ? The cost of a desktop PC for a customer advisor is £2000. This includes £1200 for the PC and £800 for the installation. This is consistent with the detailed analysis carried out in the feasibility study for a national contact centre. An installed desktop PC was priced at £1999
- ? A Customer Relationship Management (CRM) system costs between £1200 and £1800 per user. The ULN service will require £1200
- ? CRM development works out indicatively at £1500 - £2000 per seat. While this is a planning figure, it is simple, so that it should be at the lower end
- ? Telephony, including the provision of a headset and a proportion of the Automatic Call Distribution system, is around £500 per seat.

These set-up costs lead to an indicative total per seat set-up cost of £2000 + £1200 + £1500 + £500 = £5200. The service operation could need 234 advisors and 23 supervisors/managers. This would place the advisor set-up costs at £1,339,026.

Service technical set-up costs = £1,339,026

B. OPERATING COSTS

Annual operating costs are heavily influenced by the number of staff the service operation requires. The 'Deliver Public Services' published in December 2002 stated that public sector contact centre staff costs represent 66 percent of total contact centre costs with an average spend of 66 percent. While the expected routine nature of most calls and the possibility of outsourcing may suggest outsourcing, we have costed the expected staff costs for the ULN service.

5. Feasibility of the ULN Service Proposition

Staff costs

The actual number of staff is driven by:

- ? Call volume
- ? Average call duration
- ? Response time (i.e. percentage of calls to be answered within a specified time)
- ? Service availability hours (the number of hours in a day and the number of days in a week that th

These elements can be only estimates for the ULN service, and for any contact centre development they ULN service estimates propose the minimum number of advisors to be 139, and the maximum to be 339. of the seasonality of customer demand. The average, including batch processing staff is 239 staff and 24 of staff required is based upon a contact centre modelling tool. The model has used assumptions about th elements are shown below.

Category	Volume (k)	Contact Rate (contacts/year)	Contacts
Create account & issue card to overseas student or adult returner (ad hoc)	264,229	100%	264,229
Reissue lost card (ad-hoc)	7,070,782	10%	707,078
General Queries	7,070,782	30%	2,121,235
Total	14,405,793		3,052,542

Public sector contact centre staff salary costs are the highest in the industry at £14,500 ¹¹. But this is rais such as trained nurses in NHS Direct. The CCA UK (Call Centre Association) states that:

- ? The average starting salary for a customer service advisor is £11,900.
- ? The average midpoint salary for a customer service advisor is £13,450.
- ? The average midpoint salary for a team leader is £18,150.

¹¹ Income Data Services, Employment Trends in UK Call Centres, 2002

5. Feasibility of the ULN Service Proposition

According to CIPD, "typically, 8-10 agents will report to a team leader or supervisor. The overall structure between the front line staff and the call centre director." The Student Loans Company uses a ratio of 1:10 these two examples, a ULN Service ratio of 1:10 is appropriate.

Using the midpoint salary figures from CCA provides a customer service staff cost, including managers (and pension contributions) of £4,088,158. There is a need to allow for the costs of common services staff, with IT support, administrative staff and other non-customer facing staff¹². The British Cattle Movement Service because it managed a similar national unique numbering scheme - used a scale factor of 64% of front line for common service. This scale factor would increase the ULN Service staff cost by £2,330,668 to £6,418,836 to manage the remainder of the ULN service seems to be high, but the inclusion of such a high additional proportion of costs in the NPV calculation. The ratio would make the total size of the Service 257 x 1.64 should model the size of the service operation in more detail, once processes and potential customer behaviour are defined.

The staff costs are summarised below.

Category	Scale Factor	Cost
Staff Costs	1.00	£ 3,650,150
NI and pension	0.12	£ 438,018
Common Services	0.64	£ 2,330,668
Total Operation Cost		£ 6,418,836

¹² In this way, the common service staff provide an estimate for the costs of the full agency staff, with this cost derived from the costs of the customer facing staff. In this case the ratio assumes that for each £1 spent on salaries for customer facing staff, there is an additional 0.12 spent on back office support and managerial staff.

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i. Accommodation costs

Accommodation costs are a factor where the ULN service rents space or existing space means that an option is foregone. BCMS used a scale factor of 10% of staff costs for accommodation. The National Contact Centre research carried out in Feb 2003, researched the availability of regional city accommodation based on actual rents equates to 19% of customer service staff costs. Setting up the service in a region outside the South East would exceed this ratio. This would indicate an annual accommodation rental charge as shown below.

Annual accommodation costs	£ 1,219,579
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ii. Systems maintenance costs

Systems maintenance costs will be defined by the nature of the support contract, including system operation (availability), acceptable downtime (e.g. 99.9% availability) and expected service response times. These requirements are in place and would be subject to negotiation. Therefore, the maintenance costs will, to some extent, be determined by these factors yet to be determined.

Systems maintenance costs will comprise the elements below, for which the costs for the Student Loans Office are as follows:

- ? CRM licence support. For student support this averaged £168 per user licence per year
- ? IVR hardware support. For student support this averaged £35 per user licence per year
- ? Trunk rental. For student support this averaged £74 per user licence per year.

This produces a figure of £277 per seat possible maintenance charge, which for 267 advisors is shown in the table below, plus the maintenance of desktop PCs

Systems maintenance costs	£ 73,959
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5. Feasibility of the ULN Service Proposition

5.2.5 Project costs

Beyond the costs for setting up the service operation and systems infrastructure, it will be necessary to establish a team which will take the planning and development steps necessary to build and implement the ULN. The elements are detailed later in section 6. We estimate that this work stream will require around 15 –20 people for the duration of the design and build period, and a similar number to support the proposed staged roll out over the following 12 months, reduced for the staged implementation and schools -only scenarios

Project support costs:	£4.5 to £5m, over 2 years
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5.3 IMPACTS AND BENEFITS – IS IT WORTH IT?

Our Approach to Assessing Potential Impacts and Benefits

We have described in section 2.1 the range of practical and qualitative benefits that stakeholders believe can be achieved. In this section we present an initial evaluation of the potential benefits, concentrating on the impacts of a Level 1 service. The considerations for this evaluation include:

- ? the contingent nature of the potential benefits from a ULN. As already discussed, while it is agreed that there are benefits for the current operation and impacts of learner -related services, the most important potential benefits are those services that could be enabled using a ULN. However, in the absence of data about the impacts of these services, we have concentrated here on the more direct impacts of a basic ULN service.
- ? the dispersed nature of the potential benefits. At the direct level, ULN -related services can be expected to provide benefits to large numbers of individuals and providers. As we shall see, these can nonetheless be difficult to quantify.
- ? the difficulties of quantifying beneficial impacts. Few of the direct effects have direct financial impacts, but they either free up learners' or provider staff time or improve the quality of activities and experiences. We have used proxy measures for the opportunity cost of (notional) time savings, in which we have followed the methodology adopted for similar studies (for example for the Citizen Information Project).

The following assessment of impacts and benefits represents a 'best endeavours' response to these challenges. It provides an initial estimation of the nature and (proxy) magnitudes of the value of a basic ULN service.

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Who could benefit from a ULN, and how?

We have categorised impacts and benefits on three levels:

- ? the immediate objectives and direct impacts of the proposed changes – the practical savings and learning service providers and other stakeholders in sector performance
- ? the intermediate objectives and indirect effects of these impacts – what the practical impacts mean
- ? the ultimate objectives and wider outcomes expected from these effects – how the direct and indirect impacts contribute to national and sector wide policy goals for life-long learning.

The table below summarises the potential impacts and benefits that were identified by stakeholders during three levels.

Immediate Objectives/Direct Impacts	
	Learners
Rationalised and simplified application procedures, for courses and related support/services	?
Reduced and simplified administrative requirements for registering learners: <ul style="list-style-type: none"> ? verifying identities ? checking past records ? resolving errors and discrepancies ? reporting and MIS 	
Simplified and streamlined checking of learners' entitlements	
Simplified linking of individualised data sets; <ul style="list-style-type: none"> ? reduced search, reconciliation and data cleansing ? reduced efforts for fuzzy matching between data sources 	
Intermediate Objectives/Indirect Effects	

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Better take-up of learning entitlements: ? increased participation ? better retention rates	?
Better use of provider and departmental/agency resources	
Reduced levels of fraud and mispayments (and related activities)	
Better quality and more timely longitudinal data analysis: ? for programme evaluation ? for planning	
Ultimate Objectives/Policy Outcomes	
Increased levels of workforce achievement, and related personal and economic benefits, including productivity and competitiveness	?
More effective targeting of learning services and resources to areas and learner groups with greatest needs and/or payback potential	?
Better matching of provision and promotion of skills development to areas of national and/or local need	?

Quantifying the value of immediate and secondary benefits

As noted earlier, there is very little data on the current (baseline) costs to individuals, providers or other a direct impacts can be measured, and still less on the scale of the particular impacts. We can nonetheless expected numbers of learners and transactions and some assumptions about the scale of current and future the reliability of the estimates depends entirely on the plausibility of the assumptions, and so we have spe

For individual learners, our estimating assumptions are:

- ? in excess of 10 million applications each year for courses and support (including a large proportion course continuations)
- ? each application requiring at least 30 minutes of the learner's time

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- ? potential reduction in the number of repeated and duplicated applications from use of ULN, say 2
- ? potential time saving per application from using ULN, say 10 -15 minutes (e.g. from not having to wait for exam results)
- ? total hours potentially saved, across all learners, around 1 million to 1.5 million each year
- ? proxy value of personal time, using National Minimum Wage rate, £4.30/hour
- ? broad aggregated value of personal time savings, between £4.5 million to £6.5 million /year.

We do not suggest that these potential savings are 'real' in the sense that 7 million learners would each use a ULN. But this calculation does serve to demonstrate the significant aggregate value of just this narrow slice of time saved. This value is the same as, and allows comparison with, that used by the Office of National Statistics for similar Information Project.

The secondary effect of the immediate impacts for learners is that applying and registering for courses are less 'hassle' and off-putting, which should be reflected in an increase in take up of the opportunities and services.

For learning providers, our estimating assumptions are:

- ? around 3,500 providers (excluding secondary schools up to Year 11), handling upwards of 7 million applications for support funding and other services are made to external agencies such as UCAS
- ? potential savings of between 5% -10% of current staff time spent on the administration of application registration and other maintenance of learner records. This estimate comes from our discussion with providers, and has been contested by some university representatives.
- ? these time savings when spread across the staff involved in applications and registrations might equate to 0.5 full-time equivalent (FTE) person year in each of the 550 FE colleges and HE institutions, at an average cost of £15,000/year
- ? for 1,200 LSC-funded training providers, the savings might equate to 0.5 FTE person year, at an average cost of £15,000/year
- ? on this basis, the value of potential time savings for learning providers could be around £19 million per year; this represents something like 1% of the total administrative costs of learning providers.

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The value of these impacts on providers is more tangible than that for learners, but of course still represents rather than 'real' money, with time savings spread across teams enabling them to work better rather than suspect that the 5% -10% savings envisaged by the providers we consulted are quite conservative, given administration generated by growing data verification and reporting requirements. Nonetheless, these estimates to-day level a ULN service might free up the equivalent of more than 2,000 staff years across learning providers.

For Government Departments and other agencies, our estimating assumptions are as follows:

- ? the immediate operational impacts will be felt especially in the analytical services functions of DfE teams in other English agencies (and their counterparts in Scotland, Wales and Northern Ireland) and other agencies (notably UCAS, the SLC, local LSCs and potentially the new EMA service) concerned with individual entitlement cases
- ? we have anecdotal evidence of the impacts for these teams of current information systems and data activity for analytical services teams relates to 'fuzzy matching' and cleaning up individualised data that service agencies like UCAS and SLC maintain quite large permanent teams (up to 20 people) to deal with entitlement claims
- ? for the purposes of estimation, we suggest that at least 100 FTE staff years could be saved across data access and matching enabled by a Level I/II ULN service, at an average employment cost of £15,000 per FTE staff year
- ? in addition to this 'efficiency' impact, there would be significant benefits to the effectiveness of public Departments and agencies from the availability of better quality data for planning and targeting life long learning areas
- ? this would suggest a direct opportunity cost saving for central departments and agencies in excess of £15 million per annum

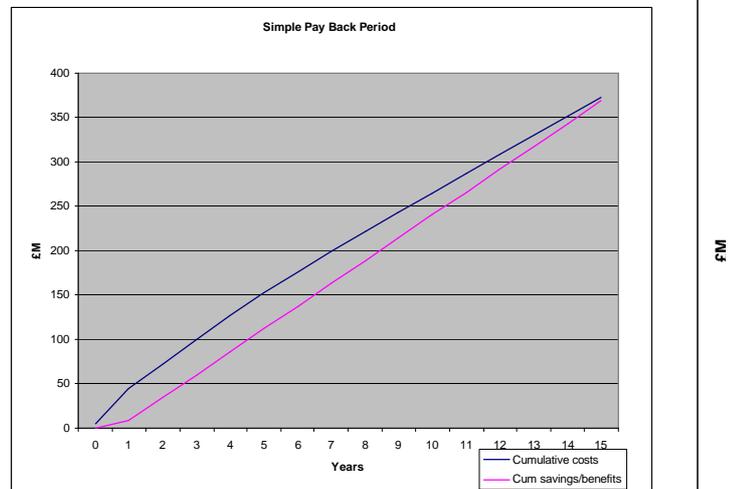
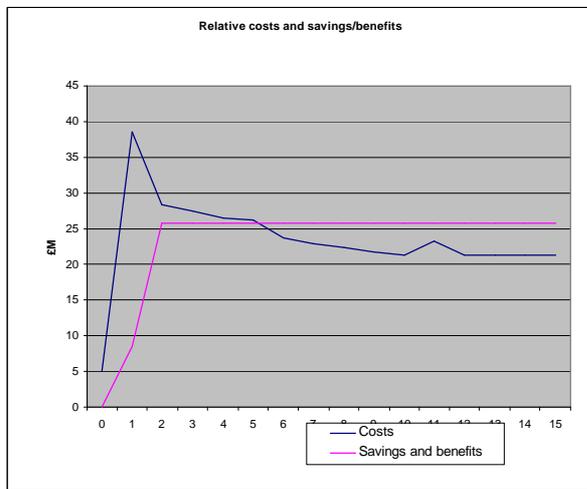
This represents a conservative evaluation of the potential direct impacts for central departments and agencies. There are also qualitative benefits from having better and more reliable information for individual case management, planning. We discuss these impacts further in section 6.

We have not attempted any assessment here of the potential financial impacts of reductions in fraudulent needs-related learner support, although we included these among the potential benefits listed earlier. This is based on the available data on the current extent of such losses.

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5.4 NET IMPACTS OF SCENARIO 1: 'BIG BANG' IMPLEMENTATION

Recognising the caveats on the source data, the quantitative analysis of the scenarios has used the net present investment appraisal. This calculates the project's profit by comparing cash payments and cash receipts discount rate to represent the time value of money and 'discounts' expected future cash flows back to the present. It compares the total 'present value' of the future cash receipts with the initial capital investment in the project.



rate of 3.5% and a project lifetime of 15 years.

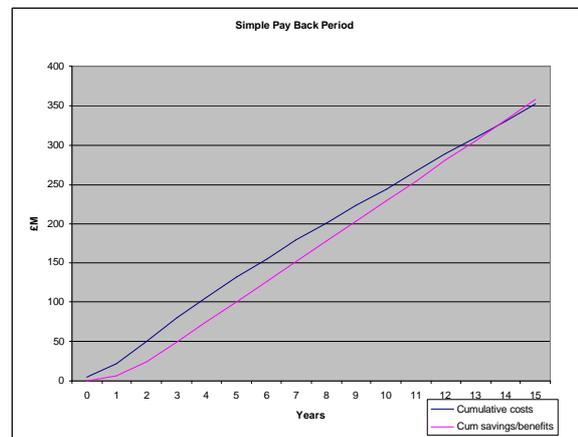
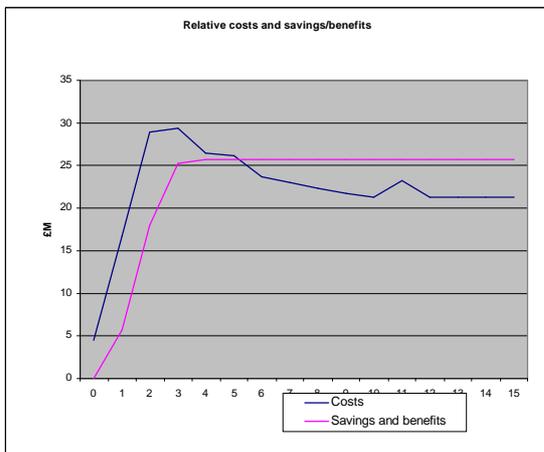
Scenario 1, in which all currently engaged learners receive a ULN and card, generates a negative NPV of £1.2 million due to the large upfront costs and the need to provide every learner with a ULN card. Annual savings and benefits are £25 million, with annual costs of £21 million. The charts above illustrate the relevant costs and savings, and are provided in Appendix B1.

5. Feasibility of the ULN Service Proposition

5.5 EFFECTS OF OTHER SCENARIOS

5.5.1 Scenario 2: Staged Implementation

Scenario 2 phases the introduction of the ULN to learner groups. It would be provided to Year 10 and 11 ϵ to post-16 students in year 2 and to HE students and adult learners in Year 3. The reduced costs of implementation are negative in Year 15 of ϵ 4.3 million. The scenario returns a positive NPV in Year 17.



5.5.2 Scenario 3: Schools Only

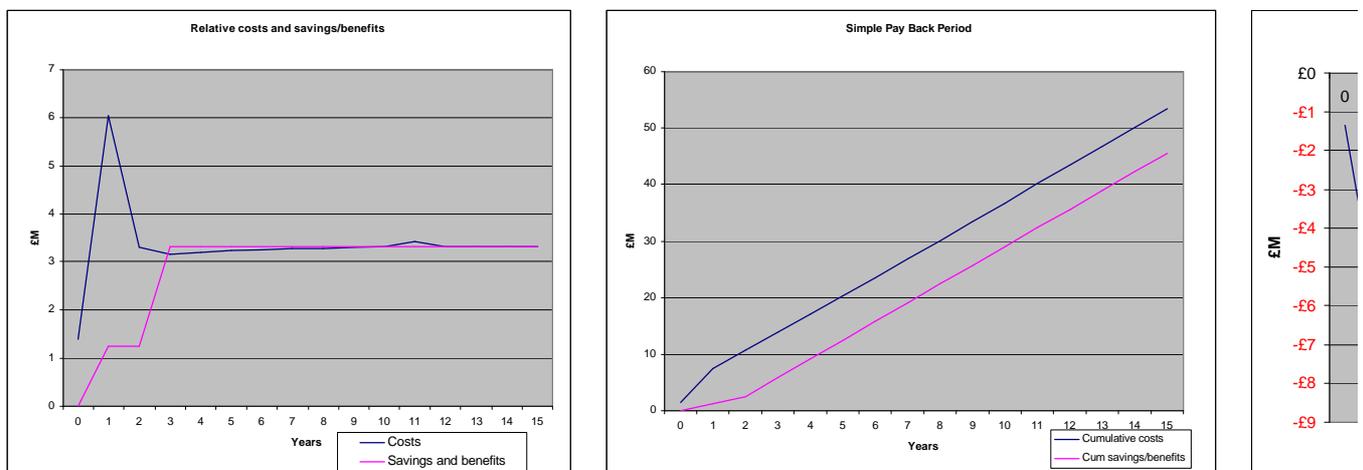
Scenario 3 provides the ULN and card only to school pupils. The overall reduced costs and benefits, together with the overall figures are lower than for all the other options. Details are at Appendix B3. In summary:

- ? The annual card cost is approximately ϵ 3.2 million
- ? The benefits start off very small and do not become significant until sufficient ULN holders are enabled providers to gain benefits from efficiencies. Given that there is a very large proportion of (30), the benefits for this option remain low

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? The service costs are very much reduced, because there is no need to provide a service to learn

This scenario is the hardest to model because tracking the flow of learners into and out of different provider elements in determining the number of ULN cards to be issued, and the feasibility study was not able to do this between types of learning. While recognising this significant caveat, this option shows a negative NPV in



5.6 CONCLUSIONS ON COSTS AND BENEFITS

The main conclusion from this analysis is introducing a basic ULN service at Level II requires a significant infrastructure which would take some time to have a material impact on the administration of learning 'even eventually be made for a basic service which is implemented over several years, spreading the initial costs to bear infrastructure costs at this level of service which may be balanced or exceeded by benefits only at implementation of the record of learning. This analysis has however only considered the immediate and long-term impacts of a ULN service for learners and providers.

The greatest value of the ULN is seen from this study to reside in the impacts that better targeted learning can have on the supply of learning to demand from individuals and from the economy would have on the competitiveness. These effects, however, are beyond the scope of this feasibility study, since they depend on the ULN service for learners and providers.

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support a national record of learning system and the ability to link that to the labour force. Many stakeholders believe that the greatest potential benefits lie, since the record of learning would provide the analytical basis for matching supply and demand in learning and employment.

Valuing the impacts on policy outcomes

We began this report with a statement that the case for a ULN must be built on its potential contribution to increasing participation rates and enhanced levels of achievement in all areas of life-long learning. We have some ideas about this contribution: even a basic ULN service could be expected to:

- ? encourage participation by making the personal bureaucracy of entering learning much simpler and more accessible
- ? free substantial provider staff resources for more productive marketing, promotion and advisory services
- ? support better planning and programme design through more accurate and timely analysis of learning needs and better matching of needs, demand and provision at all levels
- ? enable and support the introduction of new services for learners, including targeted financial support, credit accumulation accounts and records of learning.

Each of these impacts supports and furthers aspects of the Government's policy programmes for education and training administered by the DfES and other central departments or by national and local agencies like LSC, HEF and others. In 2003/4, the Department will spend in excess of £16 billion on post-16 lifelong learning, in pursuance of the DfES' Public Services Agreement. These include:

- ? 90% of young people by age 22 having participated in full-time programmes fitting them for entry into employment
- ? 50% of 18-30 year-olds having participated in higher education
- ? 28% of young people to start a Modern Apprenticeship by age 22
- ? 40% fewer adults lacking NVQ Level 2 or the equivalent
- ? improving the basic skills of 1.5 million adults.

Ultimately, the success of the ULN, and the services it supports, will be judged by the contribution made to the personal and national economic benefits of progress on these fronts is enormous, as spelt out in the DfES

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Economic Benefit". Since there can never be a simple cause-and-effect mapping of spending on a ULN, the value of the ULN in these terms will remain a matter for judgement. However, in the context of the levels of outcomes sought, it would require only a very small attributed impact for the ULN terms.

5.7 PRIVACY AND SECURITY – WILL IT BE ACCEPTABLE?

The holding and sharing of learner information using the ULN will inevitably raise questions about personal data. The introduction of the Unique Pupil Number and related databases, and also to the information sharing as part of the Connexions Card, based around the Connexions Customer Information System (CCIS). There has been discussion over the ULN in our consultations thus far, which did include some groups of learners but did not include the Information Commissioner. An initial briefing meeting with representatives from the Office of Information Commissioner did discuss the data protection and related statutory implications of our emerging propositions. We are aware that there have been expressed concerns over "mission creep" with regard to the UP N, which led the DfES to commit that the purposes beyond compulsory school education. However, the current Commissioner has authorised a pilot post-16 record of learning, using a new identifier. This identifier will be generated from the pupil's existing

We cannot at this stage prejudge the acceptability of the ULN proposals, either to the Information Commissioner or to the groups. The criteria for acceptability, within the terms of the Data Protection Act 1998, are set out in eight associated guidance published by the Commissioner. The table below summarises these principles and their implications for the ULN proposition.

No.	Principle	Implications for
1	Personal data shall be processed fairly and lawfully, subject to: necessity for valid Government functions or policy purposes proportionality of data held to purposes consent of individuals (not essential) constraints on sensitive data fairness to individuals.	We have not taken advice on the legal vires for a pilot. There would be no personal data collected or processed or shared within the learning system. We understand that the arrangements are based on the Learning and Skills Act. We understand too that provision is planned in the current powers in respect of student support. The 'necessity' and 'fairness' conditions should not

5. Feasibility of the ULN Service Proposition

		<p>necessity arguments can be built upon the case for report and elsewhere, although they may have to be different learner groups. Fairness is not an issue, ULN and register entry – although it may be mandatory</p> <p>Interestingly, the guidance plays down the necessity the other conditions are satisfied. As regards senior requirement for Life Long Learning purposes may already held on the UPN/PLASC and other providers manage without for ULN purposes.</p>
2	Personal data shall be obtained for only one or more specified purposes, and shall not be further processed in any manner incompatible with those purposes	This is the “mission creep” condition, which already potentially problematic for the ULN, since a central extend the applications and services accessed through provision, and protections (such as consultation with before extending ULN -related applications) may be statement will be expected as part of the ULN implementation state that the ULN would be used only within learner order to avoid constraining future possible legitimate
3	Personal data [held] shall be adequate, relevant and not excessive in relation to the purpose(s) for which they are processed	This condition should not be problematic for the ULN a minimum set of data for personal identification and which is separately justified for DPA, etc. purpose Level III record of learning, the amount of data to be consideration.
4	Personal data shall be accurate and, where necessary, kept up to date	The onus for this will be on the proposed ULN service of possible difficulty in this regard may be learners of the ULN should consider whether the mechanism learners at regular intervals to verify the data held Zealand sends a transcript of the record of learning engaged in qualifying learning within the previous for the learner to change any personal data
5	Personal data ... shall not be kept for longer	This could be difficult, since the purpose of the ULN

5. Feasibility of the ULN Service Proposition

	than is necessary for the [defined] purpose(s)	which long term retention of personal data would s service, this may require a process to archive data learning for several years. Examination of the data learning will need to examine this issue specifically the retention of data for analytical and research purposes have seen regarding the proposed NHS number card and anonymised data can be retained for planning and
6	Personal data shall be processed in accordance with the rights of subjects under the Act	This confirms the rights of individuals to have access and the obligations of the data owner (in this case the ULN)
7	Appropriate ...measures shall be taken against unauthorised or unlawful processing of personal data	This condition simply confirms the requirements for good practice in protecting access to the data held, but it does not cover user protocols between the ULN service, provider and user access to ULN data
8	Personal data shall not be transferred outside the European Economic Area [without adequate levels of protection]	Only an issue if we were to consider outsourcing data processing outside the continent, and even then covered by good practice

It will ultimately be up to the Information Commissioner and his Office to confirm (or otherwise) the feasibility of the ULN service with data and privacy protection legislation, and for Ministers to judge the balance of political acceptability from the civil liberties lobby. A consideration in this regard is that the planned consultations on ULN proposals are part of a wider public debate about national identity cards and related data sharing proposals. At this stage, our study has

- ? the services enabled by a ULN offer powerful national and individual benefits, and entail no new risks that are not already shared
- ? our consultations with learner groups, providers and other stakeholders have not revealed any significant data protection implications of a ULN
- ? our lay assessment of the compatibility of the basic ULN proposition put forward here with the requirements of the Data Protection Act does not suggest any major obstacles, although the statutory basis for the proposal needs to be assessed and perhaps underpinned.

5. Feasibility of the ULN Service Proposition

5.8 RESOURCES AND POWERS – WHO CAN MAKE IT HAPPEN?

One critical condition for the feasibility of a ULN will be establishing how and by whom the required system is decided upon, funded and driven forward. The life-long learning sector is extremely diverse, with many stakeholders, and no obvious focal point for cross-cutting initiatives of this kind – as evidenced by the many initiatives. Even within the DfES, the potential interests in the ULN cross many, if not all, different directorates. The complexity of the services compounds this complication, since the three devolved administrations, and the different interests, all have a role in any solution.

In the absence of any existing organisation with the remit to undertake the ULN functions for the whole sector (or a mechanism which would serve and be accountable to the whole range of stakeholders represented in MI/NI and Northern Ireland counterparts). The mechanism should be funded centrally, by DfES and its national counterparts, with contributions from the three provider communities (HE, FE and WBL) to reflect the savings and services that they provide. We do not believe it would be feasible to set up the mechanism on any kind of self-funding basis, at least in the short term. The benefits of the ULN and related services have been demonstrated to learners, providers and others.

The decision to set up the ULN mechanism, and the funding for the initial and ongoing costs set out above, should be supported with direct support from the three devolved administrations.

6. FINDINGS, CONCLUSIONS AND NEXT STEPS

6.1 OUR FINDINGS ON THE FEASIBILITY QUESTIONS

We observed in section 3.2 that our consultations during this study provide grounds for confidence that a ULN service, at least to Level II of our suggested service model and preferably to Level III, would be (a) desirable and (b) a proposition that is (c) feasible remains a matter of judgement, based on the findings around the six critical questions summarised below.

6.1.1 Demand for and Potential Users of a ULN Service – who wants it?

The data summarised in Section 5.1 for the numbers of learners, providers and related data exchanges indicate that the potential reach and impact of a ULN service is enormous. Upwards of 8 million learners would use the service, which most of them would use several times a year for different learning ‘events’ (course applications, etc.). The first category of customers for the service would be learning providers, ranging from schools through to university providers, and the other agencies providing services to learners – awarding bodies and exam boards, LEA, the new EMA service, etc. The third category of customers comprises the various stakeholders in the development of life-long learning, which includes the DfES, LSC, HEFCE, HESA, QCA, and related bodies.

The enthusiasm for a ULN varies among these three constituencies. Among learners, we encountered frustration surrounding learning events and there was general support for a ULN if it would reduce the hassle of applications. Providers mostly supported the proposition, especially those – mainly FE colleges and HEIs with a strong vocational focus whose students come with irregular prior records which need time-consuming verification and generally require more management. There was especially strong support from providers of learning services, notably UCAS and the new EMA service (a unique identifier but would use a ULN if available). Those HE providers with relatively straightforward requirements – elite universities – were more sceptical of the proposals and saw little direct benefits for their own operations.

The strongest support for a ULN comes from those stakeholders with broader interests in the progression of the learning system and in the design and implementation of policies and services which will increase participation in the whole system. These include DfES, LSC, HEFCE and the numerous regional and sector level stakeholders in the Success For All and National Skills and Workforce Development strategies. The view from this constituency is that a national record of learning, is an essential enabler for planning and implementing a system of participation and increasing achievement – such as entitlements to free provision to achieve Level 2 qualification scheme.

6. Findings, Conclusions and Next Steps

6.1.2 Technical Feasibility – how difficult would it be?

The basic ULN model proposed here serves to demonstrate that a ULN service need not be unduly complex process for issuing ULNs to students in year 10 of schooling, “piggy backing” on the existing ULN (at least could be largely automated and straightforward. It will be a bigger undertaking to issue ULNs to the ‘stock’ in the post-compulsory learning system, and those entering post-16 and HE in the years before most are inherently complicated. The Connexions Card provides a precedent for the issue of smart photo cards to a computer technology required to support the basic ULN service is also well established, comprising a relational system, accessed and maintained by a multi-channel contact service; ULN cards, holding only read-only issued to providers; web-based access services for learners to apply for ULNs and cards, and to contact lost cards or numbers), and also for providers to notify and verify the ULNs of registered learners; and relational verify ULNs against the customer record and to update the record as necessary. This is mostly ‘off-the-shelf’ customised for the ULN service. A consideration when choosing the particular technology and software is the more complex demands of a level III record of learning.

In addition to the practicalities of establishing the central systems for a ULN, there will be a requirement for individualised learner data to update their systems to be able to record and share learner data against the will depend on the sophistication of users’ systems and on how they have been written. We have assumed most schools’ and FE colleges’ learner records systems will be relatively simple and amenable to simple larger HEIs will tend to be more complex. More work is needed to test this assumption and to specify and

6.1.3 Implementation costs – can we afford it?

The costs of developing and providing a basic ULN service are driven primarily by the numbers of learner issued, and the subsequent demands on the service provider. We estimate that, for a service provided to emerging from the schools system), the initial costs of establishing the service infrastructure would be approximately annual operating costs thereafter between £20 million and £25 million, including the issue of ULNs and cards.

There will also be cost implications for providers and other data owners who will have to update their information ULN. Provided that the ULN implementation is undertaken over a sufficiently extended period, it should be absorbed within routine system maintenance and upgrade budgets.

6. Findings, Conclusions and Next Steps

6.1.4 Impacts and benefits – is it worth it?

The immediate impacts of a basic ULN service will be on administrative costs for learners, learning providers and employers. Savings will arise from time savings on data provision, entry, verification and reporting. It is difficult to estimate such savings because no data exists on the 'baseline' costs of the status quo. We have estimated that, once a ULN is in place, the net cost value of the direct impacts might be between £20 million and £25 million a year. This would indicate that the basic ULN service, introduced on a staged basis over two to three years, of -£4 millions over 15 years later. This balance reflects the enabling infrastructure nature of this investment. At this stage, proponents will accrue from the subsequent uses of the ULN.

There is a strong view among stakeholders that the 'real' value of a ULN is as an enabler of much greater learning within a national record of learning held for every learner. This would allow much more effective planning and would also provide a basis for targeted advisory and support services such as credit accumulation. We have been able, within the scope of this study, to quantify these indirect benefits, since the particular applications have yet to be fully articulated. Nonetheless, in the context of Government spending on life long learning in excess of £1 billion, the potential benefits of the ULN in this context are likely to outweigh the costs many times over.

6.1.5 Compliance with Data Protection policies – will it be acceptable?

It is likely that the ULN proposition will attract some degree of opposition from those civil liberties groups who are concerned about data sharing within Government. The extensive benefits that a ULN offers for learners should make it easy to overcome such opposition in view of the positive feedback from learners, providers and other stakeholders. More important for the feasibility of the proposal is compliance with the requirements of the Data Protection Act and related personal privacy regulations. We have reviewed the data protection criteria specified by the Information Commissioner, and have not identified any major obstacles to satisfying the safeguards required by the Commissioner. An initial discussion with members of the Information Commissioner supported (without prejudice) this view. We have not confirmed whether the proposals set out are within the Commissioner's statutory powers.

6.1.6 Service Delivery considerations – who will make it happen?

There was a general recognition among the stakeholders consulted that there was no existing administrative infrastructure for the services sought on a cross-sector, UK-wide basis. There are several service providers who currently operate on a local basis for operations for specific sub-sectors of learning, for example, the Learning and Skills Council in post-16 and

6. Findings, Conclusions and Next Steps

the SLC for students in higher education; and the National Pupil Database for school pupils. Delivery of practice depend on the establishment of new UK -wide service arrangements, to take responsibility for:

- ? issue of ULNs and ULN cards
- ? maintenance of a national learner register
- ? provision of multi-channel support services for learners
- ? provision of web-based verification and data sharing services for providers and others
- ? further developments of the ULN service (e.g. towards a record of learning, and convergence with sharing initiatives).

The need for such arrangements has been broadly endorsed in the stakeholder feedback on these proposals. Arrangements must not add to, and preferably will reduce, the administrative burdens on individuals and the necessary policy and legal approvals, and appropriate funding, we see no inherent impediments to see significant requirement will be agreement from the devolved administrations for Scotland, Wales and Northern Ireland, that a single service will be used by learners and providers across the UK.

6.2 CONCLUSIONS ON FEASIBILITY

This study has not produced a simple or unequivocal answer to the question – is a ULN a feasible proposition? A Unique Learner Number *per se* addresses only one aspect of the wider aspiration for better information for learning, as expressed in the mission for the MIAP programme. The ULN emerges from this study as a necessary requirement for realising this mission. To employ a slightly trite analogy, having a high quality ball is an essential part of the game but its value can only be realised when a number of other elements are also in place.

In the case of the ULN, most of those elements have been identified in the MIAP programme. At the infrastructure level, a universal data warehouse for learner records, common data definitions and protocols, on-line data sharing between providers and qualifications. At the user service level, the requirements for national solutions are central to the development of a national record of learning – which is what most stakeholders are seeking from a ULN service. The ULN service raises feasibility questions in its own right, and the feasibility of a ULN effectively depends on positive answers to these questions.

In the light of this somewhat circular conundrum, we have considered whether a basic ULN service, as proposed in this report, would be worth developing in its own right, independently of these wider considerations. The potential worthwhile and widespread benefits from such a service, especially for those learners moving through difficult transitions, are significant.

6. Findings, Conclusions and Next Steps

long learning 'careers' and those providers and agencies concerned with serving learners across different widely dispersed and difficult to quantify with any reliability, whereas the costs of the service are very tangible (DfES and its national counterparts).

We conclude that the 'stand alone' case for a ULN is positive but not compelling, although we believe that a ULN as part of the wider development of learner-centred information systems in support of national life whether to proceed to the next stages of design and development for a ULN – on the lines described below attached to the wider case.

6.3 NEXT STEPS

There are good reasons for pressing ahead with the development of the ULN proposition as a matter of some urgency, with partial ULN solutions being developed and piloted in parts of the lifelong learning system (as in Wales for the LEARN initiative) and also the wishes of stakeholders to progress schemes that will depend on a national ULN. However, the complex practicalities of designing, building and implementing a ULN service are fully resolved before

A workable route through these pressures, we suggest, would be as follows:

- ? If Ministers are persuaded that the proposition for a basic ULN service presented here is worth pursuing, the key issues outstanding from the study, viz.
 - ? the degree of support among key stakeholders for the proposition, assessed through a facilitated stakeholder groups and with the three devolved administrations
 - ? further investigation of the two main options for a ULN numbering scheme – a UPN-based scheme and a view to agreeing the preferred choice
 - ? detailed impact analysis of the costs and benefits of the ULN for provider systems and processes and a detailed specification of ULN business processes and inform the costing model
 - ? further analysis of the costing model and assumptions provided here, for different implementation options
 - ? completion of the Office of Government Commerce (OGC) Gateway 0 review, to obtain independent approval for the project
 - ? determination of requirements for legislation or other measures to ensure compliance with data protection and other relevant legislation

6. Findings, Conclusions and Next Steps

- ? Provided that the outcomes from these activities are positive, the next step would then be a proof of concept trial to test the practicalities and impacts of a ULN service in a limited geographical and/or sector area. This would involve:
 - ? identifying a reasonably self-contained environment for the trial, possibly involving a small group of learners, following up the interest expressed by the Northern Ireland Department of Employment and Learning
 - ? issuing numbers and prototype cards to selected groups of learners within the trial area, perhaps including all those registering with FE and WBL providers in the area, and setting up a Learner Register
 - ? tracking the data flows involving these learners for a limited period and assessing (through 'before and after' comparisons) whether the ULN would have simplified and/or improved these processes
 - ? evaluating the trial and assessing the lessons for feasibility and national implementation.

- ? Subject to positive outcomes from the proof of concept trial, proceed towards the development of a national ULN service. This would involve:
 - ? a design phase, which should produce the detailed specification of the ULN numbering scheme; the processes for issuing, using and supporting the ULN; the operational requirements for establishing a national ULN service; the information systems needed for the ULN service; determination of the appropriate procedures for establishing the necessary systems and services; securing the necessary legislative powers and Information Commission approval for the proposed scheme; and developing an outline business case as a basis for securing the necessary funding for securing OGC Gateway 1 endorsement
 - ? a build phase, which should include establishing the ULN service delivery arrangements (including identifying suppliers for systems and services (including a Public-Private Partnership (PPP) partner if that is appropriate); building and testing the core systems for the service, including the learner record system, provider record verification and exchange systems; passing the OGC Gateway 2 review
 - ? an implementation or roll out phase, during which ULNs and cards would be issued to learners (discussed below); providers would receive card readers and web access to the central system would be fully established, including the customer contact centre; system and performance monitoring would be in place; and future service development and integration with related developments planned (including data sharing, from MIAP, and more generally, for example with the Citizen Information Project)
 - ? running through all three phases would be requirements for effective project management, as described above, and also for extensive stakeholder communications and engagement, to be prepared for and supported through the implementation programme.

APPENDIX A: REPORT ON STAKEHOLDER VIEWS FOR A UNIQUE LEARNER NUMBER

This report is enclosed separately.

APPENDIX B: SCENARIO OPTIONS

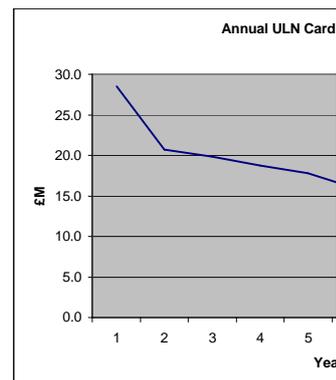
B.1 SCENARIO 1 - FULL INITIAL ISSUE

This section shows the cost costs, benefits and estimated NPV for option 1, which issues ULNs to all lear and then to new learners or those without ULNs as they enter the system in subsequent years. This ma issuing costs.

Estimated learner numbers	Yr 1	Yr 2	Yr 3	Yr 4	ULN cards to be issued			
					Yr 5	Yr 6	Yr 7	Yr 8
Annual Year 10 school students	1,220,000	620,000	630,000	640,000	650,000	650,000	650,000	650,000
sixth form students	410,000	0	0	0	0	0	0	0
LSC-funded sixth form colleges and FECs	4,150,000	3,444,500	3,444,500	3,272,275	3,108,661	2,953,228	2,805,567	2,665,288
LSC-funded work based learning	300,000	150,000	75,000	37,500	18,750	9,375	4,688	2,344
HEIs	1,600,000	456,378	456,378	456,378	456,378	136,785	136,785	136,785
DWP-funded wbl for adults	75,000	67,500	60,750	54,675	49,208	44,287	39,858	35,872
LSC A&CL	1,000,000	750,000	562,500	421,875	316,406	237,305	177,979	133,484
No of new cards to issue	8,755,000	5,488,378	5,229,128	4,882,703	4,599,403	4,030,980	3,814,876	3,623,773
No of lost cards to replace		875,500	875,500	875,500	875,500	875,500	875,500	875,500
Total number of cards to be issued	8,755,000	6,363,878	6,104,628	5,758,203	5,474,903	4,906,480	4,690,376	4,499,273
Total cost of cards	28,453,750	20,682,602	19,840,040	18,714,159	17,793,434	15,946,059	15,243,722	14,622,638

HESA 2001/02 figures	
English HEI postgraduates	155,380
Overseas postgraduates in English HEIs	102,480
English HEI undergraduates	1,231,595
Overseas undergraduates in English HEIs	102,915

Totals	sys changes	readers	cards	year total
Estimated total yr 0 costs	13,734,000	696,000	0	14,430,000
Estimated total yr 1 costs	0	0	28,453,750	28,453,750
Estimated total yr 2 costs	0	0	20,682,602	20,682,602
Estimated total yr 3 costs	0	0	19,840,040	19,840,040
Estimated total yr 4 costs	0	0	18,714,159	18,714,159
Estimated total yr 5 costs	0	0	17,793,434	17,793,434
Estimated total yr 6 costs	0	0	15,946,059	15,946,059
Estimated total yr 7 costs	0	0	15,243,722	15,243,722
Estimated total yr 8 costs	0	0	14,622,638	14,622,638
Estimated total yr 9 costs	0	0	14,065,606	14,065,606
Estimated total yr 10 costs	0	0	13,560,414	13,560,414
Total	13,734,000	696,000	178,922,423	193,352,423
Total 10 year cost				193,352,423
Of which systems set up and issue of cards to the stock				38,937,750



If English learners approximate 80%, UK total 5 Yr Set up **241,690,529**
48,672,188

B: Scenario Options

Notes to above figure

LSC funded 6th form colleges and FECs. Uses the assumption that 83% of FE students are adults (source: The FE Sector and External Institutions in England in 2001/02). This number diminishes as learners with ULN are small until 3 years after the first 16 year olds receive ULNs

HEI students. Based on HESA aggregate figures for 2001/02. See cells under HESA 2001/02 figures. A 1 year undergraduate course and average 1 year postgraduate course. UK postgraduates needing ULNs will differ from overseas students is considered negligible. Also assumes that after 5 years UK entrants will have a ULN. Assumes that before Year 5 any post graduates are mature students over the age of 22, but nor does the row assume that before Year 5 any post graduates

Predicted card loss and replacement rate (10%) and the card cost (£3.25) is used in all three options.

B: Scenario Options

NPV calculation – Scenario 1

		Dev phase (Year 0)	Year 1	Year 2	Year 3	Year 4	Year 5
Project costs	Provider system changes	0					
	Card readers	696,000					696,000
	Cards		28,453,750	20,682,602	19,840,040	18,714,159	17,793,000
	Project support costs	2,400,000	2,400,000				
Systems costs		1,339,026	64,844	64,844	64,844	64,844	64,844
Operating costs	Service staff costs		6,418,836	6,418,836	6,418,836	6,418,836	6,418,836
	Accommodation	609,789	1,219,579	1,219,579	1,219,579	1,219,579	1,219,579
Total costs		5,044,815	38,557,009	28,385,861	27,543,299	26,417,418	26,192,000
Savings and benefits	Learner direct impacts	0	1,500,000	4,500,000	4,500,000	4,500,000	4,500,000
	Provider direct impacts	0	6,407,788	19,223,363	19,223,363	19,223,363	19,223,363
	Gov dept/agency direct impact	0	666,667	2,000,000	2,000,000	2,000,000	2,000,000
Total savings and benefits		0	8,574,454	25,723,363	25,723,363	25,723,363	25,723,363
Net savings and benefits		-5,044,815	-29,982,555	-2,662,498	-1,819,936	-694,055	-466,000
NPV at 15 years		-£13,239,278.75					

B: Scenario Options

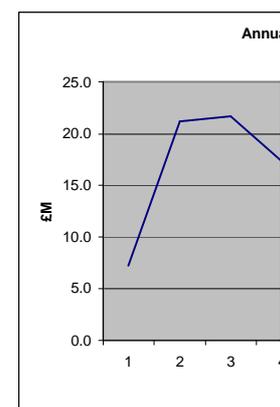
B.2 SCENARIO 2 - FULL PHASED ISSUE

This section shows the costs and benefits associated with issuing the ULN to currently engaged learners schools, moving on to those in post 16 learning and finally extending the issue to HE. This spreads the in start of a transition through the system as school leavers enter other forms of learning. Representing the take account of the size of flows between types of learning. There are some difficulties in achieving this th shown here have required assumptions about the volumes.

Estimated learner numbers	ULN cards to be issued						
	Yr 1	Yr 2	Yr 3	Yr 4	Yr 5	Yr 6	Yr 7
Annual Year 10 school students	1,220,000	620,000	630,000	640,000	650,000	650,000	650,000
sixth form students	0	410,000	0	0	0	0	0
LSC-funded sixth form colleges and FECs	0	415,000	3,444,500	3,444,500	3,272,275	3,108,661	2,953,228
LSC-funded work based learning	0	300,000	150,000	75,000	37,500	18,750	9,375
HEIs			1,600,000	456,378	456,378	456,378	456,378
DWP-funded wbl for adults	0	75,000	67,500	60,750	54,675	49,208	44,287
LSC A&CL	1,000,000	750,000	562,500	421,875	316,406	237,305	177,979
No of new cards to issue	2,220,000	6,305,000	6,454,500	5,098,503	4,787,234	4,520,301	4,291,246
No of lost cards to replace		222,000	222,000	222,000	222,000	222,000	222,000
Total number of cards to be issued	2,220,000	6,527,000	6,676,500	5,320,503	5,009,234	4,742,301	4,513,246
Total cost of cards	7,215,000	21,212,750	21,698,625	17,291,634	16,280,010	15,412,479	14,668,050

HESA 2001/02 figures	
English HEI postgraduates	155,380
Overseas postgraduates in English HEIs	102,480
English HEI undergraduates	1,231,595
Overseas undergraduates in English HEIs	102,915

Totals	sys changes	readers	cards	year total
Estimated total yr 0 costs	13,734,000	696,000	0	14,430,000
Estimated total yr 1 costs	0	0	7,215,000	7,215,000
Estimated total yr 2 costs	0	0	21,212,750	21,212,750
Estimated total yr 3 costs	0	0	21,698,625	21,698,625
Estimated total yr 4 costs	0	0	17,291,634	17,291,634
Estimated total yr 5 costs	0	0	16,280,010	16,280,010
Estimated total yr 6 costs	0	0	15,412,479	15,412,479
Estimated total yr 7 costs	0	0	14,668,050	14,668,050
Estimated total yr 8 costs	0	0	12,975,239	12,975,239
Estimated total yr 9 costs	0	0	12,390,308	12,390,308
Estimated total yr 10 costs	0	0	11,860,390	11,860,390
Total	13,734,000	696,000	151,004,484	165,434,484
Total 10 year cost				165,434,484
Of which systems set up and issue of cards to the stock				17,699,000



If English learners approximate 80%, UK total 5 Yr

206,793,105

Set up

22,123,750

B: Scenario Options

NPV calculation – Scenario 2

		Dev phase (Year 0)	Year 1	Year 2	Year 3	Year 4	Year 5
Project costs	Provider system changes	0					
	Card readers	696,000					696,000
	Cards		7,215,000	21,212,750	21,698,625	18,714,159	17,793,434
	Project support costs	1,800,000	1,800,000				
Systems costs							
		1,339,026	64,844	64,844	64,844	64,844	64,844
Operating costs	Service staff costs		6,418,836	6,418,836	6,418,836	6,418,836	6,418,836
	Accommodation	609,789	1,219,579	1,219,579	1,219,579	1,219,579	1,219,579
Total costs		4,444,815	16,718,259	28,916,009	29,401,884	26,417,418	26,192,693
Savings and benefits	Learner direct impacts	0	1,225,714	3,677,143	4,500,000	4,500,000	4,500,000
	Provider direct impacts	0	4,546,427	13,639,281	18,774,069	19,223,363	19,223,363
	Gov dept/agency direct impact	0	0	666,667	2,000,000	2,000,000	2,000,000
Total savings and benefits		0	5,772,141	17,983,091	25,274,069	25,723,363	25,723,363
Net savings and benefits		-4,444,815	-10,946,118	-10,932,918	-4,127,815	-694,055	-469,330
NPV at 15 years		-£4,359,478.91					

B: Scenario Options

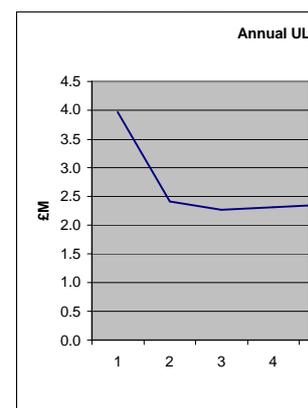
B.3 SCENARIO 3 - SCHOOLS ONLY ISSUE

This section shows the costs and benefits associated with the 'start small' option of issuing ULNs and ca waiting for them to feed their way through the system. This reduces the issuing costs, but it also reduces the time taken before a sufficient volume of ULNs are in the system to enable the benefits to show. This their volumes of school leavers, who can take many paths. The shortage of detailed accurate data on flow dynamic model to represent this accurately have necessitated broad assumptions.

Estimated learner numbers	Yr 1	Yr 2	Yr 3	Yr 4	ULN cards to be issued				Yr 8
					Yr 5	Yr 6	Yr 7	Yr 8	
Annual Year 10 school students	1,220,000	620,000	630,000	640,000	650,000	650,000	650,000	650,000	65
sixth form students	0	0	0	0	0	0	0	0	
LSC-funded sixth form colleges and FECs	0	0	0	0	0	0	0	0	
LSC-funded work based learning	0	0	0	0	0	0	0	0	
HEIs	0	0	0	0	0	0	0	0	
DWP-funded wbl for adults	0	0	0	0	0	0	0	0	
LSC A&CL	0	0	0	0	0	0	0	0	
No of new cards to issue	1,220,000	620,000	630,000	640,000	650,000	650,000	650,000	650,000	65
No of lost cards to replace		122,000	68,100	72,505	77,130	81,987	86,086	86,086	9
Total number of cards to be issued	1,220,000	742,000	698,100	712,505	727,130	731,987	736,086	736,086	74
Total cost of cards	3,965,000	2,411,500	2,268,825	2,315,641	2,363,173	2,378,957	2,392,280	2,406,269	2,406,269

HESA 2001/02 figures	
English HEI postgraduates	155,380
Overseas postgraduates in English HEIs	102,480
English HEI undergraduates	1,231,595
Overseas undergraduates in English HEIs	102,915

Totals	sys changes	readers	cards	year total
Estimated total yr 0 costs	5,950,000	0	0	5,950,000
Estimated total yr 1 costs	0	0	3,965,000	3,965,000
Estimated total yr 2 costs	0	0	2,411,500	2,411,500
Estimated total yr 3 costs	0	0	2,268,825	2,268,825
Estimated total yr 4 costs	0	0	2,315,641	2,315,641
Estimated total yr 5 costs	0	0	2,363,173	2,363,173
Estimated total yr 6 costs	0	0	2,378,957	2,378,957
Estimated total yr 7 costs	0	0	2,392,280	2,392,280
Estimated total yr 8 costs	0	0	2,406,269	2,406,269
Estimated total yr 9 costs	0	0	2,420,957	2,420,957
Estimated total yr 10 costs	0	0	2,436,380	2,436,380
Total	5,950,000	0	25,358,983	31,308,983
Total 10 year cost				31,308,983
Of which systems set up and issue of cards to the stock				9,915,000



If English learners approximate 80%, UK total 5 Yr Set up

39,136,228
12,393,750

B: Scenario Options

NPV calculation – Scenario 3

		Dev phase (Year 0)	Year 1	Year 2	Year 3	Year 4	Year 5
Project costs	Provider system changes	0					
	Card readers	0					
	Project support costs	1,200,000	1,200,000				
Systems costs		124,511	6,030	6,030	6,030	6,030	
Operating costs	Service staff costs		734,355	734,355	734,355	734,355	734,355
	Accommodation	69,764	139,527	139,527	139,527	139,527	139,527
Total costs		1,394,275	6,044,912	3,291,412	3,148,737	3,195,553	3,195,553
Savings and benefits	Learner direct impacts	0	238,772	238,772	628,532	628,532	628,532
	Provider direct impacts	0	1,020,000	1,020,000	2,685,000	2,685,000	2,685,000
	Gov dept/agency direct impact	0	167	500	500	500	500
Total savings and benefits		0	1,258,939	1,259,272	3,314,032	3,314,032	3,314,032
Net savings and benefits		-1,394,275	-4,785,973	-2,032,140	165,295	118,479	118,479
NPV at 15 years		-£7,328,289.87					