

Towards a National Agency for Resource Discovery

Scoping Study

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British Library Research and Innovation Centre

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Abstract

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The study was authored jointly by Fretwell-Downing Informatics Ltd and CERLIM (University of Central Lancashire) with specialist contributions from Geoffrey Hare (County Librarian, Essex) and Index Data of Denmark in their respective areas of public libraries and resource discovery technologies.

The findings of the study are based on a consultation exercise undertaken by the partners between February and April 1997, resulting in a strong recommendation that a National Agency should be constituted. The study proposes that the Agency should act as a facilitator to ensure that scholarly resources are visible and accessible across domains and other traditional boundaries in an efficient and sustainable manner.

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Section 1 Management Overview

1.1 Background

Interest in the potential for a UK National Agency for Resource Discovery arose specifically from the third workshop in the eLib MODELS programme (July 1996) which addressed the theme of 'National Resource Discovery' with representatives from HEIs and the British Library.

The identification of such a requirement is however more longstanding and widely rooted.

- Strategic planners within both the Public and Higher Education library communities emphasise the economic imperative of resource sharing and the associated requirements for wider digitisation (starting with Collection level descriptions) and for networked access.
- Curators of scholarly resources point out that interworking between old and new traditions (eg bibliographic, archival and new media resources) is a reasonable requirement for research in the digital age. This implies cross searching and common understanding of the metadata required to describe collections and services as well as individual assets.
- Implementers of distributed information service protocols (such as Z39.50) have become aware of issues of efficiency and scalability in searching massively distributed resources over networks. Likewise the champions of web publishing openly recognise the importance of metadata and disclosure strategies (information push) in overcoming the barriers to efficient resource location.

The information community - whether serving scholarly research or wider public interests - sees itself at a critical watershed regarding many aspects of its services. Whilst the detailed issues differ according to subject domain, curatorial tradition and sector, there is strong agreement that we can only compete in the information age by

making scholarly resources visible and accessible

across domains and other traditional boundaries

in an efficient and sustainable manner.

A National Agency for Resource Discovery could be a timely catalyst in this endeavour.

[Refer to Report Sections 2, 6 & 7 for further background]

1.2 Scoping Study Approach

This Scoping Study was commissioned jointly by the British Library Research & Innovation Centre (BLRIC) and JISC under the management of UKOLN. It took place between February and April 1997.

It was undertaken in partnership by Fretwell-Downing Informatics Ltd and CERLIM (University of Central Lancashire) with specialist contributions from Geoffrey Hare (County Librarian, Essex) and Index Data of Denmark in their respective areas of public libraries and resource discovery technologies.

The cornerstone of the study was a consultation exercise focused on institutions primarily responsible for access to scholarly resource. This involved not only representatives of HEIs and the national Data Services but also input from other curatorial traditions and sectors - including public libraries, archives, museums and interlending agencies.

The consultation exercise involved circulation of a Questionnaire (Appendix 1) with a supporting discussion paper to over 100 parties of whom over 50% responded (Appendix 2). These responses were supplemented by interviews with selected stakeholders and by presentations of findings to significant meetings - such as the eLib Phase 3 launch and the MODELS 5 workshop for Public Libraries.

[Refer to Report Section 5 for a full description of the approach and findings]

1.3 Key Recommendations

It is our observation that a National Agency for Resource Discovery is becoming an urgent necessity, if we are to achieve seven closely related national objectives. Each of these objectives will to some extent be put at risk without such an intervention. Key work will be duplicated by the well resourced and technically adept and perhaps never undertaken by the majority of stakeholders.

The national resource discovery objectives are

1. To be able to locate (here and abroad) the collections of interest to the researcher (institutional academic through to the independent learner).
2. To be able to describe and evaluate the collections to enable users more effectively and economically to route their research.
3. To bring together those whose collections co-exist in order to promote collaboration
4. To facilitate the identification of overlapping provision in the context of drives for resource sharing and holdings optimisation
5. To establish the hierarchy of resources most beneficially to be digitised - from the creation of on-line catalogues through to digitisation of the resources themselves.
6. To encourage best practice in the description of the resources in such collections including scope, collecting policy, lending and access practices and expertise available as well as the items themselves.
7. To influence the range of associated standardisation processes in the context of these objectives

The Recommendations of the Study are all geared to the furtherance of these seven objectives. The Recommendations are set out under six headings in Section 3 of this Report :

1. Underlying
2. Target Community
3. Target Domains
4. Operation
5. Organisation
6. Funding

The driving recommendations are summarised as follows :

- a) We strongly recommend the creation of a National Agency for Resource Discovery.
- b) Correctly constituted and focused on complementarity, a National Agency can make a vital contribution to all services which manage and deliver scholarly resource. Without such a focal Agency, much key work will be duplicated by the well resourced, and perhaps never undertaken by the majority.
- c) Rather than adopting a deterministic or regulatory approach, the Agency should operate as an enabler, complementing and adding value to specialised initiatives in a spirit of collaboration. We believe that this will be effective in the current climate of service change in which there is strong recognition of timeliness and shared goals amongst a wide range of stakeholders.

- d) The Agency should respond initially to those sectors and curatorial traditions which have established common ground in the development of networked services and which recognise shared service imperatives (such as resource sharing).
- e) We recommend that they will be libraries, data services and archives as follows
- HE Libraries, Resource Gateways & Data Centres
National Libraries
Public Libraries
Special Libraries
HEI, public & private Archives & Record Offices
- f) The Agency's initial functional focus must be on Resource Discovery - which is not only a shared current concern but also a foundation for further distributed services. Nevertheless the Agency remit must allow it to move in concertation with its community to address related issues and functional areas - especially regarding requisite end-user services such as requesting and delivery.
- g) Whilst recognising that bibliographic resources (and especially the rationalisation of serials holdings) represent a primary concern for HEIs and Public Libraries, the Agency should take account of special collections, new media and other non-print resources as part of the total picture of scholarly materials.
- h) The Agency should act as a focal point for the cohesive development of UK services as opposed to becoming a provider of information services in its own right. In exceptional cases, however, it may be highly beneficial for the Agency to kick-start a service - such as the mounting of a national Collection and Service Description gateway.
- i) Within the area of Resource Discovery, the development of Collection Level Descriptions should be a priority action which would have relevance across sectors and curatorial traditions, appealing especially to institutions with uncatalogued resources. This work could provide a critical element for concerted collaboration and focus in the Agency's formative stage.
- j) In the world of standardisation, the Agency should be concerned with the establishment of Interoperability Profiles (such as for Z39.50 & ISO ILL) rather than the development of the standards themselves.
- k) The funding of a National Agency should be broad based reflecting the mandate to serve a wide community. Funding should not be solely from the Higher Education sector and the agency's management and advisory inputs should involve broad representation. In terms of accountability, a regime of annual reviews with identification of performance targets will be essential.
- l) Whilst the provision of the service should be put out to tender, we propose that the Agency might be hosted within an existing organisation for reasons of economy. On grounds of timing and synergy with complementary activities, it may be beneficial for an HEI or the British Library to perform this role.
- m) The Agency should be in place by 1998 to provide timely support to forthcoming eLib Phase 3, Archival Network and public library initiatives as well as to complement the work of LIC. Whilst this may raise issues in terms of drawing in funding and cross-sector buy-in, time is of the essence in this area of service development.
- n) On account of the time that will be required to establish the Agency, it is recommended that some preparatory actions are undertaken in support of related initiatives such as eLib Phase 3 and Archival Networking. These should include responsibility for (1) the maintenance of the MODELS Z39.50 Interoperability Profile and (2) the development of guidelines for Collection Level and Service descriptions drawing input from both libraries and archives.

[Refer to Report Section 3 for Full Recommendations]

Section 2 Background

2.1 Agency Setting

The proposal to create a National Agency for Resource Discovery must be understood in the context of service re-engineering and technological developments both within the UK Higher Education sector and beyond in the global information community.

These developments and related operational issues have been a focal point of the e-Lib MODELS programme where each successive workshop has identified far reaching Resource Discovery service development opportunities and requirements. For example

- Workshop 1 - Critical relationship between Search & Locate within the holistic resource delivery process; Discovery v. Disclosure as complementary approaches to matching user requirements; potential for intelligent CA/SDI Agents
- Workshop 2 - Emerging approaches to metadata with especial reference to 'new media'; the issue of common denominators for cross searching as embodied in the Dublin Core.
- Workshop 3 - Resource description starting with collections or 'Clumps'; the need for both 'physical' and 'virtual' clumping; issues of ensuring record quality and service levels across heterogeneous sources - leading to the proposal for a National Agency.
- Workshop 4 - Integrating resources across domains (eg Libraries, Archives & Museums) and across resource media types (eg WWW, audio-visual, discussion lists)
- Workshop 5 - Relating MODELS findings and architectures to the Public Library sector with a view to cross sector developments - especially in resource discovery and sharing

It is clear to MODELS participants and to information professionals worldwide that the information community is moving towards new understandings of resources, of ownership and of services. These imply a networked view of distributed resources and services in which no man is an island - and yet each person is potentially isolated from the resource they most need. There are therefore crucial issues to be addressed :

- Services must be underpinned by a commitment to effective resource description which is a prerequisite for uptake - to which end critical success factors have been identified in work arising from the MODELS Warwick Metadata Workshop (MODELS 2)
- Collection level descriptions must be promoted to supplement lower level catalogues in order to facilitate efficient distributed searching across potentially hundreds of catalogues in the UK alone and to draw previously uncatalogued collections into the web of national (and global) scholarly resource
- A further barrier is that it takes two (or more) to tango ... or cross-search ... or share resources! In parallel with the development of resource description must come agreements between libraries and data services to interoperate - both at the level of implementing technical solutions and of

- evolving quality assured user-focused services supported by sustainable business plans (such as document delivery or reciprocal interlending).

A National Agency for Resource Discovery can contribute to efficiency, interoperability, critical mass and quality of service by addressing these and related issues through a number of activities set out in the recommendations of this report.

2.2 Related Developments & Directions

It should be recognised that the eLib programme and the UK HE community are not alone in identifying the trends towards distributed services, the demands for efficiency and resource sharing and the related requirements for cross searching not only of resources but also of high level collection and service descriptions.

The British Library “Information Systems Strategy” (1995; Paras A31/A32) describes the current information services climate which provides a compelling opportunity for value-added activities that might be facilitated by a National Agency for Resource Discovery.

“The scope for partnerships is increased in the digital and network environment because integration of services is easier. This will be of benefit both to service providers seeking efficiency and extended coverage, and to users who seek a simple interface to comprehensive information. Service developments will seek to maximise the benefit from common interfaces, the interworking of systems, the sharing of data and the use of common resources.

It is in the interests of the general information community that there are standard approaches to resource sharing, transactions and ultimately to the interfaces that users have to library and information systems”.

As a reminder of the perspective of growing consensus at the time of this report, we list here a number of related and potentially convergent developments in UK, European and global information services arenas.

2.2.1 Examples from within the United Kingdom

The Anderson Report (1995) - The group chaired by Professor Michael Anderson reported on national and regional strategy for library provision for researchers - which should provide ‘the means to locate and to gain access to material with reasonable ease, reasonable speed and at reasonable cost’ (Para 13). The report emphasised the publication of institutional information plans as the foundation for sustainable resource sharing (Para 17) and the provision of ‘adequately co-ordinated information on the location and current availability of research material’ (Para 21). Such recommendations strongly resonate with the motivation for a National Agency for Resource Discovery, as well as with the strategic direction of the sector which might arise from the Dearing Report.

‘UK CNIDR’ Report to JISC (1996) – George Brett (formerly of CNIDR) was commissioned to assess the value of an Agency not dissimilar to that under consideration here. He recommended a Meta Agency which would cohere UK activities by combining roles undertaken in the US by CNI (Liaison Forum), CNIDR (End-user Discovery) and InterNIC (Identification of Content). He stressed the current window of opportunity ‘as an adjunct to other projects already in place’ and the value of developing a ‘long run operation’ as is recommended here - see Section 4.

JISC Call for Proposals [Circular 3/97] – Phase 3 of the eLib programme is seeking large scale bibliographic and cross domain resource discovery proposals. CEI intends that these projects should ‘kick-start a critical mass of use of Z39.50’ through pilot virtual ‘clumps’ involving a diversity of institutions, systems and curatorial traditions. It is recognised that such interoperability will require support in the standardisation of profiles and service descriptions. The Phase 3 programme will run from 1997 to 2000.

JISC Archives Sub-Committee Call for Proposals [March 97] - The Archives Sub-committee of the Humanities NFF Committee in conjunction with the Public Record Office is Co-ordinating a National Networking Demonstrator Project which will illustrate multilevel cross searching of a range of nominated archival catalogues using a common Z39.50 archival interoperability profile.

The National Bibliographic Resource (Joint BL/CURL Task Force Report - March 97) - The Task Force has recommended that the development of a National Bibliographic Resource through linking the databases of the BL and CURL and adding those of the National Libraries of Scotland and Wales in a second stage. The report emphasises that this represents a series of ‘clumping’ developments in line with the structures proposed by the MODELS programme. Such a possibility therefore represents a timely initiative with significant potential synergy with a National Agency for Resource Discovery.

Project EARL - The EARL consortium of public library authorities has generated a number of actions relating to resource disclosure and sharing - through the EARL Subject Task Groups and the Special Collections Survey. These have indicated the criticality of collection level descriptions - especially in areas where key resources are as yet not digitised or catalogued in any form (see Section 6). This requirement is paralleled in the archive community - as illustrated by the interest in Archives Discovery Gateways arising from the work of such as the Public Record Office and the Scottish Record Office.

Society of Chief Librarians – The SCL has recently formed the Business Specification Consortium for Libraries involving over 20 Authorities alongside leading IT players such as Bull, IBM, Microsoft & Novell. Its key premise is that ‘increasingly the core library systems will be those that manage direct access to a wide world of knowledge and enable interaction with systems and databases beyond the library’.

2.2.2 Examples from outside the United Kingdom

European Commission Libraries Programme [December 96] - The Clumping concept is referenced in the 1996 Call in its definition of the rationale behind distributed libraries : ‘Distributed libraries can take many forms : they might be highly specialised, offering services in only a narrow subject area; or totally unspecialised, offering access to all the resources of the participating libraries. Individual libraries, large or small, might contribute to several distributed libraries, which may be differently defined according to subject, geographic and linguistic proximity, or existing co-operative arrangements’.

National Library of Australia Request for Tender [RFT 96/63 - March 97] - The NLA requirement for Networked Services identifies resource discovery scenarios which include the implementation of a ‘metadata server in case of substantial cross-database searches’ (Section 1.8.3.1(e)). Like the European Libraries Programme, NLA acknowledges the need to optimise searching and network resource loadings through high level service descriptions (the metadata server would be a catalogue of catalogues).

NLA / AVCC LIDDAS Request for Tender [RFT 96/86 - May 97] – NLA and the Australian Vice-Chancellors Committee jointly issued the companion LIDDAS RFT (Local Interlending & Document Delivery Service). This further emphasised the perceived importance of empowering individual patrons to source their required texts from search through to delivery without mediation. Effective resource discovery is recognised as playing a critical enabling role in their service scenario.

CIMI (April 97) - The Consortium for the Computer Interchange of Museum Information is establishing a Z39.50 interoperability testbed for cultural heritage information with 5 participant organisations selected from 42 applicants.

National Library of Canada Z39.50 & ISO ILL Initiatives - The NLC has recently instigated an ILL Service Directory project in recognition of the fact that suitable services as well as desirable resources need to be located in an efficient manner. Such a directory may also be a requirement of the NLA/AVCC call (above) for distributed interlending services. Separately NLC has emphasised the importance of marshalling interoperability information in human-readable form to facilitate resource discovery in the networked environment in tabling guidelines for a WWW based ‘Z39.50 Server Guide’ (www.nlc-bnc.ca/resource/vcuc).

2.3 Potential Scope

There can be little doubt of the potential for a National Agency to play a creative role in this volatile and rapidly evolving environment - given an appropriate mandate.

Determining the extent of that mandate - the domain of the Agency - involves a combination of interwoven political, financial, technical and operational issues which pose perhaps the most serious problems for its establishment.

The question of scope might be most constructively approached from an operational viewpoint - on the premise that if a set of functions and domains interoperate increasingly and naturally in the real world, then the issues of the politics and funding of a support Agency should be worth addressing.

The question of scope might operationally be broken down by considering WHO (Service Providers) is offering WHAT (Resource Types) HOW (through which Services) and FOR WHOM (Users) :

- **Who?** Which parts of the UK information service community should fall within the remit of the Agency? For example, HEI library resources, National Data Centres, Archives, Public Libraries, Museums?
- **What?** What types and sources of knowledge should the Agency be interested in? For example, Bibliographic (Monographs & Serials), New media (such as WWW publications & multimedia), Archives, Artefacts?
- **How?** Which operational functions should such an Agency be concerned with? For example, Search, Locate, Request, Delivery supported by such gateway services as Collection Description and generic business functions such as authentication and charging?
- **For whom?** Who are the beneficiaries, whether Resource Discoverers or intermediaries or service providers whose needs will be addressed? For example, researchers, undergraduates, partner organisations, business users and the general public as well as information brokers (eg Librarians & Archivists) and programmatic users.

The following section (Section 3) presents the Scoping Study recommendations set against this background.

Section 3 Recommendations

The Recommendations of this Study are set out under six heads :

1. **Underlying** - Is an Agency required and on what basis?
2. **Target Community** - What sectors should the Agency serve?
3. **Target Domains** - With what resources & functions should it be concerned?
4. **Operation** - What activities should the Agency itself undertake?
5. **Organisation** - What sort of organisation is required?
6. **Funding** - What will be the source and extent of its funding?

The key recommendations are presented alongside the proposed Agency objectives in the Management Summary (Section 1.3).

The full set of recommendations are outlined in this Section where they are sequentially numbered for ease of reference.

The recommendations are substantiated and elaborated in the subsequent sections of this report, particularly Sections 4, 5 & 6.

3.1 Underlying

1. An Agency is required : We strongly recommend the creation of a National Agency for Resource Discovery. Stakeholders charged with the management of UK scholarly resources share key concerns and related initiatives regarding resource discovery and the downstream services (such as requesting and delivery). Furthermore we are at a watershed in information service development at which a sense of both concern and excitement is common to information professionals regardless of domain or sector. Given the imperatives and opportunities facing our services, collaboration over issues of service, technology and working practice is of the essence. (See Section 2.2).

2. An Agency will be widely welcomed : A significant majority of contributors to the consultation exercise would welcome such an Agency - given appropriate constitution and remit. The concerns expressed largely arose from a recognition of the pressures facing the library and information community - not from any unwillingness to work across boundaries to improve services. (See Section 5).

3. This initiative will be misunderstood : It is in the nature of cross-sector initiatives - and especially activities relating to change and to service development - that the Agency will from time to time be misrepresented and misunderstood. This can be effectively countered by good leadership, appropriate mechanisms for management and participation, and a focus on inclusion and complementarity. (See Section 4.1).

4. Empowerment not Enforcement : The fundamental role of the Agency must be to empower stakeholders to achieve mutual goals rather than to enforce standards or strategies. A deterministic approach is neither acceptable to the community nor appropriate for the times. The objectives of all activity should be added-value, complementarity and the possibility that the concerted activity of the whole may exceed the capabilities of the individual parts. (See Section 4.1).

5. Agency Mission : The National Agency for Resource Discovery should act as the UK focus for the facilitation of access to scholarly resources through high quality user-focused services. On account of the location of resources, its primary focus is on Higher Education Institutions and data centres and on the public libraries and archives that supplement those resources. In addition it should serve to create broad consensus across the library and information community by encouraging interoperability and ensuring that resources are profiled. (See Section 4 regarding roles and activities).

Possible 'Mission Statement'

To make resources visible and accessible
across domains and boundaries
in an efficient and sustainable manner.

Possible 'Strap Lines'

- Empowering Research through Effective Access to National Resources
- Unifying Resources, Empowering Research, Enriching Knowledge
- Discovery as the Gateway to Scholarship

The Agency will fulfil this mission through empowerment and complementarity, aiming to add value to sector initiatives and to promote a spirit of inclusion whereby successful results can be widely exploited in the UK.

6. Focus & Extensibility : Practitioners are strongly focused on the current demand for networked resource discovery services - and the Agency should support that initiative. Nevertheless it should be recognised that service horizons will broaden as the digital economy matures and as imperatives such as resource sharing are addressed. It is not desirable to have a national agency for every aspect of the service chain (such as Requesting or Delivery) and therefore it is recommended that the scope of functional interest is systematically reviewed from time to time. (See Section 4.2).

7. The Time is Right : Library and information services are considered at present to be at a cusp of both opportunity and crisis - facing economic and operational challenges from within and without. Committed and visionary stakeholders have gathered interest and support around the potential for service improvement through distributed systems. This trend has been strengthened by a number of technological and socio-economic factors (not least the emergence of the internet) and has been recognised in a wide range of initiatives within the global information community (see Section 2).

The Agency should therefore be in place by 1998 to provide timely support to forthcoming eLib (Phase 3), archival (National Archival Network demonstrator) and public library (such as those arising from EARL) and joint initiatives (such as the National Bibliographic Resource). Whilst this may raise issues in terms of drawing in funding and cross-sector buy-in, time is of the essence in this area of service development.

8. Preparatory Actions : On account of the time that will be required to establish the Agency, it is recommended that some preparatory actions are undertaken in support of related initiatives such as eLib Phase 3 and Archival Networking. These should include responsibility for (1) the maintenance of the MODELS Z39.50 Interoperability Profile and (2) the development of guidelines for Collection Level and Service descriptions drawing input from both libraries and archives.

9. Life without an Agency : Correctly constituted and focused on complementarity, such an Agency can make a vital contribution to all services which represent, manage and deliver scholarly resource. The Agency will deliver unique benefits by

- Building on the mutual recognition of opportunity and concern that currently unites stakeholders across domains
- Adding value to the UK tradition of continuous improvement of records and access
- Cohering major initiatives arising from such as the National Bibliographic Service, the National Council for Archives, the EARL consortium, the eLib programme and the Anderson Report
- Giving form and direction to voluntary association
- Providing representation, guidance and quality assurance regarding the global issues of standardisation, interoperability and best practice
- Serving the users of scholarly resource in the best interests of UK PLC

Without such a focal Agency, much key work will be duplicated by the well resourced and perhaps never undertaken by the majority. It is not advisable to rely on local motivations to satisfy the objectives identified in relation to this Agency (see Section 2.2). Neither is it practical to expect local resources to perform the range of necessary tasks which must be enacted in a cross-sectoral context upon both UK and international stages (see Section 4.3).

3.2 Target Community

10. Sectors & Curatorial Traditions : The Agency should respond initially to those sectors and curatorial traditions which have established common ground in the development of networked services and which recognise shared service imperatives (such as resource sharing). We recommend that they will be

- HEI Libraries
- HE Services (Data Centres & Gateways such as AHDS and the ANR Subject Services)
- National Libraries (The British Library and the National Libraries of Scotland & Wales)
- Public Libraries
- Special Libraries (such as the Royal Societies, the National Art Library and the Wellcome Institute)
- HEI, public & private Archives & Record Offices

Some curatorial traditions (notably Museums and other representations of cultural heritage) and domain interests (eg Business Information ranging from DTI to the Business Information Network) are notably absent from this list. This is not because we propose a strategy of exclusion but rather because early success will best be achieved by cohering those who actively share immediate service objectives (such as the adoption of Z39.50 and ‘clumping’).

10. Enabling Voluntary Association : Within the proposed sectors, it is inevitable that some organisations and professional bodies will be better positioned to participate than others. Likewise there will be potential partners in the Agency’s undertakings from other curatorial and data collection traditions such as the museum service and the research councils. It is therefore highly desirable that it should operate from Day One in a manner that allows partners to associate voluntarily and occasionally with specific undertakings regardless of the specifics of the funding mechanism.

12. Beneficiaries : Altruistically, the majority of consultation respondents emphasised responsibility to the end user - the researcher. There are however other important measures of success such as (1) benefits to other user groups such as businesses or the distance learner, (2) enrichment of the professional development and mobility of information service intermediaries (librarians, archivists and data centre staff) and (3) contribution to national and sector strategies for service optimisation (such as resource sharing, collection rationalisation, regional coverage, cost reduction and revenue bearing services).

13. Networking & Initiatives : It is important that the Agency is focused on the needs of the sponsoring community regarding access to scholarly resource in the UK. It should however be recognised that wider networking is critical in the information, standardisation and networking technology communities - especially as they become increasingly globalised and as their interests converge in the digital age. Agency personnel should be mandated to network actively and to open up opportunities for their colleagues in libraries, archives and data services – especially in cross-sector, international and embryonic digital contexts (eg CNI, W3C, DAVIC, IETF – see Sections 4.3 & 4.4).

3.3 Target Domains

14. Resource Types : Whilst recognising that bibliographic resources (and especially the rationalisation of serials holdings) represent a predominant concern for HEIs and Public Libraries, the Agency should take account of special collections, new media and other non-print resources as part of the full and rich picture of research resources. A hybrid approach to resource discovery is important to researchers, undergraduates, business users and the general public alike - especially as contributions to knowledge are increasingly made using new media.

15. Operational Functions : The initial functional focus must be Resource Discovery - which is not only a shared current concern but also a foundation for other distributed services and an extended 'end to end' service chain (ie Search and Locate through Requesting to Delivery). Nevertheless the Agency's remit must allow it to move in concertation with its community to address related issues and functional areas - especially regarding enhanced 'bread and butter' services such as requesting and delivery (see Section 4.2). Indeed it is in contributing to the development of such areas that the Agency will justify ongoing investment by making a key contribution to service economies (see Section 7).

16. Distributed Environment : Whilst recognising the imperatives of the real (physical) world, the Agency should be strongly focused on issues relating to services (Resource Discovery & beyond) in distributed (ie networked) environments, touching on generic service issues in so much as they contribute to networked service models (see Section 7). Whilst it is predictable that face to face and local area services will remain crucial to the offerings of libraries, archives and other information centres in perpetuity, it is contended that critical business, curatorial and technical issues (eg Authentication, Charging, Copyright) will be fruitfully addressed in the context of networked service growth.

17. Interoperability Profiles : In the world of standardisation, the Agency should be concerned with the establishment of Interoperability Profiles (such as for Z39.50, ISO ILL and service directories) rather than the development of the standards themselves. Whilst the Agency should promote international profiles, it may be necessary to achieve UK consensus for profiles that enable national initiatives to proceed in a timely manner (such as the MODELS Z39.50 Interoperability Profile relating to eLib Phase 3 and potentially to the National Bibliographic Resource) before achieving international approval.

18. Collection Level & Service Descriptions : Within the area of Resource Discovery, the development of Collection Level & Service Descriptions should be a priority action which would have relevance and appeal to real needs across sectors and curatorial traditions (see Section 4.3). This work is aligned to the recommendations of the Anderson Report. It should provide a critical element of concerted action and focus in the Agency's formative stage, as well as providing a touchstone for organisations that may otherwise find themselves excluded through lack of on-line offerings (see Section 6).

3.4 Operation

19. Spirit of Operation : Rather than adopting a deterministic or regulatory approach, the Agency should operate as an enabler, complementing and adding value to specialised initiatives in a spirit of collaboration. We believe that this will be effective in the current climate in which there is strong recognition of timeliness and shared goals amongst a wide range of stakeholders.

20. Scope of Activities : The National Agency for Resource Discovery should act as a focal point for the cohesive development of UK services as opposed to becoming a provider of information services in its own right. In exceptional cases, however, it may be highly beneficial for the Agency to kick-start a service - such as the mounting of a national Collection and Service Description gateway (see Section 4.3).

The range of activities involved in fulfilling Agency objectives (tabulated in Section 4.3) are illustrated by the following cornerstones :

- Quality assure and maintain relevant UK standards interoperability profiles, thereby promoting the value of service interoperability for resource discovery
- Promote the development of collection and service descriptions including appropriate cross domain standards as the entry level to incremental digitisation, efficient discovery and effective resource sharing
- Manage a high level register of resources and services falling within its functional remit, thereby assisting stakeholders in monitoring of the national resource portfolio
- Collaboratively evaluate the potential for new services and associated standards, thereby assisting both providers and users to maximise the potential of a national resource discovery infrastructure
- Provide representation on relevant standards groups, implementers groups, boards and steering committees
- Ensure through a combination of liaison, awareness and publication activities that UK initiatives align with emerging international standards and best practices

21. Liaison - Key Organisations : From the current vantage point, it would be important for the Agency to liaise actively with a range of organisations and professional groups. Clearly this list will change over time and according to functional and sector focus.

- AHDS
- ARL
- ASLIB
- BLRIC
- CEI (JISC)
- CNI
- CURL
- DNH
- EARL
- EC ACTS Programme (DG XIII)
- EC Libraries Programme (DG XIII)
- EFILA
- eLib Programme
- HE Data Centres (Bath, Manchester & Edinburgh)
- IFLA
- InterNIC
- Legal Deposit Libraries (British Library, National Libraries of Scotland & Wales, Cambridge & Oxford Universities, Trinity College Dublin)
- Library Association

- Library of Congress
- LIC
- Monitoring & Advisory Unit for HE Data Centres
- Museum Documentation Association
- National Council for Archives
- National Libraries of Australia & Canada
- Record Offices (Public Record Office, Irish & Scottish Record Offices)
- Regional Interlending Services (eg LASER, UNITY)
- RLIN
- SCONUL
- Society of Archivists
- Society of Chief Librarians
- UKERNA
- UKOLN

Plus appropriate publishers (through such as BIC), third party service providers (eg OCLC), systems suppliers (eg BLCMP, RLG) & projects (such as those under eLib and the European Framework Programme).

22. Liaison - Standardisation & Implementors Groups : From the current vantage point, it would be important for the Agency to liaise actively with a range of standardisation and implementors groups. Clearly this list will change over time and according to functional and sector focus.

- Metadata including Dublin Core & Warwick Framework
- Search & Locate including Z39.50, ZIG & UKZIG
- Request & Delivery including ISO ILL, IPIG & NAILLDD, GEDI, DAVIC, EDI.
- User Environment including W3C
- Network Environment including IETF

23. Review & Performance Targets : The role, focus and performance of the Agency must undergo periodic formal review involving not only its funding bodies but also peers within the information community. Much of the Agency's worth will be in facilitation and cross fertilisation of service developments - by definition at times indistinguishable from the contributions of its community partners. Therefore accountability is especially important to justify funding and to motivate performance. The recommendations summarised here and the activities detailed in Section 4 contain a number of areas for which performance targets and measures of success and value might be established.

3.5 Organisation

24. Positioning : Whilst the provision of the service should be put out to tender, we recommend that the Agency is hosted within an existing organisation for reasons of economy (see Section 4.5). On grounds of timing and synergy with complementary activities, it may be beneficial for either the British Library (perhaps through the National Bibliographic Service) or a HE organisation to perform this role. A pre-requisite would be an existing cross-sector remit such as that of UKOLN. The Agency service could be provided by a single organisation or by a partnership (such as a University with a technology partner) providing that a coherent Agency identity could be achieved. It is recommended that the contract is awarded for three year periods.

25. Management & Representation: The Agency must be a shared enterprise. It is therefore essential to achieve ongoing buy-in and involvement from both funding bodies and information service partners. It is recommended that a combination of Management and Advisory Board functions (of which UKOLN provides a current example) would provide the necessary opportunity for influence and review.

It is not desirable to create an onerous structure that is costly to resource (demanding invaluable time of both Agency officers and voluntary members). Nevertheless it is suggested that the potential for multilateral communication within these groups would be central to the partnership approach.

- The Management Board (maximum 10 people) should include representatives of the funding bodies, of the participating curatorial traditions (eg NCA, SCL) and of the Library & Information Commission.
- The Advisory Board (maximum 25 people) should include alternative representatives of the same stakeholders supplemented by key practitioners and experts covering the sectors and domains committed to work with the Agency.
- In addition small and effective Task Groups will be required to co-ordinate work with NARD officers on specific undertakings - such as the maintenance of Profiles.

26. Size of Establishment : The Agency will need a minimum of two officers to cover a range of roles and skills: Director (including public speaker, author and diplomat), library systems expertise (ranging from metadata standards to user requirements), understanding of distributed systems & WWW technology. Secretarial and infrastructure support will be needed; these may best be purchased on a part-time basis from the host organisation.

To achieve the Agency mission as comprehensively as envisioned in this study, the recommended establishment would be

- Director - Senior Post
- Research Assistant (Senior Grade) with library and IR expertise
- Research Assistant (Entry Level grade) with systems and IR expertise
- Infrastructure Support (Servers, Email, Web) from host organisation at 20% FTE
- Secretarial Support from host organisation at 50% FTE

Nevertheless funding constraints and economies available to existing organisations are recognised. Alternative scenarios for the establishment are therefore set out in Section 4.5 to cover the roles identified in Section 4.4. The minimum scenario would involve two key players working jointly for the Agency and a parent organisation on closely related tasks; this might represent upto 50% staff reduction and 40% cost reduction (see Section 4.5).

3.6 Funding

27. Extent of Funding : In the ideal scenario, it is estimated that a recurrent budget of 132 thousand pounds per annum would provide for the proposed establishment and its overheads within such as a UK HEI (assuming remuneration packages and overhead arrangements typical for the sector). The alternative scenarios are costed at between £108k and £72k per annum (see Section 4.5). Additional costs may be incurred in the first year (such as recruitment, legal fees, special printing, capital equipment requirements & launch events) which could be provided for through deferred recruitment.

A budget of £107k per annum is therefore recommended - though it is expected that this might be bettered under competitive tender involving organisations with suitable personnel and compatible focus.

28. Period of Funding : The existence of the Agency should be guaranteed for a minimum of three years and underpinned by the annual review of a rolling three Year Plan which will facilitate incremental extension of its tenure and adaptation of its remit. A three year period would provide sufficient stability to cover currently identified initiatives (for example, eLib Phase 3) and actions relating to such as the National Bibliographic Service, EARL and the Archive Network. This timeframe will also bring services beyond Resource Discovery onto the national agenda (see Section 4.2).

29. Sources of Funding : The funding of a National Agency should be broad based reflecting the mandate to serve a wide community. Funding should not be solely from the Higher Education sector and the agency's management and advisory inputs should involve broad representation. It is recommended that funding is guaranteed for the first three years by a combination of JISC and the British Library. During that period appropriate contributory arrangements should be established with participating stakeholders (for example, LIC, EARL, NCA) and with potential sponsors.

Section 4 Operational Proposals

This section details the operational scope proposed for the National Agency for Resource Discovery.

Within the context of the recommended mission and method of operation (Section 4.1), an examination of the broad activity levels envisaged for the opening three years (Section 4.2) is followed by a breakdown of the Agency role into detailed areas of activity (Section 4.3). This leads to an analysis of the potential roles of the Agency officers (Section 4.4) and to a related indicative budget proposal (Section 4.5).

The proposals arising from this section are encapsulated in the Recommendations of this Scoping Study under the headings of Operation, Organisation and Funding (Section 3 Paras 19 - 29).

4.1 The Role of the National Agency

Mission

The National Agency for Resource Discovery should act as the UK focus for the facilitation of access to scholarly resources through high quality user-focused services. On account of the location of resources, its primary focus is on Higher Education Institutions and data centres, and on the public, special and copyright libraries and archives that supplement those resources. In addition it should serve to create broad consensus across the library and information community by encouraging interoperability and ensuring that resources are profiled.

The 'Mission Statement'

To make scholarly resources visible and accessible
across domains and boundaries
in an efficient and sustainable manner.

Methods

The consultation exercise has clearly emphasised that such an Agency must position itself carefully in relation to established institutions and initiatives. This is not simply a matter of conciliation - though positive working relationships are important. Co-operation is the basis for the philosophy and the economics of the National Agency which should primarily seek to enable others to perform their mandated role to a high standard and in keeping with national interest regarding the accessibility of scholarly resources.

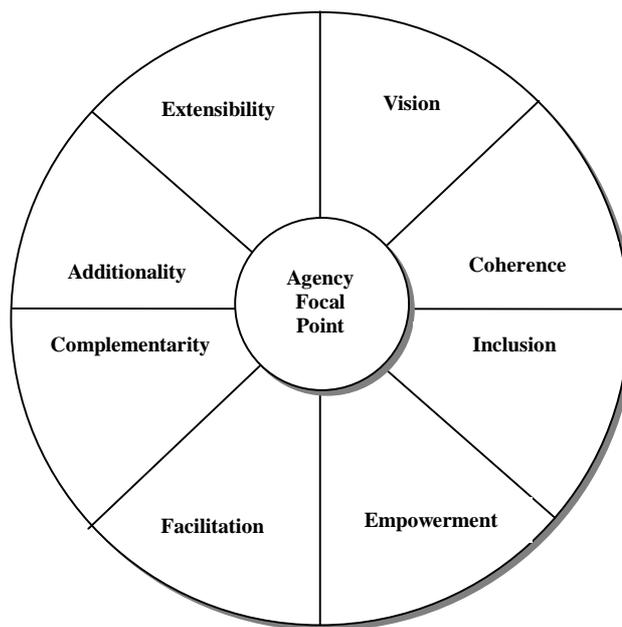
The Agency should seek to fill the gaps through promoting awareness and best practice and through enabling others to position their efforts most effectively. Only in special cases should the Agency take on service commitments (such as mounting collection descriptions) in addition to its role as a facilitator.

Figure 4.1 (logically to be read clockwise from 'Vision') encapsulates the characteristics and methods associated with the Agency in consultation responses and recommended in this report. Effective networked service development at a national level might be likened to collaboration in completing a jigsaw for which the pieces are also fashioned in real-time!

The components are as follows :

- Vision for how services might be developed
- Coherence of the roles of the active players
- Inclusion of the input of interested or active parties irrespective of funding
- Empowerment of others to contribute actively to mutually endorsed objectives
- Facilitation of their efforts by adding value, expertise and influence
- Complementarity through ensuring that the individual pieces fit the same picture
- Additionality through identifying the missing pieces
- Extensibility to fulfil an evolving service vision with new opportunities and problems
- The Vision is therefore incrementally reviewed and renewed

Figure 4.1 The Role of the National Agency



4.2 Activity Levels for the National Agency

There are potentially conflicting views regarding the long term role of a National Agency for Resource Discovery.

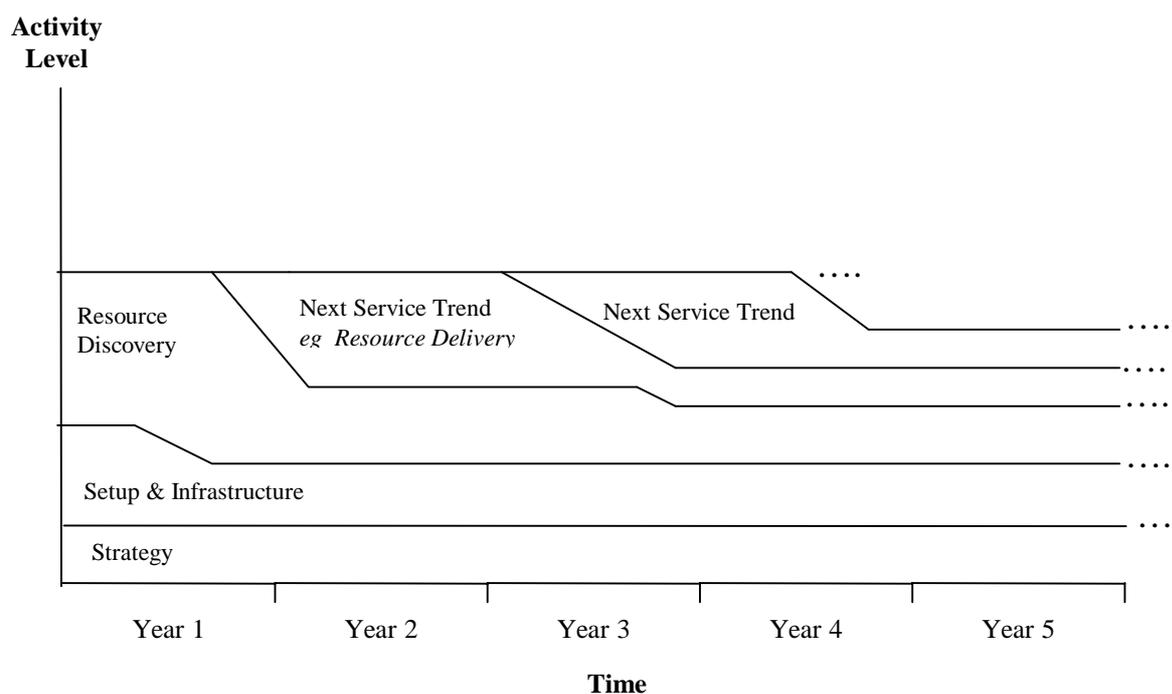
Role Scenario 1 - a fixed programme : The Agency is established to achieve key objectives regarding the development of the National Resource Discovery Infrastructure (see Section 4.3 for details of activity areas); once those objectives are fulfilled and responsibility is passed on to the established players, the Agency should cease to exist. It might be argued that there is currently a 3 year window when such activities are opportune, coinciding with eLib Phase 3, the establishment of EARL and the National Archive Network.

Role Scenario 2 - an end-game of maintenance : The Agency will continue to exist after the achievement of the key objectives set under Scenario 1. Nevertheless a much lower level of activity will be required in such a maintenance role, which would therefore necessitate the work being conducted as part of the remit of an umbrella organisation.

Role Scenario 3 - an evolving end-game : The emphasis on Resource Discovery is only the baseline for the development of subsequent 'downstream' services within the context of National Scholarly Resources - most obviously requesting and delivery (by whatever means). It is clear that disclosure, authentication and payment must each play a part along with assimilating the impact of new digital media. The ongoing review of the role of this Agency should therefore take account of the 'next generation' service requirements within the research community.

We strongly commend the value and efficiency of Scenario 3, though this issue is not critical at the onset of funding. The potential expansion of the role of the Agency under Scenario 3 is set out in Figure 4.2 based on a starting assumption of a fixed establishment (see staffing recommendations in Sections 4.4-5). The timescales associated with the resource discovery and resource delivery components fit our observations of regarding broader IS trends (see Section 2.2).

Figure 4.2 Activity Levels for the National Agency



4.3 Areas of Activity of the National Agency

A major source of discussion during the consultation exercise related to the actual activities to be undertaken by the Agency. Two very different views were considered.

View 1 - The Agency should provide a range of information services to the community of information providers, intermediaries and users. Some respondents interpreted each question regarding role (Questionnaire Sections A - D) as implying that the Agency would perform services such as collection description maintenance, authentication and charging (as opposed to providing focus, guidance and coherence to agencies needing to establish such services as part of their remit). This interpretation generated generally negative responses and concerned comments, serving to reinforce the alternative viewpoint.

View 2 - The Agency should be a focal point in the development, co-ordination of UK services and in assuring their cohesion (where appropriate) with global service trends. This approach was strongly endorsed during the consultation both by positive responses and by rejection of the alternative approach (View 1 above). The principles underlying this approach are set out in Section 4.1.

A wide range of activities has been identified relating to the achievement of the Agency mission. These are set out in Figure 4.3 which distinguishes between Activity Types (Horizontal Axis - Standardisation, Services and Liaison/Awareness) and Activity Themes (Vertical Axis - the developments and outcomes with which the Agency should be concerned.

The Themes include responsibility for future possibilities beyond merely Discovery and current media types - therefore adopting the evolutionary view of the Agency's role (Scenario 3 - Section 4.2).

The priorities assigned to each activity cell indicate a current view; next generation possibilities (Themes 7-9) will in time come to replace current concerns (Themes 3-6) on the agenda.

Activities have been identified (*) which should only be performed by the Agency in cases where other UK players are not in a position to deliver effectively or where a 'kick-start' might be beneficial. A recent example has been the development of the MODELS interoperability profile for Z39.50 which might have been undertaken by the Agency in order to initiate the process in a timely manner for eLib3. Future examples include the potential for proactive service provision in the area of mounting Collection and Service descriptions, where the potential (and standard) for such 'Gateway' services needs to be established before responsible UK players commit to such services.

Figure 4.3 Areas of Activity of the National Agency

Activity Themes	ACTIVITY TYPES									
	Standardisation			Services			Liaison/Awareness			
	Represent	Promote	Develop	Envision	Monitor	Provide	Vendors	UK Players	Overseas Players	Projects
1. Standards & Implementors Groups	H	H	*	H	H		H	H	H	H
2. Interoperability Profiles		H	*		H		H	H	H	H
3. Clumping		H	H		H		H	H	H	H
4. Collection Descriptions		H	H		H	*		H	H	H
5. Service Descriptions		H	H		H	*		H	H	H
6. Cross-Domain Issues		H	H		H			H	H	H
7. Supporting Services & Tools		M			M		M	H	H	M
8. Next Generation Services		M		H	M		M	H	H	M
9. New Media Types		M		H	M		M	H	H	M
10. Resource Visibility					H	*		H		M
11. Resource Sharing					H			H		H
12. Programme Planning	H			H			M	H	H	

Key

H = High Priority

M = Medium Priority

* = If key gaps are identified

4.4 Roles & Responsibilities of National Agency Officers

The Activity Types presented in Figure 4.3 (Horizontal Axis) are matched against potential levels of Agency Officers in Figure 4.4. A number of generic ‘Supporting’ and ‘Organisational’ undertakings have been added which underpin all the other activities.

The breakdown in this figure is based on the following assumptions

- All the activity types are essential to the success of the Agency with the exception of those asterisked (*) as provisional depending on the gaps in the provision by other UK players.
- The extent of the activities requires a minimum of two senior players - though some roles could be covered by officers in parallel with other associated undertakings (as illustrated in Costing Scenario 3 in section 4.5).
- The breadth of activity requires a mix of political, information services and technical skills which are unlikely to be covered by a single individual; we are however optimistic that the combination of attributes can be covered through two appointments (even if neither of them is in post full-time).
- As well as broadening the skill base, a third officer would allow for some of the day-to-day activities to be undertaken on a consistent basis without a high level of interruption. Furthermore there may be opportunity for such an officer to undertake contract work for partners in the UK IS or RTD communities

Figure 4.4 Roles & Responsibilities of National Agency Officers

Activity Types	Agency Director	Senior Researcher	Research Assistant
Standards			
Represent	3	2	-
Promote	3	2	-
Develop *	1	3	1
Services			
Envision	3	2	-
Monitor	1	3	2
Provide *	-	3	2
Liaison			
Vendors	2	3	2
UK Players	3	2	1
Overseas Players	3	2	1
Projects	1	3	2
Supporting			
Publications - Papers	3	2	1
Publications - Guidance	1	3	2
Workshops – Technical	1	3	1
Workshops - Practioner	2	3	1
Organisational			
Strategy	3	2	-
Funding	3	-	-
Management	3	1	-

Key

3 = Primary Role

2 = Second Role

1 = Supporting Role

* = If Agency Activity Required

4.5 Indicative Costing Scenarios

Three Costing Scenarios are presented in Figure 4.5. The following principles have been applied :

- The scenarios differ only in terms of human resources (and therefore people-related budgets). The salaries (including on-costs) are based on competitive public sector scales and assume candidates of middling experience.
- Organisational overheads are calculated on a basis that would be applicable to the incorporation of these personnel into a large public sector organisation (ie Overheads at 20% of people costs). This does not preclude the establishment of an independent Agency unit and such a budget would generally suffice in such circumstances.
- Start-up costs (eg recruitment & initial promotional literature) can be covered by savings due to staging of recruitment.

Costing Scenario 1 : This provides for the human resources to fulfil the Agency mission to what we regard as its full potential whilst adhering to the mode of operation set out in Section 4.1.

Costing Scenario 2 : This removes the Research Assistant post and therefore limits the capability of the Agency to respond in certain areas of activity - especially those marked as Category '2' under this post in Figure 4.4.

Costing Scenario 3 : This opens up the possibility of the agency being incorporated within a host organisation that can commit parts of existing key individuals to the Agency activities. This will only be feasible (1) if such an organisation is able to downgrade some of the existing role of such individuals (and there may be an associated cost to that) and (2) if there is some beneficial overlap between the existing roles/contacts and the agency requirements and (3) if the individuals concerned have the right skills set.

Figure 4.5 Indicative Costing Scenarios

	Scenario 1 Full Mission		Scenario 2 Minimum Required		Scenario 3 Shared Posts	
	£000s		£000s		£000s	
<u>Personnel Costs</u>						
Director	100%	40	100%	40	33%	13
Senior Researcher	100%	25	100%	25	100%	25
Research Assistant	100%	17		0		0
Secretarial	50%	7	50%	7	50%	7
<u>Support Costs</u>						
IT Infrastructure *		6		5		4
Special Print		3		3		3
Travel		12		10		8
<u>Overheads</u>						
Organisational @ 20% *		22		18		12
Annual Total		132		108		72

* Assumes the Agency is positioned within an existing institution.

Whilst stressing the potential benefits to be reaped from Costing Scenario 1 in the climate described in Section 2.2 and addressed by Role Scenario 3 (Section 4.2), we recognise the financial imperatives which may preclude such an investment. Furthermore, whilst Cost Scenario 3 is attractive, the risks regarding the degree of overlap, synergy and flexibility of resourcing are not insignificant.

Therefore this report recommends that a budget at the level of Scenario 2 (£108k per annum) should be identified as a pre-requisite to such an undertaking. Proposers should however be encouraged to consider Scenario 3. The actual cost to the funding organisations may therefore be between £70k and £100k per annum.

Section 5 Consultation Analysis

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 - 5.1.2 Scope
 - 5.1.3 Mission and Activities
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 - 5.1.5 Funding
- 5.2 Background and Context
- 5.3 Aims and Objectives
- 5.4 Methods of Investigation
- 5.5 Results
 - 5.5.1 Role of the Agency
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 - 5.5.3 Resource Discovery
 - 5.5.4 Functions
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 - 5.5.6 Authentication and authorisation
 - 5.5.7 Users
 - 5.5.8 Providers
 - 5.5.9 Funding of the Agency
 - 5.5.10 Charging
 - 5.5.11 Organisational Framework
 - 5.5.12 Links with other Organisations / Agencies

This research was conducted and its findings compiled by Shelagh Fisher & Geoff Butters
of the Centre for Research in Library and Information Management
at the University of Central Lancashire

The acronym NARD is used to represent the National Agency for Resource Discovery in this Section.

5.1 Summary and Conclusions

5.1.1 Agency setting

There was **general support** for a National Agency for Resource Discovery, with **81%** of respondents in favour. The Agency's **role** was viewed generally as **supporting/enabling** rather than deterministic/directive. Its remit should encompass sectors **beyond higher education** (e.g. **public libraries**). The Agency should also take into account developments within non-library information environments, including **archives and museums**.

A view expressed by a number of respondents was that the Agency would be a UK contribution to **international** developments in resource discovery and that a significant role for the Agency was to publicise access to networked resources.

Several comments in support of a National Agency for Resource Discovery were tempered with notes of caution, and some uncertainty about the role of the Agency. These cautious notes concerned, **duplication of other developments, cross-domain searching, emphasis on a national focus (rather than international, HE and non-HE), funding, the need for wider acceptance and understanding of the Agency's role and the need for a clearer picture of the benefits to users and providers**.

5.1.2 Scope

Library catalogues were thought by **98%** of respondents to be the key concern for the Agency, particularly in the initial start up.

Archives were indicated by **85%** of respondents as significant material which should be encompassed by the Agency. There was concern that attention should be drawn to current developments within the National Register of Archives and JISC initiatives.

Grey literature was the third most frequently indicated (81%) category of material with which it was thought that the Agency should be concerned.

In addition to the list provided in the questionnaire, other categories frequently suggested by respondents included '**Web resources**', and a number of respondents indicated that 'all electronic materials' should be within the Agency's remit. Other categories of material suggested by respondents included multi-media, non-book material, commercial resources, Public Record Office material, art, artefacts, scientific data, maps, official publications and 'descriptions of physical resources'. One respondent commented on the value of human skills in resource discovery.

The majority of respondents thought that the Agency should operate in the interests of **librarians** (93%), **HE researchers** (93%) and **HE students** (90%). 62% of respondents indicated that the Agency should operate in the interests of the general public, whilst 47% thought that the Agency should be concerned with users outside the UK. Several respondents commented that the Agency should operate in the interests of all users.

The majority of respondents (94%) indicated that the Agency should **operate in the interests of catalogue providers in higher education**; 81% thought that the interests of **public library** catalogue providers should also be served. Other information resource providers indicated with a high frequency were **Archives** (85%) and **Dataset Centres** (83%).

The majority of respondents (89%) indicated that the concept/term '**Resource Discovery**' (in the context of a National agency) encompassed '**Search and Locate**', with 'Collection Description' and 'Catalogues' achieving 87% and 83% frequencies of responses, respectively. 'Request' and 'Delivery' were thought to be encompassed by 'resource discovery' by only 39% and 36% of responses, respectively, the view being that these were functions of the information providers.

A small majority (47%) of respondents to the survey did **not** think that the Agency should be concerned with developing measures to assure the **authentication** of users. 38% indicated that it should, whilst 15% said that they didn't know. Several respondents commented on the likely domination of user authentication by the commercial 'players' and systems developers. Most respondents (49%) indicated that the Agency should **not** be concerned with developing measures to assure the **authorisation** of users. 34% said that it should. Seventeen percent said that they did not know.

5.1.3 Mission and Activities

A key function of the Agency was indicated by the majority of respondents (85%) to be to **'promote the concept of service interoperability for resource discovery'**. Other functions indicated with a high frequency of response included 'assisting providers in completing resource profiles', 'monitoring the national resource portfolio', 'maintaining a register of approved resource profiles', 'identifying appropriate resources', 'determining categories of resource clumps' and 'performing an awareness, training and updating role'. Such functions may be described as **enabling and supportive**. There was less support for the more directive and deterministic functions such as 'approving resource profiles', 'providing descriptions of resources' and 'approving information resources'.

The majority of respondents (58%) thought that the Agency should be involved in **the development of standards**, although a total of 42% indicated 'no' or 'don't know'. Respondents who indicated that the Agency should be involved in standards development named a broad range of other standards development agencies with which NARD should co-operate.

The majority of respondents (51%) indicated that they **didn't know** whether NARD should **impose 'kite-marked'** standards, whilst 32% said that it should not. Only 17% of respondents indicated that the Agency should impose 'kite-marked' standards. One respondent thought that authentication protocols should be promoted by NARD as kite-marked standards.

5.1.4 Organisational Framework

Half of the respondents (51%) indicated that the Agency should be established as a **department within an existing organisation**. A number of these suggested that it should become free-standing once it was proven and had become established. Only 15% of respondents thought that such an Agency could be a Private Finance Initiative. No respondents indicated that the Agency could be managed solely by a committee structure.

A very broad range of national and international organisations, initiatives and projects were suggested by respondents as agencies with which the Agency should co-operate.

A number of respondents commented that the Agency could be a **natural extension of UKOLN**.

5.1.5 Funding

A small majority (51%) of respondents indicated that **JISC should fund the Agency in the first phase**. And 40% indicated that the Agency should continue to be funded by JISC in the longer term. (This is to be expected as the majority of respondents were from the HE sector). However, a significant number of answers indicated **more than one funding source**. Where more than one source was indicated, it was for JISC and BL jointly, or JISC in the first phase, and the British Library in the longer term. The general view was that the Agency was likely to be a **JISC initiative**. This was a **cause for concern** for some respondents as the Agency would be 'tied' to HE.

Only 28% of respondents thought that the Agency should **charge** for its services, whilst a total of **72%** responded either **'no'** (34%) or **'don't know'**(38%). However, a general view was that, in principle, end-users should not be charged, but that there may be a case for charging libraries as users.

Suggestions for charging mechanisms included: payment on a subscription basis, rather than pay per use, based on the previous year's usage; not charge in the early phase of its operation, but **introduce charges after it becomes established**; a network levy; part of a 'bundled' set of JISC charges. One comment was that NARD should certainly not charge for its services if it was being funded to provide them. Several respondents commented that questions about charging were dependent on the funding model.

Only 23% of respondents thought that the Agency should be concerned with charges on behalf of providers, whilst 45% indicated that it should not. 32% percent indicated that they did not know. There were some suggestions that NARD could **act as a broker** for charged and uncharged services, but that, again, this was dependent on the funding model.

5.2 Background and Context

The need for a National Agency for Resource Discovery was identified by the MODELS project which examined, as one of its sub-foci, the problems of providing access to existing catalogue data based on the heterogeneous, fragmented resource which currently exists in the UK. The focus was on discovery, not on request or delivery of materials, in that library catalogues represent an important resource discovery tool for printed scholarly material.

However, the user who wishes to discover the existence or location of a particular item, may have to visit, in an unguided way, a variety of individual catalogues. Catalogues include individual library catalogues, union catalogues and significant national services. There are also other significant resources which may not be available for the user via a discovery tool, e.g. museum and archive materials. It is widely accepted that resolving the issue of resource discovery will be a key requirement for building user-friendly, accessible services in the future. Users will want to be able to specify criteria by which a search should be performed - for example, by stating preferences for geographical proximity, for subject strengths, availability, type of material and so on.

A series of MODELS workshops identified far-reaching resource discovery requirements. In particular, Workshop 3 developed the concept of 'clumps' of resources and identified the need to describe the resources which make up a clump (such as individual libraries' catalogues) in a comprehensive and consistent way in a resource profile. It was recognised that a National Agency for Resource Discovery would facilitate this by, for example, promulgating standards for resource profiles and registering each profile. Although initially the emphasis would be on library catalogues and collections of metadata, we would expect the NARD to move on quickly to other resource collections, e.g. archives, databases, museum material, web sites.

5.3 Aims and Objectives

The aim of this Study was to define a service to facilitate effective access to the UK scholarly resource. In the first instance, this meant access to printed resources as represented by library holdings, but the study encompassed a broader vision for access to other components such as archives and museums, electronic texts, audio-visual and other materials. The objectives of the study were: to propose a framework for the structure, funding and governance of a National Agency for Resource Discovery (NARD); to elaborate the purpose of the Agency and the methods by which they will be achieved.

5.4 Methods of Investigation

The methods used in the Study to investigate the requirements for the NARD service included consultation with relevant 'stakeholders' and key individuals primarily within the academic community and also in other sectors. The consultation participants were provided with Discussion Drafts which outlined the proposed Agency's mission, framework, methods of operation, and the technical and organisational issues. The consultation process was facilitated by the use of questionnaires and interviews to selected individuals.

The consultation exercise was undertaken in the period February - March 1997. One hundred and sixteen questionnaires (Appendix 1) were distributed to key individuals in HEIs, the British Library, Regional Library Systems, dataset centres, archival organisations, museums, IT organisations, library systems suppliers and publishers. A list of respondents is included in Appendix 2. Sixty two questionnaires were returned, constituting a 53% response rate.

A number of interviews were also conducted with individuals listed in Appendix 2. A separate consultation exercise was conducted with key stakeholders in the public libraries sector. A summary of the public library perspective is included in Section 6.

The quantitative data were analysed using SPSS. The qualitative data (comments and interviews) were analysed for key themes, and illustrative comments have been incorporated in the discussion of Results below (Section 6). A full transcript of comments has been compiled as part of this analysis and is available from CERLIM at the University of Central Lancashire on request.

5.5 Results

The Results of the Consultation exercise are organised under the headings and format which were used in the questionnaire (Appendix B)

5.5.1 Role of the Agency

A1	Do you think that there is justification for the establishment of a National Agency for Resource Discovery?	
	YES	81%
	NO	2%
	DONT KNOW	17%

There was general support for an Agency for Resource Discovery, with 81% of respondents in favour. The Agency's role was viewed generally as supporting/enabling rather than deterministic/directive. Its remit should encompass sectors beyond higher education (e.g. public libraries). The Agency should also take into account developments within non-library information environments, including archives and museums. For example, this would include international standards for archive description and data exchange, such as ISAD(G) and ISAAR(CPF).

A view expressed by a number of respondents was that the Agency would be a UK contribution to international developments in resource discovery and that a significant role for the Agency was to publicise access to networked resources. Several comments in support of a National Agency for Resource Discovery were tempered with notes of caution, and some uncertainty about the role of the Agency. These cautions concerned:

Duplication of other developments

Will [NARD developments] compete with existing service agencies and developments already under way? How will NARD assist or complement these developments - e.g. CURL, COPAC, UNITY, VISCOUNT, EARL My recommendation is that it should be advisory and facilitating rather than a direct service operator.
(Peter Smith, LASER)

Needs to take into account the work which has already been carried out in the area of union catalogues such as Unity which seeks to bring together divergent sources as an integrated one search tool.
(Deborah Ryan, NWRLS)

Cross-domain searching

I look forward to a fruitful collaboration between the Agency and the JISC . . .archives sub-committee in this area. Our work very much ties together but there will need to be sufficient latitude/flexibility in any system devised to allow for the interrogation at collection level of all material held. I suspect it will be ambitious to seek to achieve this for a range of sectors simultaneously within a single project and believe a variety of projects will need to to address the very wide range of issues raised by this questionnaire.
(Patricia Methven, JISC Archives Sub-committee)

National emphasis

I have doubts about the term "national" as it is used throughout since it contradicts the implied focus on resources owned, managed, or controlled by institutions within the HE sector.

(Daniel Greenstein, Arts & Humanities Data Service)

Funding

[The Agency is] a highly desirable concept but I am sceptical about the political will to put enough resources into it to succeed. I do not think it could ever cover its costs as a commercial operation.

(Charles Oppenheim, De Montfort University)

Need for wider acceptance and understanding

It may be useful to have a seminar to outline the purposes and applications of the Agency to gain wide support.

(Deborah Ryan, NWRLS)

[The Agency] is likely to prove controversial, as it precedes wide understanding of the need for itself....

(Robin Yeates, LITC)

Benefits to users and providers

I would like to know what the positive benefits from the end-user perspective are likely to be and whether these justify the cost of setting up such an agency. How would it complement other resource discovery services both in the academic and public domain? What are the consequences of not having an Agency?

(Julia Chruszcz, Manchester Computing Centre)

Concern was expressed from a museum perspective that access to records representing a unique collection would stimulate demand for access to the physical resource. This could be problematic in that a) museums are beginning to charge for entry, and b) access would need to be limited to protect such unique resources.

A further dimension, proffered by Ray Lester, (Natural History Museum) was that information about the Museum's collection was already on the Web, so he would, for example, be reluctant to undertake the task of completing 'profiles' for use by the Agency, and reflected that it 'should log to Web sites'. Again, he raised the question - 'What do resource providers get out of it?', especially in an environment where there is pressure for income generation.

5.5.2 Types of Resource

A2	With which of the following types of resource do you think the Agency should be concerned?	
A2.1	Bibliographic material	98%
A2.2	Archives	85%
A2.4	Grey literature	81%
A2.6	Research/Experimental Outputs	68%
A2.3	Museum collections	66%
A2.7	Music	66%
A2.5	Teaching & Learning Resources	57%
A2.8	Local history	45%
A2.9	Other	34%

The term 'bibliographic material' is interpreted here (and in the Discussion Document) as library catalogues, providing access to books. Ninety-eight percent of respondents thought that such material should be the key concern for the Agency, particularly in the initial start up.

I think it is important not to be too ambitious too soon. I would give priority to bibliographic materials and then gradually add materials where we think we can make progress.

(Anon)

It is tempting to specify all and add to the list but I don't believe that it would be realistic for the Agency to be so all-encompassing. The task if only focused on bibliographic materials is a huge one. (Julia Chruszcz, MCC)

Archives were indicated by 85% of respondents as significant material which should be encompassed by the Agency. One archivist commented that this was probably more appropriate 'at the Dublin Core level'. Another was concerned that attention should be drawn to networking developments within the field of archives.

Through the National Register of Archives (NRA), and in pursuance of our role to promote the co-ordinated actions of professional and other bodies, our staff have been active in the development of automated and networked funding aids to British archives. The NRA database forms the centre of our website. Links to on-line archival catalogues are planned to augment the current service...There is a danger that the role proposed for a National Agency for Resource Discovery may duplicate much of what we are trying to achieve. Although we would welcome any assistance with our work, we are not convinced that Agency has a separate or useful function here.

(Dick Sargent, Royal Commission on Historical Manuscripts; correspondence)

A follow up interview with Dick Sargent revealed that a real concern is that not only will the NRA developments be ignored, but that the Agency concerns itself solely with discrete archive collections in universities, and not the NRA initiatives, thus leaving a major gap in the national archive resource accessible via the Agency.

Grey literature was the third most frequently indicated (81%) category of material with which it was thought that the Agency should be concerned. In addition to the list provided in the questionnaire, other categories frequently suggested by respondents included 'Web resources', and a number of respondents indicated that 'all electronic materials' should be within the Agency's remit.

While appreciating the need to concentrate on 'traditional' bibliographic resources, I feel that any approach that ignores Web resources risks being viewed as dinosauric. The Web is

probably the first resource searched by academics and needs to be fully integrated into any Agency approach. (Peter Stubley, University of Sheffield)

Any resource that is of national interest and which is available to the end user via the electronic network [should be of concern to the Agency]. This does not exclude those physical resources which can be described, located and ordered electronically even if they need to be delivered by traditional land mail. (Ed Davidson, Fretwell Downing)

Other categories of material suggested by respondents included multi-media, non-book material, commercial resources, Public Record Office material, art, artefacts, scientific data, maps, official publications and 'descriptions of physical resources'.

One respondent commented on the value of human skills in resource discovery:

There are many human resources available to help people find and use information - an important consideration in the complex scientific data world. Agencies with skilled staff should be incorporated - note that many of these are outside the traditional LIS domain. (Frank Norman. National Institute of Medical Research)

5.5.3 Resource Discovery

A3	In the context of a National Agency, which of the following operational functions do you think "Resource Discovery" encompasses?	
A3.4	Search & Locate	89%
A3.1	Collection Description	87%
A3.2	Catalogues	83%
A3.3	Authority Files	64%
A3.7	Discovery/disclosure agents	60%
A3.5	Request	39%
A3.6	Delivery	36%

Eighty-nine percent of respondents indicated that 'resource discovery', in this context, encompasses 'Search and Locate', with 'Collection Description' and 'Catalogues' achieving 87% and 83% frequencies of responses, respectively.

I believe that the Agency's role is to 'publish' access to a wide variety of networked resources, ultimately enabling the end user to discover these resources without having had prior knowledge of them.

(Ed Davidson. Fretwell Downing)

I have grave doubts about centralised cataloguing models...though [with] a Search and Locate facility focusing on a pre-defined range of resources then the Agency could succeed and contribute handsomely.

(Daniel Greenstein, Arts and Humanities Data Service)

[Need to include] search support eg. Thesauri, classification structures, relevance feedback mechanisms. Operational feedback within subject searches is a much needed priority.

(Douglas Anderson. Robert Gordon University)

'Collection Description', 'Catalogues', 'Authority files' and 'Search and Locate' were thought to be the most 'relevant' for archives.

'Request' and 'Delivery' achieved only 39% and 36%, respectively, of responses, the overall view being that these were functions of the information providers.

I think the Agency should not attempt to take over the work of holding centres, but should promote the accessibility of their information and services.

(Bernard Naylor. Southampton University)

I think the handing of resource ordering, delivery and billing is probably beyond the scope of the Agency, and belongs in the domain of the end user, their host institutions and the service providers. (Ed Davidson, Fretwell Downing)

5.5.4 Functions

A4.	Which of the following functions do you think the Agency should perform?		
A4.10	promote the concept of service interoperability for resource discovery	85%	
A4.7	assist providers in completing resource profiles	79%	
A4.1	monitor the national resource portfolio	77%	
A4.6	maintain a register of approved resources profiles		75%
A4.2	identify appropriate resources	74%	
A4.4	determine categories of information resource 'clumps'	72%	
A4.11	perform an awareness, training and updating role		72%
A4.9	provide a focus for liaison between resource providers and users	59%	
A4.5	approve profiles of resources	57%	
A4.8	provide descriptions of approved sources and collections	57%	
A4.12	represent the interests of the LIS community	32%	
A4.3	approve information resources	28%	
A4.13	other	11%	

Eighty five percent of respondents indicated that to 'promote the concept of service interoperability for resource discovery' was key function of the Agency. Other functions indicated with a high frequency of response included 'assisting providers in completing resource profiles', 'monitoring the national resource portfolio', 'maintaining a register of approved resource profiles', 'identifying appropriate resources', 'determining categories of resource clumps' and 'performing an awareness, training and updating role'. Such functions may be described as enabling and supportive. There was less support for the more directive and deterministic functions such as 'approving resource profiles', 'providing descriptions of resources' and 'approving information resources'.

Other views on the functions of the Agency included:

The Agency should perform functions to move to a critical mass of libraries using [resource discovery] facilities. I would prefer to see this achieved by example and encouragement rather than by a long hard sharp stick. Thus I am not happy about the 'approval' and 'registration' approach
(Peter Stubley, University of Sheffield)

'Flexibility and expandability should be key watchwords for the Agency. The agency potentially should offer services handling any or all of the following steps: description; discovery; disclosure; request; authentication; authorisation; charging; delivery. Information providers and user should choose, from the range of services, what suits them. Service level agreements would be drawn up to cover the various models. Issues needing addressing are - standards / interoperability / user friendliness / expandability / copyright / multimedia resources / authorisation / authentication/charging / promotion of services / advice / liaison. A balance needs to be struck (and subsequently constantly redefined) between a laissez faire approach (provided of course that information providers and users meet agreed standards) and a certain amount of dirigiste in the national interest - for example, identifying gaps in provision or missing resource providers and steering the enterprise in such a way as to bring them on board - maybe via project funding'.
(Jean Sykes, University of Westminster)

'It is essential that information providers choose and create their own 'clumps' according to their own experience and their user-community requirements. They should be encouraged to monitor changing patterns of usage as users increase/change and respond accordingly. The scheme will rely on co-operation and an appreciation of the value of 'the resource' made available.

(Anon)

[It should] *participate in a process leading to a National Distributed Collection* (Chris Rusbridge, Warwick University/e-lib Programme Director)

The Agency should provide an overall high-level view of the resources available to the UK HE community. It should act as a broker between service users and service providers in that it is capable of bringing the two together by identifying and publicizing various datasets and clumps. I'm sure some clumps will be created and maintained by the Agency itself. Some will be formed and maintained by outside agencies, but be 'published' by the Agency. Some clumps will be ad hoc session-specific things created and managed by the end user or their host institution. It is possible that the Agency could become a kind of clearing-house between the protocol implementers, the users, the service providers etc., but I suspect all these groups already have their own specifically focused contact organizations. (Ed Davidson, Fretwell Downing)

5.5.5 Standards

A5.	Should the Agency be involved in the development of standards (e.g. for Protocols, Resource Profiles, Quality Controls, Z39.50 UK Interoperability Profile)?	
	YES	58%
	NO	19%
	DONT KNOW	23%

A6.	Should the Agency impose "kite marked" standards?	
	YES	17%
	NO	32%
	DONT KNOW	51%

Fifty-eight percent of respondents thought that the Agency should be involved in the development of standards, although a total of 42% indicated 'no' or 'don't know'. Of the respondents who indicated that the Agency should be involved in standards development, several named other standards development agencies with which NARD should co-operate. These were:

AACR	
BSI	IETF
CIDOC	ISAD(G)
CIMI	ISO (TC46)
CIQM	LC
CNI	MARC
Dublin Core	Museum Documentation Association
EFILA	NCA
EWOS	PRO
FGDC HMC	W3C
ICA	ZIG

The majority of respondents indicated that they didn't know whether NARD should impose 'kite-marked' standards, whilst 32% said that it should not. Only 17% of respondents indicated that the Agency **should** impose 'kit-marked' standards. One respondent thought that authentication protocols should be promoted by NARD as kite-marked standards.

5.5.6 Authentication and authorisation

Forty seven percent of respondents to the survey did not think that the Agency should be concerned with developing measures to assure the **authentication** of users. Thirty eight percent indicated that it should, whilst 15% said that they didn't know.

Several respondents commented on the likely domination of user authentication by the commercial 'players' and systems developers, with one respondent stating 'Leave it to industry'.

Forty nine percent of respondents indicated that the Agency should NOT be concerned with developing measures to assure the **authorisation** of users, whilst 34% said that it should. Seventeen percent said that they did not know.

B1	Should the Agency be concerned with developing measures to assure the <u>authentication</u> of users? (i.e. 'who are you?')
	YES 38%
	NO 47%
	DON'T KNOW 15%

B2	Should the Agency be concerned with developing measures to assure the <u>authorisation</u> of users? (i.e. 'what are you allowed to do?')
	YES 34%
	NO 49%
	DON'T KNOW 17%

5.5.7 Users

B3	Who are the Users in whose interest the Agency should operate?	
B3.1	Librarians	93%
B3.2	HE Researchers	93%
B3.4	HE Students	90%
B3.3	HE Teachers	89%
B3.5	General Public	62%
B3.6	Programmatic Users'	49%
B3.7	Users outside the UK	47%

Over 90% of respondents thought that the Agency should operate in the interests of librarians (93%), HE researchers (93%) and HE students (90%). Sixty two percent of respondents indicated that the Agency should operate in the interests of the general public, whilst only 47% thought that the Agency should be concerned with users outside the UK.

Several respondents commented that the Agency should operate in the interests of all users.

It is in everyone's interests not to impose a frontier mentality. (Nicky Ferguson, University of Bristol)

The Agency, if it is to be effective, needs to have a very wide brief encompassing users beyond the HE community. (Anon)

A universal and international approach must be taken if this initiative is to mean anything. Prioritising is a different matter - but if pushed I would say HE researchers, HE teachers, HE students, Librarians, Programmatic users, Users outside UK, General Public. (Peter Stubbley, University of Sheffield)

The Agency should operate in the interests of all users of networks who have information discovery requirements. The lack of co-ordination between HEI, public libraries and national network developments have not facilitated the full exploitation of our national resource. The commitment to lifelong learning, open and distance learning and national/international credit transfers should all be taken into account. (Emma Robinson, University of London Library)

At the other extreme, one respondent thought that the Agency should operate solely in the interests of 'information guides' or librarians.

I believe that trying to accommodate the needs of very large groups would lead to stagnation. Information guiders should provide an interface between NARD and these wider groups. (Ian Lovecy, University of Wales, Bangor)

5.5.8 Providers

B4	Who are the <u>Resource Providers</u> in whose interest the Agency should operate?	
B4.3	Catalogue providers - HE	94%
B4.6	Archives	85%
B4.2	Dataset Centres	83%
B4.4	Catalogue providers - Public libs	81%
B4.5	Museums	70%
B4.1	Commercial information providers	49%
B4.7	Providers outside the UK	39%
B4.8	Others	9%

The majority of respondents (94%) indicated that the Agency should operate in the interests of catalogue providers in higher education. Eighty one percent thought that the interests of public library catalogue providers should also be served. Other information resource providers indicated with a high frequency were Archives (85%) and Dataset Centres (83%). A number of respondents were of the view that potential 'resource providers' are broader than those indicated in the question. For example

'The problem with scholarly resources is that they know no boundaries such as the ones defined here. Accordingly an Agency, to be effective, would have to operate across these boundaries, though this will increase organisational challenges' (Daniel Greenstein, AHDS)

'In the end, it's all potentially useful information. A resource profile with content restricted as possibly implied here is by that token less useful' (Bernard Naylor, Southampton University)

'[The Agency] should operate in the interests of] all potential providers. otherwise inoperable and with false parameters which would detract from the idea of a universal approach albeit a planned programme of integration would be necessary. (Douglas Anderson, Robert Gordon University)

'I cannot see the need to categorise any provider out of such a service. The user at the end of the day requires service and is not going to worry who provides the data as long as it's provided - at the right time and at the right cost' Martin Fisk, Aurora Information Technology)

Although 49% of respondents indicated that the Agency should operate in the interests of commercial information providers, several respondents commented on the financial implications. For example:

'Commercial information providers can look after their own interests but the Agency could offer to be a broker for such services for a fee. How far the Agency should then act in the interests of such providers would be determined by service level agreements. (Jean Sykes, University of Westminster)

5.5.9 Funding of the Agency

C1	How do think the Agency should be funded?	
C1.1	By JISC <i>in the first phase only?</i>	51%
C1.2	By JISC <i>in the longer term?</i>	40%
C1.4	By the British Library <i>in the longer term?</i>	24%
C1.6	By other agencies	13%
C1.3	By the British Library <i>in the first phase only?</i>	13%
C1.5	By the Private Finance Initiative	11%

A majority (51%) of respondents indicated that JISC should fund the Agency in the first phase, and 40% indicated that the Agency should continue to be funded by JISC in the longer term. This is to be expected as the majority of respondents were from the HE sector. However, a significant number of answers indicated more than one funding source. Where more than one source was indicated, it was for JISC and BL jointly, or JISC in the first phase, and the British Library in the longer term. The general view was that the Agency was likely to be a JISC initiative. This was a cause for concern for some respondents. For example:

‘The question of how the Agency should be funded is difficult, but important, In order to cover the widest possible constituency it should not be tied to JISC. A new model for funding may need to be developed [incorporating] several agencies, including JISC and BL’ (Anon)

‘JISC funding concerns me, in that the Agency’s formative years of development may include heavy bias towards how HE establishments would like to see this initiative develop and other sectors may be marginalised.’ (Deborah Ryan, NWRLS)

Any genuinely national agency would require genuinely national/co-operative funding. JISC funding should be used, if at all, to lever a more comprehensive and comprehensively funded initiative. The British Library’s remit will limit [JISC’s] role as a sole or exclusive funding agency. (Daniel Greenstein, AHDS)

Other suggestions for funding included:

‘If dataset centres supported by research councils are to be covered, then these councils should be approached for support’ (R. J. Chamberlain, University of Nottingham)

‘Such a wide ranging proposal should have government support outside of HE, but I’m not sure from where. In reality, nothing will be forthcoming..’ (Peter Stublely, University of Sheffield)

‘...the libraries themselves..’ (Bernard Naylor, Southampton University)

‘..In the longer term, when the Agency has wider applicability, it would have to be self-financing..’ (Jean Sykes, University of Westminster)

5.5.10 Pricing and charging

D1	Should the Agency charge for its Resource Discovery services?	
	YES	28%
	NO	34%
	DONT KNOW	38%

Only 28% of respondents thought that the Agency should charge for its services, whilst a total of 72% responded either 'no' or 'don't know'. Of the respondents indicating 'yes', one commented:

Any genuinely national agency would be expensive to run and would have to charge for its services. It would have to consider charging both participating information providers and users.

(Daniel Greenstein, Arts & Humanities Data Service)

However, a general view was that, in principle, end-users should not be charged but that there may be a case for charging libraries as users. Two respondents suggested that payment should be made on a subscription basis, rather than pay per use, based on the previous year's usage. Several others commented that the Agency should not charge in the early phase of its operation, but should introduce charges after it becomes established. One respondent suggested a network levy, whilst another said that the Agency should not charge, unless it was part of a 'bundled' set of JISC charges. One comment was that it should not charge for its services, especially if it was being funded to provide them. This reflects the view that the charging issue

'partly depends on the funding model. Any PFI-based model probably assumes charging and a fairly constant and predictable revenue stream'.

(Anon)

Views from the field of Archives included:

Charging is desirable: if it eases access from outside the HE Sector, it assures the survival of the service, and makes users appreciate the real cost of provision, but - it may reduce take up. Interest in electronic sources among historians is still low. Charging may make their current labour intensive methods seem more attractive.

(Dr Angela Raspin, Archivist, BL Political & ES, LSE)

'From the archive perspective only: YES for the provision of surrogates in some case; NO for basic search and locate'. (Patricia Methven JISC Archives Sub-committee)

D2	Should the Agency be concerned with charges on behalf of Information Providers?	
	YES	23%
	NO	45%
	DONT KNOW	32%

Only 23% of respondents thought that the Agency should be concerned with charges on behalf of providers, whilst 45% indicated that it should not. Thirty-two percent indicated that they did not know. There were some suggestions that it could act as a broker for charged and uncharged services, but this was again dependent on the funding model. One respondent's view was that a Service Level Agreement might be appropriate.

5.5.11 Organisational framework

E1	Of the models proposed in Section 6 of the accompanying Discussion Document, which do you consider to be the most appropriate framework for the organisation of the Agency?	
E1.3	Scenario 3 (dept in existing org.)	51%
E1.1	Scenario 1 (free-standing agency)	40%
E1.4	Scenario 4 (PFI)	15%
E1.2	Scenario 2 (committee)	0%

Half of the respondents indicated that the Agency should be established as a department within an existing organisation, whilst 40% indicated that it should be a free-standing agency. A number of these suggested that it should become free-standing once it was proven and had become established. Only 15% of respondents thought that it could be a Private Finance Initiative. No respondents indicated that the Agency could be managed solely by a committee structure.

A number of comments were made to the effect that the Agency could be a natural extension to the work of UKOLN.

Over half of the respondents appended specific comments in addressing this question, to comment on each of the scenarios, or to suggest combined features of the scenarios. To indicate the variety of views, a sample of comments on each is presented below:

Comments on Scenario 1 - (Free-standing agency) - included:

I am interested in the truly national vision of the Agency. If it is to achieve this it would need to be a properly established, structured body of an independent nature.
(Peter Smith, LASER)

The organisational model is contingent upon what functions are ultimately envisaged for a NARD. Scenario 1 or 4 are preferable. Both would serve an Agency which acted as a clearing house for information and a register of profiles etc. It would also serve one which took on a greater role in co-ordinating development of resource discovery tools etc. Through its management and advisory committees, the Agency would be able to encourage a sense of community ownership amongst appropriate stakeholding agencies and institutions.
(Daniel Greenstein, Arts & Humanities Data Service)

Since I believe that the Agency should represent the interests of all potential user groups and providers, I feel that scenario 1 may be most appropriate. Alternatively, scenario 4 with a committee representing all interests to control policy decisions
(Emma Robinson, University of London Library)

Comments on Scenario 3 - (Department in an existing organisation) - included:

Scenario 3 is unsuitable. [A National Agency] relies upon "buy in" from a diverse range of institutions and agencies. No single agency (perhaps with the exception of DNH) crosses so many institutional (library, museum, archive etc.) boundaries. Locating it within an existing agency would only be appropriate if it was intended to focus, e.g. on resource discovery within a particular institutional domain (e.g. library, Archive, museum).
(Daniel Greenstein, Arts and Humanities Data Service)

Scenario 3 could be problematic; it could send out confusing signals between the Agency and the host organisation and accusations of bias would be difficult to refute
(Jean Sykes, University of Westminster)

*Scenario 3 should be combined with a bidding process & remit as per scenario 4.
A scenario of a virtual Agency could be envisaged, with distribution/replication of staff/services/functions.*
(Robin Yeates, LITC)

Scenario 3 to start with, perhaps maturing to Scenario 1 over a period of years in response to experience gained running the pilot clumps
(Ed Davidson, Fretwell Downing)

I would prefer Scenario 3 if I could identify an existing body which had the structure and commanded sufficient respect to undertake the responsibilities effectively.
(Henry Heaney, University Glasgow (opted for sc. 1))

I could see Scenario 3 working as well [as scenario 1] and perhaps it would be quicker off the mark from start-up. The main concern would be bureaucratic impositions from the existing organisation
Peter Stubley, University of Sheffield

Comments on Scenario 4 - (Private Finance Initiative) - included:

After the experience with the Knowledge Gallery scenario 4 must be a non-starter!
(Anon)

Scenario 4 probably offers the most advantages regarding long-term funding.
(Daniel Greenstein, AHDS)

Scenario 4 is unsure territory but should not be ruled out. Perhaps a mixed economy of 1 plus 4 could work, or maybe the venture could start as 1 and migrate to 4 as and when appropriate
(Jean Sykes, University of Westminster)

This partly depends on the funding model. It is conceivable that scenario 4 (PFI) could lead to an organisational framework which looks like scenario 3 - i.e. some private funding but still attached to an existing organisation.
(Anon)

5.5.12 Links with other organisations / agencies

F1 Which are the key UK agencies with which the Agency should co-operate?

A wide variety of organisations/initiatives/bodies were suggested. These are listed below.

ADAM	LASER
AHDS	LIC
BCSIRSG	LITC
BL	M25C
BRA	MDA
British Academy	NCA
CALIM	NISS
CHEST	NLW
CURL	PRO
CVCP	PRO (NI)
DNH	SCONUL
EARL	Society of Archivists
e-lib	Society of Chief Librarians
HEFC	SRO
HMC	Standards bodies
JASPER	Systems suppliers
JISC	UKERNA
LA	UKOLN
	UNITY

F2 Which are the key international agencies with which the Agency should relate/co-operate?

Again, a large number of these were given - they are listed here in entirety.

Australian National Library	IFLA
CARL	ISOTC46
CHIN	LofC
CIC	OCLC
CIMI	PICA
CNI	RAPHAEL
EFILA	RLG
EU DGXIII	TERENA
EUSIDIC	W3C
EWOS	ZIG
ICA	

Section 6 Public Library Requirements

NATIONAL AGENCY FOR RESOURCE DISCOVERY AND THE PUBLIC LIBRARY

**Geoffrey Hare
County Librarian, Essex**

6.1 Sources of Information

The principal sources for the information & the opinions in this response to the National Agency for Resource Discovery scoping study proposals are as follows:-

a) EARL Consortium:

Members of the Management Board, the results of Partners Surveys on specialist resources and contacts with librarians involved in the Subject Task Groups.

b) LASER/Anglia Connect:

Colleagues in library authorities in the London and South East Region, access to information on the LASER Subject Specialisation Scheme and colleagues in Norfolk and Suffolk.

c) Personal knowledge of specialist resources, particularly in English Counties.

The acronym NARD is used to represent the National Agency for Resource Discovery in this Section.

6.2 Background

As we make slow progress towards the Information Society, it is widely acknowledged that the strategy for library and information institutions will be to collaborate in acquiring resources, identifying existing resources, developing structures for client-centred access and in establishing the programmes for digitisation. Such developments acquire an added importance due to the squeeze, particularly on public sector capital and revenue budgets, the rising numbers of students and the explosion in distance and independent learning, characteristic both of the Information and the Learning Societies.

Public libraries, in spite of their position as a focal learning resource institution, have made slow progress over the last ten years, firstly, because of the wide range of demands upon their services (not 'just' learning); secondly, because of the fragmented nature of the parent body (the local authority) and, thirdly, because of the lack of connectivity. The emergence of the EARL Consortium, and of key developments like the Croydon Central Library, the Technopolis and Genesis projects, the Surrey Web, etc., are now bringing focus to the sector and a voice at the national policy level. The DNH Review "Reading the Future" makes all the necessary connections with the emerging role of the public library within the Information Society without, however, willing any of the means to ensure their implementation!

The NARD project is, therefore, timely and on behalf of my public library colleagues I am glad to be involved in its promotion.

The public library is a major library and information sector. Its profile (in rounded figures from LISU data) is as follows:-

<i>Book Stock</i>	<i>130 millions items</i>
<i>Acquisitions</i>	<i>12 millions per annum</i>
<i>Loans</i>	<i>560 millions per annum</i>
<i>Enquiries</i>	<i>59 millions per annum</i>
<i>Visits</i>	<i>385 millions per annum</i>
<i>Users</i>	<i>35 millions</i>
<i>Professionally qualified staff</i>	<i>7,000</i>

The public library is the first access and principal referral point in the community for most independent learners seeking resources and access to information to support their study. This institution is also increasingly supporting formal education at all levels from primary to higher as the diminishing resources/increasing student numbers axis forces most educational institutions away from self-sufficiency even at the curriculum level. For all these reasons it is necessary to begin to map public library resources and to identify suitable areas for digitisation (involving collection descriptions, catalogues and the resources themselves) within the wider library and information community programme.

Two points must, however, be made. Firstly, the public library is required to co-operate with others by statute and it has begun to acknowledge that co-operation can only be extended if it operates at the speed and quality required by users. Secondly, there is a poor history of co-operation in the field of inter-library loan with the academic and research community which in many public librarian's view cannot yet be relied upon to assure the quality of service required by end users.

The digitisation of resources (apart from copyright issues) will overcome most of these supply problems but, as for public libraries and their users, the interloan of hard copy will remain important into the indefinite future, these problems need to be addressed.

On interloan, generally, the whole library and information community makes far less use of this co-operative instrument than the many bodies concerned with it would at present justify. In public libraries, the plain truth is that all reservations for material not found on the shelf of a visited library total on average about 2% - 2.5% of loans and no more than 5% at most. Of this, at most 4% will be borrowed from another library service or the BLDSC. This latter institution, I believe, supports in turn around half the country's interlending requirements. Not only may the physical interlending network be inhibiting potential use by its inefficiency and, through institutions, by its cost, but it is clear that resource sharing has an enormous distance to travel if it is seriously to begin to support the development of the global shared resource base.

The first issue for public libraries is to make catalogues and higher level 'finding aids' (such as collection level descriptions) accessible on the network. So far, few public libraries, even with Z39 software, have full internet accessibility (including ILL protocols and messaging, etc.). Two further issues to be addressed are, firstly, that the quality of bibliographical entries are in many cases not of sufficiently high a standard to facilitate efficient searching. Secondly, many of the most important collections do not have electronic catalogues. Such collections of interest to a wider community include music scores, local studies, local authors and historic 'foundation' collections. Here, for the proposed Agency, and for public libraries, lies the first programme area.

The digitisation issue is also common to Record Offices which are the primary source collections for the historian.

It is also true of many independent libraries within local communities with which public librarians are often connected: literary and philosophical society libraries, private and early non-local authority public libraries, etc., many of which hold unique or rare material closer to hand for the researcher than other academic library collections. The additional use which networked access might provide to such bodies could also ensure their survival. Museum collections too need to be considered within such programmes.

Weaving key resources into a national digital library programme is vital both for the wider community and for the public library as a principal access point within the community

6.3 Agencies & initiatives which would benefit from or contribute to NARD

The purpose of a National Agency for Resource Discovery is to increase awareness of and to facilitate access to resources both for libraries and for end users. As searching tools, the digitisation of catalogues, of access and lending protocols and digitisation of resources themselves develop, the end user will increasingly be able to self select the resources needed for study. Thus, eventually, all users of resources will be the beneficiaries. Over the next decade, however, it is the intermediary, often the librarian, who will mediate much of the access to resources.

The following list indicates a range of institutions and initiatives within the public library, local community and business environment which will clearly benefit from and contribute to a national resource discovery (or directory) service.

a) Public libraries:

It is now regarded as axiomatic that no single public library and probably no public library authority can meet the potential demand for specialised resources, expertise and services. Through the EARL Consortium, around 120 public library authorities are now setting about the task of exploring the potential for collaborative working across seventeen subject areas.

A crippling early problem is the lack of access to these specialist resources even through printed lists. LASER, the largest of the Regional Library Systems has printed lists of sixty subject specialist collections, of several hundred Dewey specialist collections arising from its subject specialist scheme and over thirty libraries claiming specialist collections in nearly sixty subject fields. For the searcher, no evidence exists of the quality, the range, the uniqueness, the accompanying expertise, the collecting policy or the currency of the collections. Almost all are unknown outside the locality and interlending staff of public libraries. More importantly, no linkages exist with similar specialist collections elsewhere in other regions, in private libraries or abroad. A number of examples will illustrate this point.

Enfield Library claims a specialist collection in European fiction; an important specialist area not well covered in academic libraries and not part of the copyright collections except in translation. How does this relate to the West Midlands Co-operative European fiction service (SEALS), to the language specialist libraries like Berkshire or Sutton (claiming specialisation in Spanish) or to the services offered by certain foreign countries and by European public libraries co-operatives such as those of Norfolk/Utrecht, Kent/Pas de Calais, etc.

Further examples might be taken from literature. Hampshire County Library has a well-known Dickens Library. So have several British and American Universities and several other public libraries. The specialist user has to evolve a spider's web of contacts to begin to explore such resources.

Critically, at present, most of this exploration has to be done by visits, often fruitless, because of the lack of effective directories. Even many of the collecting institutions do not know the value of their collections or their relationship to others. Such examples could be multiplied many fold.

Although libraries specialising in music score lending are well known (if not well documented) to specialists, little is known about collections and their contents of individual scores beyond the fringe of performing sets.

How, for example, does one evaluate the resources for the student of 18th/19th century naval history? Two great national collections (National Maritime Museum, Ministry of Defence), naval institutions, public libraries like Portsmouth, Waltham Forest, Norfolk, City of

London, all have substantial relevant collections and many more exist on specialist subject fields and on important military figures.

The particular issue of authors is at the heart of resource discovery issues. Almost all public libraries have long collected material relating to local authors. Examples include Nottinghamshire (D.H. Lawrence), Westminster (Conan Doyle's Sherlock Holmes), Camden (Keats), Wandsworth & Westminster (Blake). Many Universities here and in the United States also collect in this field. Nottinghamshire's Lawrence collection is of international importance - many are just collections of the novels. Some, like the Bronte collection are in the hands of private trusts, some (like Essex's Dorothy Sayers library) are collaborative ventures with local author societies but where the major manuscript collections exist in an American University.

A similar problem exists in relation to the fields of pottery and porcelain. Rotherham's Rockingham specialism is an archive, a collection of printed materials and the artefacts themselves - a 'one stop shop' for the subject. Similar resources exist where factories continue in production like Royal Worcester and Wedgwood at their respective museums.

For many other now vanished potteries like Martinware (at Kingston), local public libraries/museums may or may not have significant bibliographical and artefact collections, the sources and the evidence for which are often obscure.

A National Agency for Resource Discovery is, for these resources, becoming an urgent necessity, if we are to achieve five objectives:

- i) To be able to locate (here and abroad) the collections of interest to the researcher (institutional academic through to the independent learner).
- ii) To be able to evaluate the collections to enable users more effectively and economically to route their research.
- iii) To bring together those whose collections co-exist in order to promote collaboration.
- iv) To establish the hierarchy of resources most beneficially to be digitised - from catalogues through to the resources.
- v) To encourage best practice in the description of the resources in such collections including scope, collecting policy, lending and access practices and expertise available - with significant potential overlap with the archive community where ISAD(G) provides a standardised approach.

For public libraries and their users, therefore, the NARD would provide a framework through which the emergence into light of their resources could be managed and disciplined and set alongside their subject siblings from other curatorial, information and cultural sectors.

The collaborative impulse which could be released by this structure would also enable public libraries to link together to achieve at the regional and national level the economies and efficiencies of scale which universal access could bring to support the development of the national public library access service.

Again the EARL Consortium has also begun to map the specialist resources of some 40 of its Partner Authorities through the appended questionnaire. This precursor (July 1996) to this National Agency initiative has already yielded very important information on collections (amongst much dross) but is not yet assembled effectively to support intelligent web access. If extended to all 120 EARL Partners, around 60% of the public library specialist resources will have been uncovered but mostly

not directly accessible in detail as the public library resources most likely not to be catalogued in electronic form are the specialist collections!

The Consortium also has Task Groups bringing together specialist libraries in Business Information, Chinese Literature, Community Information, European Information, Family History, Information for Young People, Music, Asian Music, Poetry and Reference Enquiries.

b) Local Government and Community Information:

Although the public library service is a major player in the development of public information services, it is at worst simply a conduit and at best a manager and facilitator of information much of which is sourced elsewhere. Much of local government information to the citizen is in fact a palimpsest of overlapping resource data drawn from central government departments, from up to four tiers of local government (County, District, Town and Parish) and sundry quango and voluntary sector bodies. Much of this information, often duplicated, exists in paper form at all these levels.

To take as an example, public health and welfare, all the agencies involved produce their own help and advice to citizens; often in ignorance of each other or competing. Help for Health initiatives are still thin on the ground but a co-ordinated move to the provision of catalogues and indices of sources would benefit all those bodies working in isolation (or with preferred partners) to support the information needs of their communities.

The bodies associated with these activities include the Departments of Health and of Social Security, Social Services Departments of local authorities, One Stop Shops, housing offices and advice centres run by local authorities, Health Trusts, the Health Education Council, general practitioners, Community Health Councils, Citizens Advice Bureaux, the National Council for Voluntary Service and volunteer organisations like Help the Aged and illness related societies.

Much of the information which all these bodies cycle and recycle for their client groups is essentially the same information differently badged. A National Agency approach to these sectors (of which health and welfare is but one example) could bring order and economy to chaos, confusion and the diseconomies of diversity.

A further example concerns the Local Government Association and the public (local government) information services managed by many local authorities. The EARL Consortium is increasingly coming to realise that in this field (see also business and European information below), few local authorities can or will effectively be able to provide cost effective information services to local government and local government information to their citizens.

Specialisation and the centres of excellence model are essential if the LIS is to remain effective in this field. The Agency potentially offers a supportive framework within which digitised services supported by local government across local boundaries could be built and the costing and charging mechanisms developed. At present, the separate agencies (the DoE, the LGA, local authorities, INLOGOV, etc) are largely in ignorance of the resources and the expertise variously provided.

In this respect, it might be added that, although much is known and listed in hard print within regions, little information crosses regional boundaries.

c) Business and European Information:

These may be treated together as businesses are very heavy users of European information services now increasingly provided within the business information environment. The benefits of mapping the resources would impinge on the library and information services of large firms (ICI, Ford, GEC, Price Waterhouse, for example) the DTI, Business Links and the TECs, Chambers of Commerce, Enterprise Agencies, the Foreign Office, public libraries, the Economic Development and Planning Departments of local authorities, the European Documentation Centres of British Universities, the European Commission and its Relays.

An enormous degree of overlap exists in these fields and a marked fragmentation in the support offered particularly to the SMEs (small and medium-sized enterprises). As with local government, NARD could provide an authoritative frame of reference within which a logical pattern of support to business would be encouraged to develop as a realisation of the varied resources, their associated expertise (and their costs!) begin to emerge.

This is particularly a field in which access to academic expertise is of great value. The Agency model - linking the question to the resource to the expertise - is entirely appropriate within an environment where the enquiry for information so often conceals a cry for help and, for business or industrial/commercial practice, assistance.

In regard to the development of European information for the citizen, largely encompassed by the public library European Relay, it is already clear that many if not most public library authorities can badge their service but cannot resource it. EARL already has a European Information Task Group, now working closely with the Relay, to seek ways forward. Public library catalogues, however, are often not digitised and access to expertise is untracked. If the centres of excellence model is to be realised, NARD can add significant value to those libraries like Manchester, Portsmouth, Sheffield, Birmingham & Essex, which are likely to become early Level One European Information providers within the proposed Relay structure.

d) Local Studies & Family History

Although the preponderance of use of Record Offices is by family historians, the identification of sources of information for the serious historian is an acknowledged problem. The pattern of civil, ecclesiastical and baronial landholding in England is so complex that important records are scattered across Record Offices, public libraries, landed family muniment rooms, the Church of England, private collections, etc.

Archivists are experts in piecing together much of these sundered collections but this whole field is impeded by lack of access to digitised catalogues and calendars. Beneficiaries of such developments include the records holders themselves; the Family History Society; many specialist groups dealing with, for example, early industrial history; solicitors; the Victoria History County groups, academic historians, the Museums Association and its members.

6.4 The practical support the National Agency could provide

The above areas represent a slice of those resources, their managers and their users which the Agency might support, particularly in the development of cross-sector resource mapping. The EARL Consortium would particularly benefit from an overarching process which worked to set standards for descriptions, to identify fields for attention and which acted as one of the midwives for the digitisation programme.

Because the public libraries, record offices, museums and public information services are all intended to be universal access points to resources and to information, the development of productive linkages between them and the move towards technical and bibliographical standards is greatly needed. A further element, necessary if collaboration is to develop will be the development of a common understanding about the systems which facilitate such collaboration; of which charging will necessarily but controversially be a part.

9. Conditions of use :

- a) Reference use only
- b) Lending

If yes, what are the conditions of loan?

- i) in person?
- ii) through inter-library loan?
- iii) is a charge made?
- iv) length of loan

10. Is the collection catalogued?

- a) computerised?
If computerised, what system is used?

- i) mainframe?
If yes please give name of system

- ii) stand alone?
If yes, please give name of system

- b) card index
- c) other manual method
- d) uncatalogued

11. Is the collection catalogued to MARC standard?

If yes, please specify :

- a) UK MARC
- b) US MARC
- c) Other

12. Classification Details

Is the collection classified?

If yes, which classification scheme?

- a) DDC - Edition?
- b) UDC
- c) Library of Congress
- d) Customised
- e) Other (please specify)

Section 7 Technical Setting

7.1 Service Pre-requisites

It is our contention that there are three critical factors that are pre-requisites for a successful distributed service :

- Service Descriptions - allowing the user to short list services from a large number of offerings on the basis of personal requirements relating either to content or to terms of availability. See 'Service Topology Support' in the figure below.
- Service Interoperability Profiles - allowing one service instance to interoperate with another instance of the same service; for example multiple Z39.50 targets (such as the members of a clump) delivering compatible responses to a combined hit list.
- Service Boundaries - the definition of how one service type can interoperate with upstream and downstream services; for example discovery with requesting - such as Z39.50 communicating with ISO ILL through an Item Order function. See 'Service Description Interfaces' in the Figure 7.1(a) below.

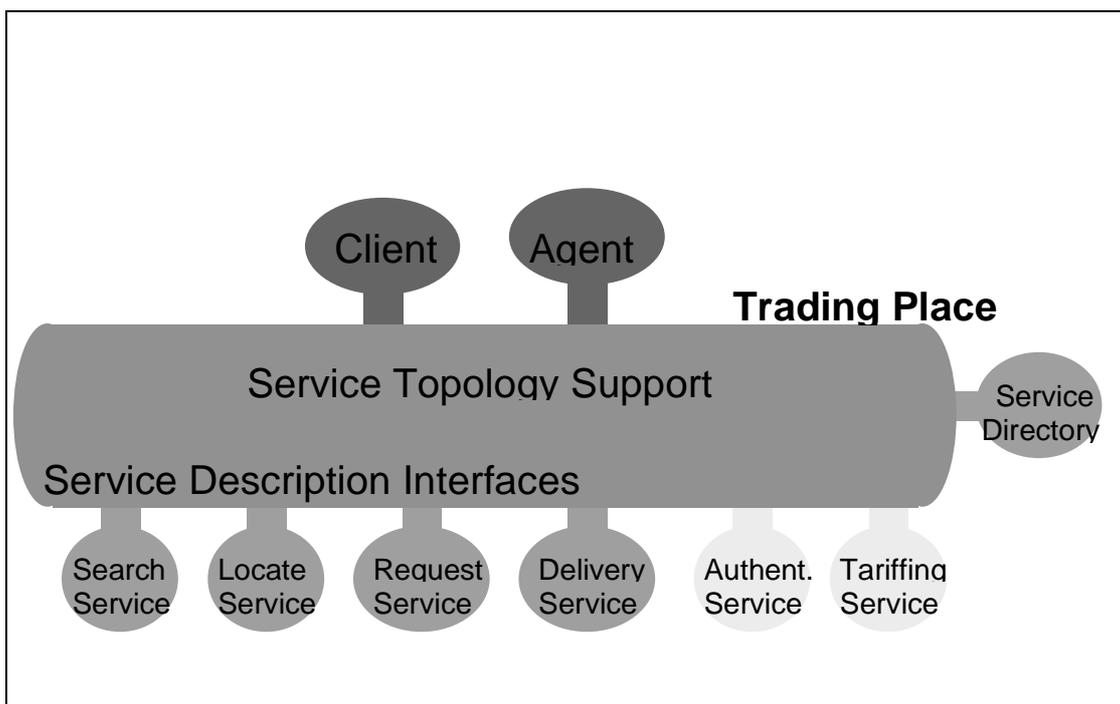


Figure 7.1(a) – Service Description Interfaces

On account of the cycle of service deployment, the Agency will initially focus strongly on the establishment of such pre-requisites to support Resource Discovery, made available to the user through a combination of Service Descriptions and Z39.50 interoperability (promoted by clumping initiatives) accessed through both customer pull (discovery) and service push (disclosure) – see Figure 7.1(b).

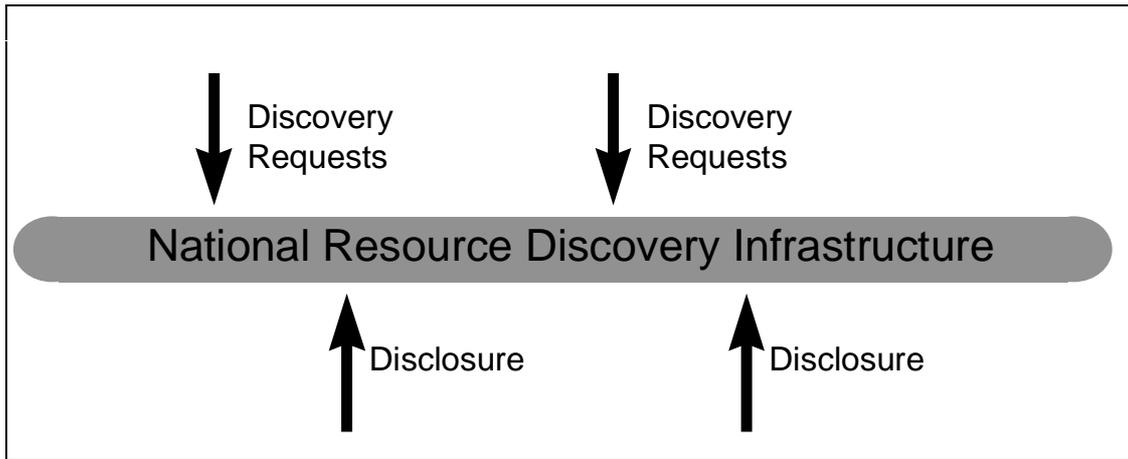


Figure 7.1(b) – Discovery & Disclosure

We contend however that the deployment of efficient discovery and location services will inevitably prime the development of ‘bread and butter’ services such as requesting and document delivery - with the accompanying demand for financial services involving security and authentication. When the user’s ultimate service objective is met (more often access to the resource than mere citation) in an efficient manner, the library service will be able to generate the economies (whether through savings or revenues) that are the key to service sustainability.

In this light - a combination of inevitability and desirability - it is strongly recommended that the Agency should be mandated to facilitate the deployment of distributed services as they evolve beyond the foundations of resource discovery. In the early days, it is the technical aspects of such a brief which will be of greatest value to the community - most notably participation in the formative stages of profile development such as requesting, authentication and payment. If this Agency lights the way, a lot of the technical uncertainties and mismatches that have hampered Z39.50 deployment may be avoided, representing a considerable net saving to the community.

The following sections illustrate the cascade of distributed digital services (some potentially involving third party partners such as banks and information brokers) with which libraries and information centres are likely to become involved in the short and medium term.

7.2 Functional Setting

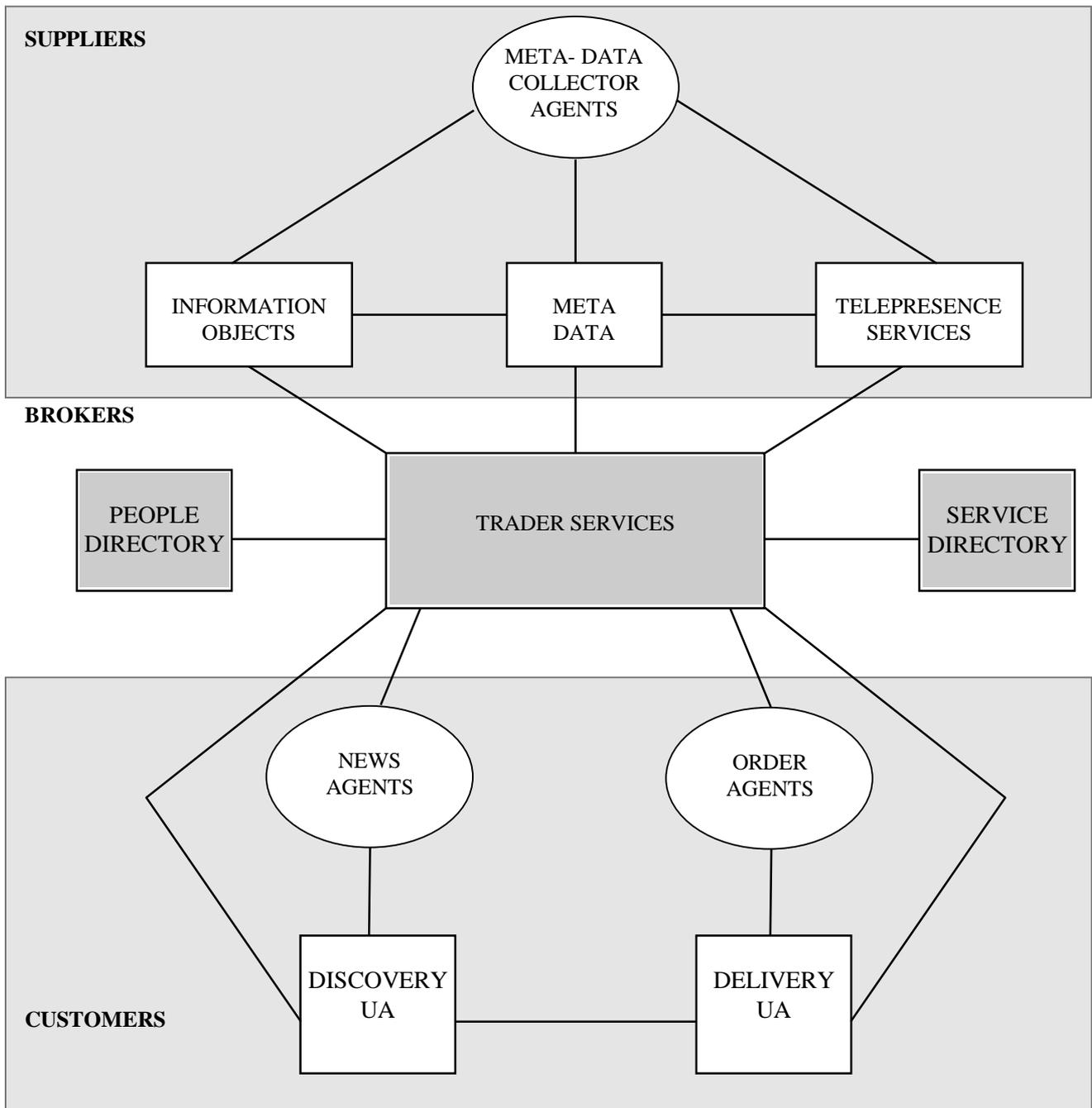


Figure 7.2 – Distributed Services Brokerage

Much has been written about the potential evolution of distributed digital services - the schematic in Figure 7.2 representing just one approach. The schematic does however serve the purpose of highlighting issues that may face a 'National Distributed Electronic Resource' :

- There are activities that the customer wishes to perform - such as Discovery (Search & Locate) and Delivery (Request & Take Delivery)

- In these activities the user may deploy or be found by Agents (Programmatic users such as Web Crawlers)
- Brokers may act as middle men (Traders) in bringing together customers with the most appropriate suppliers and vice versa by offering focused resources (ie Clumps) and supporting services such as awareness (eg SDI, CA)
- Each service component (eg Patron Directories, Metadata, Content) may be operated by different players rather than being found within an integrated system - the role of the broker being to superimpose a single coherent service access point
- The scope of information resources may range from physical to digital and will increasingly include real-time streams (such as video on demand) and expertise (through telepresence services such as videoconferencing)
- The extent and type of metadata will vary according to resources with brokers taking responsibility for collection (harvesting) and synchronisation

Every one of these functions and roles implies a degree of both heterogeneity and interoperability requiring therefore the adoption of common standards and profiles and raises issues of quality of service in a mixed economy.

Whilst this generic schematic may appear remote from the everyday dealings of libraries and archives in HEIs in 1997, information workers are already identifying examples of such practices. It is therefore very important that whilst being focused on immediate realities, the Agency should have a remit that allows it to validate and support movements to place localised services within a broader service environment.

7.3 Operational Setting

The operational baseline for the Agency is a networked infrastructure that allows users to access heterogeneous distributed resources - typically using browser-based WWW applications plus richer interfaces as required by administrators and power users – as illustrated in Figure 7.3..

The functional challenge is therefore to promote applications (starting with Resource Discovery) that mask heterogeneity and distribution whilst representing relevant resource and service distinctions such as cost, efficiency of delivery and quality.

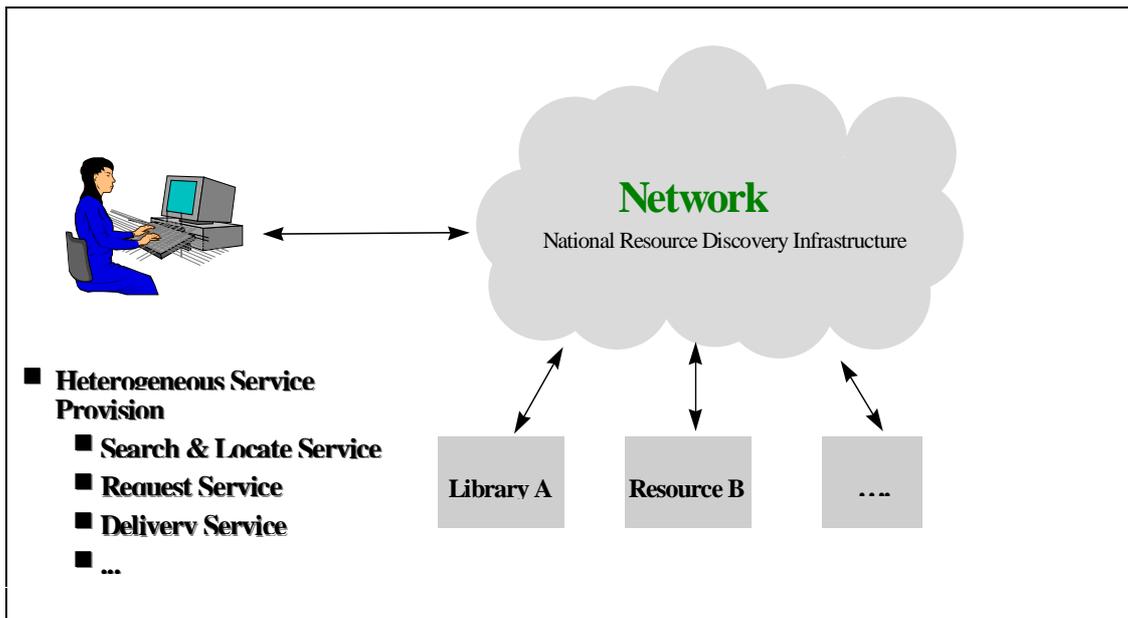


Figure 7.3 – Operational Heterogeneity

The networked environment available to UK HEIs already supports a range of Information Distribution Models which must be encapsulated in any view of efficient, effective and economic Resource Discovery.

7.4 Service Setting

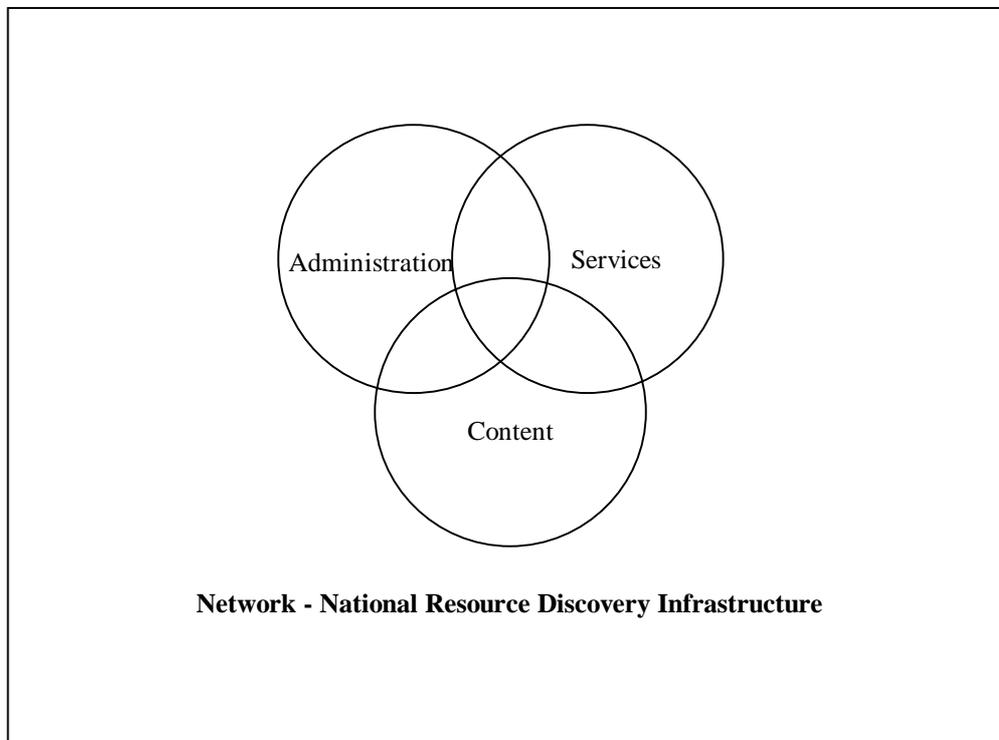


Figure 7.4 – Service Convergence

The development of services that can be delivered entirely over a network (such as digital document delivery from search through to payment and delivery) demands the close coupling of functions that were previously undertaken sequentially and were potentially separable as illustrated in Figure 7.4:

- Administration : Back-of-house functions such as access rights and charging
- Services : Customer-facing functions such as OPAC and interlending requests
- Content : The physical deliverable

The Agency will operate in an increasingly networked environment in which these components can potentially be brought together in real time and with little or no human intervention.

Document delivery involving a Z39.50 search and Item Order followed by electronic delivery managed through the ISO ILL protocol and authenticated by a third party Certification Authority is a prime example of the synchronous distributed services that are on the horizon.

If the ultimate objectives are service improvements for the user and service economies for the provider, it is important that the service scope of the National Agency for Resource Discovery is adequately defined to respond to this continuum.

7.5 Service Evolution

As described in the preceding sections, distributed services are evolving away from a world of tight client-server relationships and information islands on the Web to that of heterogeneous services with the associated issues of representation, interoperability and scalability.

This migration is taking place at differing paces according to sector, information domain and curatorial tradition. At any one time we will be confronted by varying service architectures within individual institutions, such as those illustrated below arising from the MODELS 3 workshop. The Agency can play a key role in supporting this transition by representing the bigger picture and the farthest horizons and by highlighting the opportunities for service extension and interoperability.

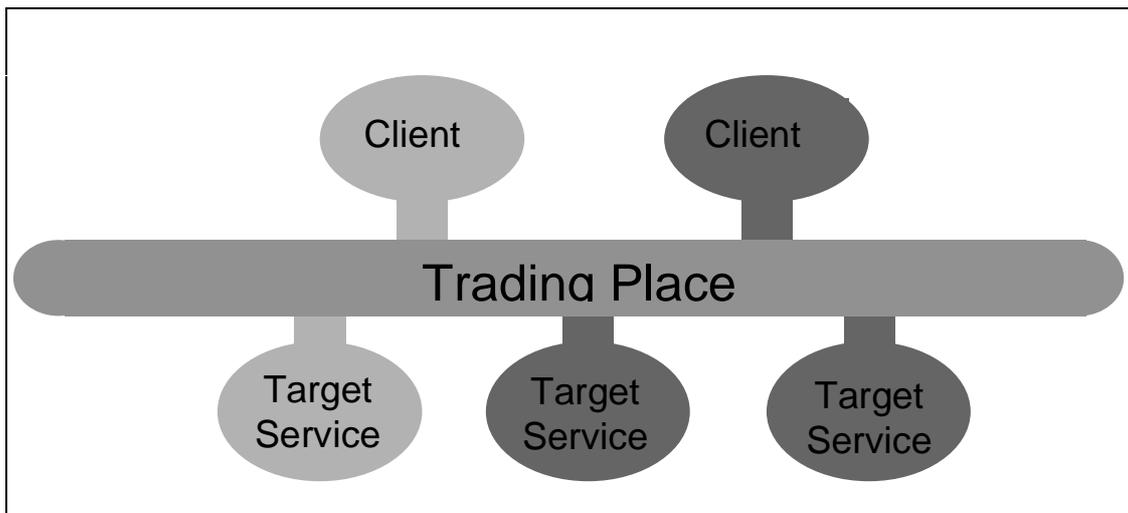


Figure 7.5(a) - Interoperable instances of a single service type (eg, Z39.50)

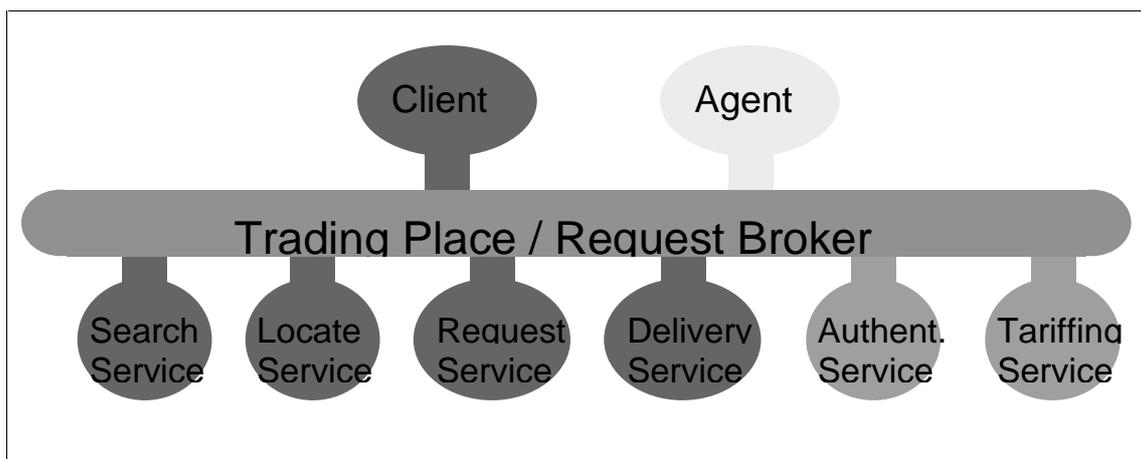


Figure 7.5(b) - Interoperable Service Types

References

The following documents and publications have informed this Scoping Study. For reasons of historical perspective they are listed in date order of publication.

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The Anderson Report for the Joint Funding Councils' Library Review; 1995
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MODELS 4 (Integrating access to resources across multiple domains) Report; Dempsey & Russell; 1996
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Electronic Information Development Programme (eLib Phase 3); JISC Circular 3/97

MODELS Z39.50 Interoperability Profile; Murray et al; 1997
<http://www.ukoln.ac.uk/models/clumps.html>

Z39.50 for Archival Applications; Joy; 1997 http://www.niss.ac.uk/education/src/z39_50.html

Clumps Technology Overview; Davidson; 1997 <http://www.ukoln.ac.uk/models/clumps.html>

Request For Tender for National Library of Australia Networked Services (RFT96/63), NLA; 1997

Request For Tender for Local Interlending & Document Delivery Administration Systems (RFT96/86); NLA/AV-CC; 1997

Information Systems Strategy Statement (1997 - 2002) - Service Delivery in the Electronic Age; Public Record Office; 1997

Appendix 1 Questionnaire Proforma

In completing this questionnaire, you may need to refer to the accompanying Discussion Document and Project Summary (forwarded previously). You may also wish to respond only to selected questions. Please return the completed, or partially completed questionnaire in the envelope provided by **28th February**. Thank you for your cooperation.

A. ROLE OF THE NATIONAL AGENCY

A1 Do you think that there is justification for the establishment of a National Agency for Resource Discovery (NARD)?

YES NO DON'T KNOW
please tick

Please feel free to make any comments you wish about this question

A2 With which of the following types of resource do you think the NARD should be concerned?
(Please tick as many as you think are appropriate)

- | | | |
|------|---|--------------------------|
| A2.1 | Bibliographic material | <input type="checkbox"/> |
| A2.2 | Archives | <input type="checkbox"/> |
| A2.3 | Museum collections | <input type="checkbox"/> |
| A2.4 | Grey literature | <input type="checkbox"/> |
| A2.5 | Teaching & Learning Resources (e.g. TLTP outputs) | <input type="checkbox"/> |
| A2.6 | Research/Experimental Outputs (e.g. Statistical data) | <input type="checkbox"/> |
| A2.7 | Music | <input type="checkbox"/> |
| A2.8 | Local history | <input type="checkbox"/> |
| A2.9 | Other | <input type="checkbox"/> |
- Please state which*

Please feel free to make any comments you wish about this question

A3 In the context of a National Agency, which of the following operational functions do you think “Resource Discovery” encompasses?
(Please tick as many as you think are appropriate)

- | | | |
|------|-----------------------------|-----|
| A3.1 | Collection Description | [] |
| A3.2 | Catalogues | [] |
| A3.3 | Authority Files | [] |
| A3.4 | Search & Locate | [] |
| A3.5 | Request | [] |
| A3.6 | Delivery | [] |
| A3.7 | Discovery/Disclosure Agents | [] |
| A3.8 | Other | [] |
- Please state which*

Please feel free to make any comments you wish about this question

A4. Which of the following functions do you think the NARD should perform?
(Please tick as many as you think are appropriate)

- | | | |
|-------|--|-----|
| A4.1 | monitor the national resource portfolio | [] |
| A4.2 | identify appropriate resources | [] |
| A4.3 | approve information resources | [] |
| A4.4 | determine categories of information resource ‘clumps’ | [] |
| A4.5 | approve profiles of resources | [] |
| A4.6 | maintain a register of approved resources profiles | [] |
| A4.7 | assist providers in completing resource profiles | [] |
| A4.8 | provide descriptions of approved sources and collections | [] |
| A4.9 | provide a focus for liaison between resource providers and users? | [] |
| A4.10 | promote the concept of service interoperability for resource discovery | [] |
| A4.11 | perform an awareness, training and updating role | [] |
| A4.12 | represent the interests of the LIS community - e.g. on relevant boards | [] |
| A4.13 | other | [] |
- Please state which*

Please feel free to make any comments you wish about this question

A5. Should NARD be involved in the development of standards (e.g. for Protocols, Resource Profiles, Quality Controls, Z39.50 UK Interoperability Profile)?

YES [] NO [] DON'T KNOW []

A5.1 If YES, please state the standards development agencies with which NARD should cooperate.

A6. Should NARD impose "kite marked" standards?

YES [] NO [] DON'T KNOW []

A6.1 If YES, please state the key standards which NARD should impose/promote:-

A7 Have you any other comments on the **role** of the proposed National Agency?

B. USERS AND PROVIDERS

B1 Should NARD be concerned with developing measures to assure the **authentication** of users? (i.e. 'who are you?')

YES [] NO [] DON'T KNOW []

B2 Should NARD be concerned with developing measures to assure the **authorisation** of users? (i.e. 'what are you allowed to do?')

YES [] NO [] DON'T KNOW []

Please feel free to make any comments you wish about these two questions

B3 Who are the **Users** in whose interest NARD should operate? (Please tick as many as you think are appropriate)

B3.1 Information Guiders (e.g. Librarians) []

B3.2 Higher Education Researchers []

- B3.3 Higher Education Teachers []
- B3.4 Higher Education Students []
- B3.5 General Public []
- B3.6 Programmatic 'Users' (e.g. Intelligent Agents, Web Crawlers) []
- B3.7 Users outside the UK []
- B3.8 Other []
Please state which

Please feel free to make any comments you wish about this question

B4 Who are the **Resource Providers** in whose interest NARD should operate?
(Please tick as many as you think are appropriate)

- B4.1 Commercial information providers []
- B4.2 Dataset Centres []
- B4.3 Catalogue providers - Higher education []
- B4.4 Catalogue providers - Public libraries []
- B4.5 Museums []
- B4.6 Archives []
- B4.7 Providers outside the UK []
- B4.8 Others []
Please state which

Please feel free to make any comments you wish about this question

C. FUNDING OF THE NARD

- C1 How do think NARD should be funded?
- C1.1 By JISC *in the first phase only?* []
 - C1.2 By JISC *in the longer term?* []
 - C1.3 By the British Library *in the first phase only?* []
 - C1.4 By the British Library *in the longer term?* []
 - C1.5 By the Private Finance Initiative (PFI) []
 - C1.6 By other agencies []
Which agencies would you suggest?

Please feel free to make any comments you wish about this question

D. PRICING AND CHARGING

- D1 Should NARD charge for its Resource Discovery services?
- YES [] NO [] DON'T KNOW []

Please feel free to make any comments you wish about this question

-
- D2 Should NARD be concerned with charges on behalf of Information Providers?
- YES [] NO [] DON'T KNOW []

Please feel free to make any comments you wish about this question

E ORGANISATIONAL FRAMEWORK OF THE NARD

E1 Of the models proposed in Section 5 of the accompanying Discussion Document, which do you consider to be the most appropriate framework for the organisation of NARD?

E1.1 Scenario 1 []

E1.2 Scenario 2 []

E1.3 Scenario 3 []

E1.4 Scenario 4 []

Please feel free to make any comments you wish about this question

F LINKS WITH OTHER ORGANISATIONS / AGENCIES
--

F1 Which are the key **UK** agencies with which NARD should relate/cooperate? (e.g. Professional; Technical; User community etc.)

F2 Which are the key **international** agencies with which NARD should relate/co-operate?

G. YOUR FURTHER COMMENTS

Please give any general comments you might have about the proposed National Agency for Resource Discovery

continue overleaf if necessary

H. YOUR DETAILS

H1 Are you willing for your name to be identified with your responses/viewpoint in the Final Report to JISC/British Library? YES [] NO []

H2 Are you willing for your organisation to be associated with your responses/viewpoint in the Final Report to JISC/British Library? YES [] NO []

If 'yes' to either of above please give:-

H3 Name _____

H4 Post _____

H5 Organisation _____

*Thank you for your cooperation.
Please return in the pre-paid envelope provided by 28th February to:
Geoff Butters, Research Fellow
Centre for Research in Library and Information Management (CERLIM)
University of Central Lancashire, Preston PR1 2HE UK
Or, if you wish, email replies to g.w.butters@uclan.ac.uk*

Appendix 2 Respondents

Respondents to NARD Questionnaire

The following respondents identified themselves; there were also a number of anonymous replies.

Doug	Anderson	School of Librarianship and Information Studies	Robert Gordon University
Chris	Andrew	Director of Sales	BLCMP Library Services Limited
Chris	Armstrong		Information Automation Ltd
Dr. Paul	Ayris	Deputy Librarian	University College London
Lynne	Brindley	Director Information Services	BLPES London School of Economics
Robert	Bull		Crossnet Systems Ltd
R.J. (Dick)	Chamberlain	Sub Librarian	University of Nottingham
Julia	Chruszcz	Head of National Services	University of Manchester Computing Centre
Ed	Davidson		Fretwell-Downing Informatics Ltd
Gordon	Dunsire	Information Systems Librarian	Napier University
Nicky	Ferguson	Director, Social Science Information Gateway	University of Bristol
Martin	Fisk		Aurora Information Technology
Jill	Foster	Director of Netskills & Mailbase	University of Newcastle, Computing Service
Peter	Fox	University Librarian	University of Cambridge - COPAC
Marc	Fresko	Principal	The Marc Fresko Consultancy
Victor	Gray	Chair of NCA	Rothschild
Daniel	Greenstein	Director	Arts & Humanities Data Service
Henry J.	Heaney	University Librarian	University of Glasgow
Stuart	James	Librarian	University of Paisley
Derek	Law	Director of Information Services & Systems	King's College Library, University of London
Maurice	Line	Independent Consultant	Harrogate
Dr I. C.	Lovecy	Director of Information Services	University College of North Wales, Bangor
Ann	Matheson	Keeper	National Library of Scotland
Patricia	Methven		JISC Archives Sub-committee
Janet	Mitchell	Managing Director	OCLC Europe
Ian	Mowat	Librarian	Edinburgh University Library
Bernard	Naylor	Librarian, Hartley Library	University of Southampton
Dennis	Nicholson	BUBL Info. Service, Systems Division	University of Strathclyde Library
Frank	Norman	Deputy Librarian	National Institute for Medical Research

Len	Nunn		Natural History Museum
Charles	Oppenheim	Director	International Institution of Electronic Libraries, De Montfort University
David	Polly		Natural History Museum
Angela	Raspin	Archivist	BL Political & ES, LSE
Emma	Robinson	Librarian	University of London Library
Seamus	Ross	Assistant Secretary (Information Technology)	The British Academy
Chris	Rusbridge	Programme Director for Electronic Libraries Programme	JISC Computing Services Dept, University of Warwick
Deborah	Ryan	Dept. Co. Secretary	NWRLS, Manchester Central Library
Margaret	Sheridan	Asst. County Librarian (Bib. Services)	Lancashire County Library (UNITY)
Peter	Smith	Deputy Director	LASER
Robert	Smith	Acting Director NBS,	The British Library
Peter	Stubley	Sub-Librarian (Engineering & Management)	St George's Library, University of Sheffield
Jean	Sykes	Deputy Director IRS	University of Westminster
David	Thomas		Public Record Office
Neil	Thomson		Natural History Museum
Murray	Weston	Director	British Universities Film & Video Council
Robin	Yeates	Senior Researcher	LITC, South Bank University

Interviews

The following individuals were consulted by interview.

Lynne Brindley	LSE
Lorcan Dempsey	UKOLN
Daniel Greenstein	AHDS
Graham Jefcoate	British Library Research & Innovation Centre
Ray Lester	Natural History Museum
Robin Murray	Fretwell-Downing Informatics Ltd
Chris Rusbridge	e-lib Programme Director
Dick Sargent	Royal Commission on Historical Manuscripts
Peter Smith	LASER
Robert Smith	British Library