Improving interoperability in distributed and physical union catalogues through co-ordination of cataloguing and indexing policies

Report for Work Package B of the JISC CC-interop project

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Acknowledgements

Contents

Abbreviations & Acronyms

AACR2	Anglo-American Cataloguing Rules, 2nd edition
BL	British Library
CAIRNS	Co-operative Academic Information Retrieval Network for Scotland
CCIWG	CAIRNS Cataloguing and Indexing Working Group
CDLR	Centre for Digital Library Research
CILIP	Chartered Institute of Library and Information Professionals
CILIPS	Chartered Institute of Library and Information Professionals in Scotland
COPAC	CURL OPAC
CURL	Consortium of University Research Libraries
DDC	Dewey Decimal Classification
e-Lib	Electronic Libraries Programme
FRBR	Functional Requirements for Bibliographic Records
HILT	High Level Thesaurus
IE	JISC Information Environment
ISO	International Organization for Standardization
JISC	Joint Information Systems Committee
LCNAF	Library of Congress Name Authority File
LCSH	Library of Congress Subject Headings
LSE	London School of Economics
M25	M25 Consortium of Higher Education Libraries
MeSH	Medical Subject Headings
MIMAS	Manchester Information and Associated Services
MLO	Music Libraries Online
NACO	Name Authority Cooperative Program
NLS	National Library of Scotland
OCLC	Online Computer Library Center
RLN	Research Libraries Network
RSLG	Research Support Libraries Group
RSLP	Research Support Libraries Programme
SACO	Subject Authority Cooperative Program
SCONE	Scottish Collections Network
SCURL	Scottish Confederation of University and Research Libraries
SHEFC	Scottish Higher Education Funding Council
SLIC	Scottish Library and Information Council
SUNCAT	Serials Union Catalogue
UKNUC	UK National Union Catalogue
UKOLN	UK Office for Library and Information Networking
UNESCO	United Nations Educational, Scientific, and Cultural Organization Thesaurus

Executive Summary

This report addresses section 7.2.4 (Guidelines and Strategy for Cataloguing and Indexing Standards) of the CC-interop project plan and fulfills deliverable B3 of Work Package B.

An integral component of the CAIRNS e-Lib project was an examination of interoperability problems caused in distributed Z39.50 union catalogues by variations in cataloguing and indexing practices in participant libraries. After consultation with the Cataloguing and Indexing Group in Scotland (CIGS), CAIRNS identified the nature of these issues in detail and then proposed short-term and long-term strategies for their amelioration. With the agreement of SCURL, CAIRNS published the 'CAIRNS Project recommendations for a cataloguing and indexing strategy for Scottish libraries' (CAIRNS Cataloguing and Indexing Working Group, 2000).

Deliverable B3 of CC-interop builds on this work, establishing a set of recommendations for developing cataloguing and indexing practices to improve interoperability in distributed and centralised union catalogues.

The report indicates a clear consensus among the cataloguing community for the adoption of prescriptive cataloguing guidelines by libraries contributing to union catalogues, helping local cataloguers to actively improve interoperability and raising awareness among senior management of the wider impact of local policy. There is general recognition that a union catalogue itself may become a component of a larger distributed union catalogue, and therefore development of cataloguing guidelines based on CAIRNS, as originally envisaged, would require a significant amount of work. Instead, the report proposes a number of recommendations for a wider, more active and co-ordinated approach to improving interoperability. The CAIRNS guidelines have been updated and references to the specific union catalogue removed, and may be used by other consortia as a basis for local development..

Recommendations are:

Collaboration within distributed or physical union catalogues

- Consortia of libraries contributing to union catalogues should develop prescriptive guidelines covering catalogue record scope and content which account for both local and 'global' needs. These might include a minimum input standard for the level of cataloguing and the content of entry points or headings.

- Guidelines for improving interoperability need to be developed at national and international levels, particularly within the Anglophone community, and suitable mechanisms for doing so should be identified or created.

- Consortia should consider participation in international activities such as the Program for Collaborative Cataloguing (PCC). This would reconcile clashes between local and global name and subject headings, and ensure future interoperability with international distributed union catalogues.

- Consortia should consider developing a shared cataloguing service for digital resources, involving the creation of only one catalogue record to be used or copied by all local libraries.

- Catalogue consortia should develop mechanisms to ensure regular opportunities for cataloguers to discuss issues and review policies and practices.

Standards

- Further development work on the Bath Profile should encompass recommendations for the scope and content of specified indexes. This would give cataloguing consortia, system vendors, and Z39.50 service developers a firm base for establishing standard mappings from metadata formats such as MARC21 to Z39.50 indexes.

- Consortia using Z39.50 should consider producing guidelines on required conformance with the Bath Profile, specifying conformance areas and specific indexes and searches.

- Standard rules for index content normalization should be adopted at as wide a level as possible.

Strategic developments

- Consortia and individual libraries should monitor the implementation of the FRBR model to plan for large-scale machine-processing of catalogue data to improve interoperability.

End users

- Individual and union catalogue services should disclose those local practices that may affect interoperability for an end-user. This might be embedded within the catalogue interface, or offered in help, orientation, or training screens.

- Consortia should consider agreeing a standard set of information about each catalogue which should be disclosed as part of the union catalogue service, allowing additional information to be disclosed on the local catalogue interface at the discretion of the library.

1. Introduction

1.1 Project Overview

The JISC e-Lib Phase 3 Programme, initiated in 1998, stimulated the development of four projects as part of their 'Large Scale Resource Discovery' strand. Harnessing the distributed potential of Z39.50, these projects have become colloquially known as "the clumps", and comprise CAIRNS, InforM25, Music Libraries Online (MLO) and RIDING. All four projects still exist, either as full functioning services or as advanced, well-used prototypes. In all cases, the original e-Lib grant has finished but development effort and maintenance continues at varying levels, either funded by local consortium subscriptions (CAIRNS, M25 and RIDING) or by small amounts of funding from elsewhere.

COPAC (http://copac.ac.uk/) is established as a core JISC service at MIMAS, and is a significant cornerstone of the JISC Information Environment. Based on the consolidated catalogue database of the CURL members, COPAC offers a single interface to the bibliographic records of most of the major university research universities in the UK.

The CC-interop project builds on the results of JISC's e-Lib Phase 3 programme in the area of resource discovery and complements the JISC Information Environment, particularly the Infrastructure Programme, which includes investigation of Z39.50. CC-interop also enhances the "distributed" thread of the JISC Information Environment, in that it aims to bring together, in a virtual modus operandi, distributed catalogues to facilitate richer search and retrieval possibilities for users. This, in turn, exemplifies the JISC vision, stating that, "it is not a centralised service and does not rely on a single dedicated entry point".

CC-interop also resonates with the outcomes and recommendations of the RSLG (Research Support Libraries Group) Final Report (2003), and continues to resonate with the aims of the resulting Research Library Network (RLN). RLN recognises that libraries might in future collaborate through shared access and collection management in order to support the UK research community as a whole. Linking high-quality online catalogues together can be seen as an essential precursor to the further development of shared access and borrowing agreements between HE libraries, to the development of shared collection development and management policies, and to more document delivery services in support of researchers.

Due to the nature of the work, the primary aims of CC-interop were divided amongst three groups. This report is the result of activity in the second group, Work Package B.

> *The second area of work undertaken by CDLR and RIDING will look at collection level description schemas in relation to both the clumps and COPAC. Issues such as target selection in clumps and developing guidelines for cataloguing and indexing practices are also included.*

> *The project outcomes will feed into any potential UKNUC development* (CC-interop, 2002, p.1).

1.2   Scope of this Report & Background

This report addresses section 7.2.4 (Guidelines and Strategy for Cataloguing and Indexing Standards) of the CC-interop project plan and fulfills deliverable B3 of Work Package B.

A key output of the CAIRNS e-Lib project was an examination of interoperability problems caused in distributed Z39.50 union catalogues by variations in cataloguing and indexing practices in participant libraries. After consultation with the Cataloguing and Indexing Group in Scotland (CIGS), CAIRNS identified the nature of these issues in detail and then proposed short-term and long-term strategies for their amelioration. The backing of the Scottish Confederation of University and Research Libraries (SCURL) was secured for these proposals, with a view to ensuring improvement in interoperability across the clump, and CAIRNS published the 'CAIRNS Project recommendations for a cataloguing and indexing strategy for Scottish libraries' (CAIRNS Cataloguing and Indexing Working Group, 2000).

As a starting point for its work, CAIRNS produced a set of mappings from USMARC and UKMARC fields and sub-fields to the standard CAIRNS clump indexes. The standard indexes were author, subject and title indexes, supporting both normalized right-truncation (start of entry), and keyword (anywhere in entry) search modes, and ISBN and ISSN indexes supporting the exact match search mode. Each CAIRNS library produced mappings for the indexes used by their Z39.50 server. To enable the identification of convergent and divergent practices, the CAIRNS team consolidated these mappings. CAIRNS also compared the index mappings with those recommended by the 'UKOLN Models Library Interoperability Profile', a precursor to the Bath Profile. The agreed mappings can be found in Appendix F of the CAIRNS final report (Nicholson et al, 2000).

It was recognised that the adoption of a common standard for cataloguing and indexing in Scotland would enhance the interoperability of metadata content via Z39.50, as well as supporting the overarching aims of SCURL to foster greater collaboration within the Scottish library community. Several issues were identified during extended discussions with cataloguers and these, along with potential solutions, formed the basis of the CAIRNS recommendations.

In order to facilitate improvements to the search results within the lifetime of the CAIRNS project, a number of mechanical and procedural changes to local practices were identified. Implementation of these shorter term recommendations resulted in CAIRNS searches being directed to the most appropriate index for each site, in order to provide the best results for an author, title and subject keyword or phrase search. This was deemed necessary given the status of index implementation in Z39.50 services at the time of the project. Better disclosure to end-users of local variations in index availability, scope, and content was proposed as another measure to be adopted in the short-term.

A number of low-cost changes to local cataloguing practices were identified and implemented during the project, but in general it was agreed that many desirable

changes would require more time, planning, and investment. Improvement of existing metadata would be costly, but might be incorporated into retro-conversion and system upgrade projects. Conformance to the Bath Profile (version 1.1 when the recommendations were published) was also suggested. Longer-term strategies for these activities were outlined in the recommendations. Mechanisms for continued collaboration on cataloguing and indexing between the Scottish libraries for also proposed, including:

- Supporting the implementation of the cataloguing recommendations of the CAIRNS Project.
- Establishing an email list to allow cataloguers in Scotland to raise and to resolve cataloguing issues.
- Supporting the production of further cataloguing and indexing recommendations by the CAIRNS Cataloguing and Indexing Working Group (CCIWG).
- Supporting future activities and project bids, which would help to achieve the aims of the document.
- Inclusion of the cataloguing and indexing recommendations in any future SHEFC/SCURL plan for cataloguing /indexing retro-conversion.
- Inclusion of the cataloguing and indexing recommendations in any future acquisition of a library system by SCURL or CAIRNS consortium libraries.

More generally, the discussions between the cataloguers of CAIRNS members libraries proved fruitful in helping cataloguers to 'think globally, act locally' and review and amend some policies that had little impact on their local users but improved interoperability in the union catalogue at little or no cost.

Deliverable B3 of CC-interop sought to build on this and similar work conducted by Music Libraries Online (MLO), with a view to agreeing a similar set of guidelines and short and long-term strategies applicable to enhancing interoperability within all of the regional clumps and, if possible, for COPAC-enhanced clumps also.

The original plan for this deliverable was to update the CAIRNS recommendations to remove out-of-date information and use them as the basis for further development by the RIDING and CAIRNS cataloguers. The amended recommendations were circulated by email to RIDING cataloguers with a request for feedback. This was to be followed-up by a workshop with RIDING cataloguers, but during the summer of 2003, RIDING withdrew from the CC-interop project because of organisational changes at the University of Hull. At that point, no feedback had been received from RIDING cataloguers.

As a result, and taking into account work carried out in Work Package A of the project (Nicolaides, 2003), an alternative, and arguably superior, methodology was adopted.

2.   Methodology

With assistance from WPA, WPB organised two one-day workshops, held in London and Glasgow respectively, to discuss improving interoperability in distributed and physical union catalogues by implementing strategies for cataloguing and indexing standards.

- Invitations for the London workshop were sent to the CURL cataloguers email list and members of the InforM25 consortium.

- Invitations for the Glasgow workshop were sent to members of SCURL and libraries in the Further Education sector.

A revised and more generic version of the CAIRNS cataloguing guidelines was distributed in advance to attendees (see Appendix A). Attendees were encouraged to review these guidelines in preparation for the event. Attendees were also encouraged to bring along examples of policy and practice from their local institutions, and issues they have encountered in using union catalogues, to support, contradict, and otherwise inform the draft recommendations.

Both events used a programme of a number of short presentations in the morning followed by a group discussion in the afternoon.

Presentations made at both events included:

- An introduction to the CC-interop Project.
- CAIRNS recommendations for cataloguing and indexing guidelines: background and specific issues, including ISBNs and ISSNs and multi-part items.
- Cataloguing and indexing: their effects on interoperability identified during research conducted as part of CC-interop deliverable A2 and contained in 'A Comparative Study of COPAC and Selected Independent Z39.50 Servers' (Nicolaides, 2003).

Additional presentations on more local topics were given at each event.

For the London event, these were:

- COPAC: architecture and index creation.
- CURL minimum standards for bibliographic records.

For the Glasgow event, these were:

- Interoperability issues: a preliminary perspective from the SUNCAT project.
- Demonstration of interoperability issues in the 'Scottish information environment'.

At each event, lunch provided an opportunity for personal discussion of points raised by the presentations, leading into the afternoon's 'Extended open discussion on future draft recommendations for cataloguing and indexing

practice'. The open discussion was facilitated, with similar topics covered by each group (See Appendix F).

The discussion sessions were tape-recorded with the permission of the participants. Each recording was used together with notes taken during the session to produce a report of the discussion, which was then distributed to the attendees for further comment and correction (see Appendix D & E). Any quotations from event participants are anonymous.

Both events were well attended and attracted representation from most HE libraries in each geographical area (see Appendix B & C). The Glasgow event also enjoyed the participation of the National Library of Scotland, FE colleges, and the Mitchell Library, the city's public reference library.

3.   Recommendations

There was a clear consensus at the workshops that the cataloguing community would welcome the creation of guidelines that were more prescriptive than the current CAIRNS guidelines. This would help local cataloguers to actively improve interoperability. It was also agreed that more general guidelines were important for raising awareness in senior managers of the impact of local policies on global interoperability and the need for a professional approach to cataloguing.

The project teams for WPA and WPB agreed that the development of cataloguing guidelines based on CAIRNS as stipulated in 7.2.4 of the CC-interop Project Plan would yield little in the way of additional utility to cataloguers, systems librarians and libraries themselves. Instead, the degree of consensus and awareness of the continuing globalisation of cataloguing suggested that it would be more useful to produce a set of recommendations for a wider, more active and co-ordinated approach to improving interoperability.

This takes into account the work in WPA which demonstrates the technical feasibility of 'clumping the clumps', indicating that distributed and physical union catalogues themselves may become single components of larger distributed union catalogues. It should also be noted that the membership of CAIRNS is extending to the public and FE sectors as a result of the SPEIR project, so that a complete revision of the existing guidelines is required, rather than updating them.

In any case, the generic version of the CAIRNS guidelines circulated to workshop participants can be readily adapted for a specific union catalogue consortium requiring a less prescriptive approach.

The following recommendations are informed by the workshops, related activity within the CC-interop project, and participation by project team members in external activities such as the application of FRBR to the Anglo-American Cataloguing Rules and development of the Bath Profile.

3.1   Collaboration within distributed or physical union catalogues

3.1.1   *Recommendation:* Consortia of libraries contributing to union catalogues should develop prescriptive guidelines covering catalogue record scope and content, which account for both local and 'global' needs. These might include a minimum input standard for the level of cataloguing and the content of entry points or headings.

It is no longer sufficient for such guidelines to be developed for one mode or level of aggregation. Any one library may belong to more than one union catalogue, requiring local needs to be matched against more than one set of global needs. For example, the National Library of Scotland contributes to the CAIRNS distributed union catalogue, the COPAC physical union catalogue, and the British National Bibliography. Any union catalogue may in turn be treated as a single component catalogue of a larger distributed union catalogue, so that what is global in one environment becomes local in another. For example, Strathclyde University Library is a member of CAIRNS, but CAIRNS itself may become a member of a 'hyper-clump' such as a distributed UK National Union Catalogue. CAIRNS is global in the first environment, but local in the second. An UKNUC itself would become a local component in a distributed union catalogue for the Anglophone world.

3.1.2   *Recommendation:* Guidelines for improving interoperability need to be developed at national and international levels, particularly in the Anglophone community, and suitable mechanisms for doing so should be identified or created. One such mechanism might be the Full Disclosure program in the UK.

3.1.3   *Recommendation:* Consortia should consider participation in international activities such as the Program for Collaborative Cataloguing (PCC). This would reconcile clashes between local and global name and subject headings, and ensure future interoperability with international distributed union catalogues.

3.1.4   *Recommendation:* Consortia should consider developing a shared cataloguing service for digital resources, involving the creation of only one catalogue record to be used or copied by all local libraries. Rules for cataloguing digital resources tend to offer more choice, and therefore greater opportunity for variations and increasing interoperability problems. At the same time there is much less need, if any, for local data in the catalogue record for a resource that is not circulated or shelved.

3.1.5   *Recommendation:* Catalogue consortia should develop mechanisms to ensure regular opportunities for cataloguers to discuss issues and review policies and practices.

Cataloguers are concerned that they may not be able to give proper professional advice to colleagues or make quality decisions on local policy and practice if they are unable to discuss views, concerns, and experiences with fellow professionals. Such concerns are increasing as pressures to reduce costs and develop new services rise.

The importance of face-to-face meetings should be recognized, to encourage participation and allow frank discussion.

3.2   Standards

3.2.1   *Recommendation:* Further development work on the Bath Profile should encompass recommendations for the scope and content of specified indexes. For example, the Title index might be scoped to cover alternate titles, uniform titles, group and part titles, and related titles. Further, a normalization rule could be applied to all scoped titles, for example removing leading articles such as 'The' and 'An'.

This would give cataloguing consortia, system vendors, and Z39.50 service developers a firm base for establishing standard mappings from metadata formats such as MARC21 to Z39.50 indexes.

3.2.2   *Recommendation:* Consortia using Z39.50 should consider producing guidelines on required conformance with the Bath Profile, specifying conformance areas and specific indexes and searches. This would be more prescriptive than the Profile itself, and by reducing choice would improve interoperability.

3.2.3   *Recommendation:* Standard rules for index content normalization should be adopted at as wide a level as possible. Such rules cover punctuation in names, titles and subjects, the inversion of personal names, and the treatment of leading articles in titles. Standard rules would allow system vendors and service developers to ensure more uniformity in Z39.50 indexes.

It may be possible to use or readily adapt existing rules, such as those used by the Name Authority Control (NACO) section of the Program for Collaborative Cataloguing (PCC).

3.3   Strategic developments

3.3.1   *Recommendation:* Consortia and individual libraries should monitor the implementation of FRBR (IFLA, 1998) to plan for large-scale machine processing of catalogue data to improve interoperability.

Upgrading a cataloguing system to the FRBR model requires disaggregation of existing catalogue record components and reaggregation into a significantly different structure. In particular, the effectiveness of the FRBR structure depends on precision in name and title indexes, so it is possible that conversion packages will offer services for matching and upgrading local records against fuller, authoritative global files.

The costs of implementing the FRBR model in a local catalogue are likely to be significant. The full benefit of the FRBR approach is obtained when catalogues are used in a global environment, so libraries will get better return on their investment if they apply a global context to all operations involving their catalogues, rather than upgrade to FRBR because it is what the latest version of their library management system offers.

3.4 End users

3.4.1 *Recommendation:* Individual and union catalogue services should disclose local practices which may affect interoperability for an end-user. This might be embedded within the catalogue interface, or offered in help, orientation, or training screens.

Opinion is divided as to how frank such information should be, particularly if it emphasises negative issues such as incomplete catalogues or poor-quality records. Some cataloguers question whether end-users are interested in or use this kind of support, while others suggest that users might be annoyed to find out they have not been told something which would affect their search strategy. Such differences of view are likely to be reflected in local interfaces.

3.4.2 *Recommendation:* Consortia should therefore consider agreeing a standard set of information about each catalogue which should be disclosed as part of the union catalogue service, allowing additional information to be disclosed on the local catalogue interface at the discretion of the library.

References

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Appendix A

Improving interoperability in distributed and physical union catalogues by implementing strategies for cataloguing and indexing standards

Background

The attached draft recommendations for improving metadata interoperability in the physical and distributed union catalogues are based on *CAIRNS project recommendations for a cataloguing and indexing strategy for Scottish libraries*, available as a PDF document at URL: http://cairns.lib.gla.ac.uk/docs/CAIRNSCatStrat.pdf.

CAIRNS is an example of a distributed union catalogue based on Z39.50.

These recommendations were agreed after a series of meetings of cataloguers of CAIRNS member libraries. Meetings were chaired by the Cataloguing and Indexing Group in Scotland (CIGS).

The starting point for discussions was a set of mappings of USMARC and UKMARC fields and subfields to the standard CAIRNS clump indexes.

The standard indexes were author, subject and title indexes supporting both normalized right-truncation (start of entry) and keyword (anywhere in entry) search modes, and ISBN and ISSN indexes supporting the exact match search mode.

Each CAIRNS library produced the mappings for the indexes used by their Z39.50 server; the set of mappings was consolidated by the project team to allow identification of convergent and divergent practices. The project team also compared the index mappings with those recommended by the UKOLN Models Library Interoperability Profile.

The mappings can be found in Appendix F of the CAIRNS final report, available in PDF format at URL: http://cairns.lib.gla.ac.uk/cairnsfinal.pdf. Many of the mappings have subsequently changed as a result of migration to MARC21 or system changes.

During discussion of divergent practices, some cataloguers indicated that they were not sure why particular mappings were used, and were able to remap the appropriate indexes or plan to remove anomalies in due course.

The discussions also helped cataloguers to "think globally, act locally" and implement certain policies which had little impact on their local users but improved interoperability in the union catalogue at low or no cost to the library.

There is anecdotal evidence that some of the longer term recommendations are being implemented by libraries which are migrating from one system to another or carrying out metadata retroconversion, when there is usually some disruption for users and policy and methodology guidelines may have to be rewritten.

Updating the recommendations

One of the deliverables of the COPAC/Clumps continuing interoperability project (CC-interop) is to produce an updated version of the CAIRNS recommendations which could be useful to other union catalogues and takes into account developments since they were first produced.

The recommendations are a generalised view of issues and potential strategies for improving interoperability, without going into too much detail or indicating specific problems for specific libraries. Many of the shorter-term approaches involve the centralised maintenance of the CAIRNS interface, which had extensive help on index variations in Z39.50 targets (this help has been temporarily removed while integration between the CAIRNS and SCONE services is being improved as a result of CC-interop and other projects).

To bring the recommendations up-to-date, and make them suitable for institutions contributing to physical and distributed union catalogues, the following factors should be taken into account:

- The Library Interoperability Profile has been superseded by the Bath Profile.
- USMARC has been superseded by MARC21.
- UKMARC is no longer supported, and many libraries are moving to MARC21 formats.
- Other union catalogue indexes may be different from the standard CAIRNS indexes.

Methodology

The original CAIRNS recommendations have been re-worded to avoid specific mention of CAIRNS or any other union catalogue consortium. They have not been substantially altered otherwise.

The draft guidelines will be circulated to cataloguing and associated staff in the CAIRNS, CURL, and InforM25 consortia for discussion and comment. The CAIRNS and InforM25 consortia operate Z39.50 distributed union catalogues for Scotland and the London area respectively, while CURL runs the physical union catalogue COPAC service.

Cataloguers will be invited to attend a one-day meeting in Feb/Mar 2004 in London (for CURL and InforM25) and Scotland (for CAIRNS).

The London meeting will consist of:

- A presentation by the M25 systems team on interoperability issues raised while investigating cross-searching in InforM25 and COPAC.

- A presentation by the CAIRNS team on the background to the original CAIRNS recommendations, and discussing in more detail some specific issues, including ISBNs and ISSNs, and the treatment of multi-part resources.

- A workshop and open discussion on the draft recommendations. Delegates will be encouraged to bring along examples of policy and practice from their own libraries, and issues they have encountered in using the union catalogue, to support, contradict, clarify and muddy the draft content.

It should be noted that some of issues addressed in the recommendations do not apply to certain types of physical union catalogue, and that not all issues may be covered for other distributed union catalogues which use different types of index.

Notes taken during the meeting will be consolidated with email responses to produce a final version of the recommendations.

The aim is to reach a consensus, if possible, on which recommendations could be generally applicable to all union catalogues, and which might apply to specific catalogues, to make them more useful and effective for their users.

The CC-interop project has no intention of taking the recommendations beyond this stage. Individual cataloguers and libraries may find them useful when considering catalogue conversion. Consortia may decide to adopt some or all of the recommendations as policy, as in the case of CAIRNS, but there is no obligation to do so.

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5 Dec 2003

Recommendations for a cataloguing and indexing strategy for the XYZ consortium (draft)

Shorter term solutions

Shorter-term recommendations are work-arounds, which XYZ members can put in place along with mechanical and procedural changes to local practices, which can be achieved within a year or so.

1. Author

Compliance with current cataloguing policy

- Member libraries should ensure compliance with their current stated cataloguing policy.

Format issue

- The XYZ service and the member libraries should ensure that the author indices at each site conform to the information provided in the XYZ service help.

User help

- XYZ should provide on-screen examples of how a name should be entered to allow searching on the XYZ service.
- The XYZ service should provide help to users on the variant forms of surnames
- The XYZ service should provide help screens to specify the 'types' of names (for example: authors, editors, corporate names, etc.) included in the index to which author searches are directed for each target in XYZ.

2. Title

Compliance with current cataloguing policy

- Member libraries should ensure compliance with their current stated cataloguing policy.

Format issue

- The consortium and member libraries should ensure that the title indices at each site conform to the information provided in the XYZ service help.

User help

- The XYZ service should provide a help screen to describe what is mapped to the title index at each member site.
- The XYZ service and the member libraries should provide help to explain the impact of stop words, synonyms, etc. on XYZ searches.

3. Subject

Compliance with current cataloguing policy

- Member libraries should ensure compliance with their current stated cataloguing policy.

Format issue

- The XYZ service and the member libraries should ensure that the subject indices at each site conform to the information provided in the XYZ service help.

User help

- The XYZ service and the member libraries should provide help information on how the variation in the subject index (subject authority list or subject scheme) of each target affects results presented to the user.

4. ISBN and ISSN numbers

Compliance with current cataloguing policy

- Member libraries should ensure compliance with their current stated cataloguing policy.

Format issue

- The XYZ service and member libraries should ensure that the ISBN indices at each site conform to the information provided in the XYZ service help.
- ISBN numbers should be, where possible, recorded in normalised form (without spaces or punctuation, and with upper case X) by XYZ libraries in sub field A of UKMARC field 021 or in subfield A of MARC21 field 020. If impossible, ISBN numbers should be recorded at the beginning of the ISBN field to allow the first ten characters to be indexed.
- XYZ libraries should provide an index from which ISBN numbers can be searched.
- Each XYZ member should ensure that they follow the accepted local policy of recording binding information in the record.

Multiple ISBNs

- Member libraries should distinguish between distinct items, where multiple ISBNs are recorded.
- To allow users to distinguish between multiple ISBNs in a record, repeats of subfields A and C of UKMARC field 021 and repeats of subfield A of MARC21 field 020 should be displayed by RIDING.
- XYZ libraries should ensure that multi-item qualification information is recorded in the ISBN field in addition to the ten-digit number.

- Each XYZ library should ensure that multi-issue information is incorporated in the record, following the standards required by MARC and AACR2.

Invalid ISBNs

- The XYZ service and member libraries should agree on the circumstances in which invalid ISBNs should be recorded.
- Whenever possible, XYZ libraries should record invalid ISBNs in the UKMARC ISBN subfield z or in the MARC21 subfield z. For libraries with computer systems that either cannot record more than one ISBN number, or cannot return invalid ISBNs, the hardback or 'main' ISBN should be recorded for the item.
- The XYZ service and member libraries should provide help for users searching on invalid ISBNs, to draw their attention to the fact that they might be searching for an invalid ISBN and to assist them with their search.

Duplicate ISBNs

- Record displays of duplicate items should continue as users may wish to know the existence of all available items that meet their search criteria.

User help

- The XYZ service, member libraries and other local sites should provide help information to explain why and when ISBN searches might result in inaccurate results.

Record display

- The XYZ service should include the 001 field within the record display until mapping issues are sorted out, because the 001 field includes ISBN numbers.

5. Serials

User help

- User help should encourage a user to re-direct his search to the appropriate indices, if they receive a negative response.

6. Record display

Information to be returned to the user

- The XYZ service to provide the option of access to a brief, full and MARC record for each item returned to the user.
- The XYZ service to optimise the content of full and brief records.
- The XYZ service to provide the location and status information for each holding, where possible.

User help

- The XYZ service to provide help on the information contained within brief and full records. The service should also describe the additional information available from the MARC record.

7. Bath Profile

- Before further work is done in connection with the Bath Profile, it is necessary for the International Profile to include UKMARC.

8. Focus for further work on cataloguing and indexing issues in the XYZ consortium

- A group of cataloguers representing member organizations should meet at six monthly intervals.
- An XYZ Cataloguing and Indexing Issues Group email list should be established, to allow issues and proposed local changes in cataloguing and indexing practices to be discussed.
- Further discussion of the content of holdings is required, including specific issues associated with serials, multi-part items and electronic materials.

Longer-term solutions:

Longer-term solutions include recommendations for the standardisation of indexing and cataloguing practice, which would require the collaboration of XYZ libraries to attract resources over an extended period to allow the implementation of these standards.

1. Author

Format issue

- A future service should agree the content of a standard author index and each library should provide such an index.
- In a future service, each XYZ library should provide a separate author keyword index in conformance with the Bath Profile.

SCAN function

- A future service should investigate the implementation of the SCAN function in conjunction with suppliers.

Authority file

- A future service should carry out a feasibility study into the technical and professional implications of providing a centrally located authority file for names, compliant with AACR2.

Research into user interrogation of the data

- A future service should seek to carry out research on user approaches to searches for names.

2. Title

Format issue

- In a future service, each library should provide the following two indices:
  - A title alpha index
    (The title alpha index would follow the AACR2 definitions and rules on title entries, with the addition of subtitles. It would consist of the title proper; subtitles; alternative titles; added titles; related titles; uniform titles; series titles).

  - A title keyword index, directed to the same data as the title alpha index. A future service should research the use of notes fields carrying title keyword type information.

3. Subject

Format issue

- In a future service each library should provide a separate subject keyword index.

Authority file

- A future service should adopt a single scheme or authority list.

4. ISBN and ISSN numbers

Format issue

- Keyword searching can ensure that a 10-character ISBN number can be found even if there is other data present in the field. However, this is unacceptable as a long-term solution as it is non-compliant with the Bath Profile. A future service should find an alternative, longer-term solution to this problem.
- A future service should index ISSN numbers separately from ISBN numbers.
- A future service should convert SBN numbers to ISBN numbers.
- XYZ libraries should ensure the retrospective conversion to uppercase X for ISBN and ISSN numbers.
- A future service should apply retro-conversion to normalise ISBN numbers, for example to remove hyphens and spaces.
- A future service should ensure that binding qualifiers and multi-item qualifiers are the only qualifiers included in the record.

Multiple ISBNs

- A future service should supply, in the appropriate ISBN sub-fields, any missing ISBN numbers and multi-item and binding qualifiers required for display purposes.

Invalid ISBNs

- Invalid ISBNs meeting the criteria agreed by the XYZ Cataloguing and Indexing Working Group should be included in the ISBN index.

Duplicate ISBNs

- De-duplication should be made available to the user as a non-default option.

5. Serials

- A future service should adopt a standard definition of serials and their cataloguing requirements.

6. Keyword searching

- Each library should provide:
  - a separate subject keyword index
  - a separate title keyword index
  - a separate author keyword index
  - a general keyword index

7. Record display

- A future service should carry out research into the information that should be displayed within a brief and full record. All information available from an XYZ service search should be included in the full record display.
- Libraries should ask suppliers to develop Z-servers to allow holdings level information, including location and status, to be returned in searches, where such facilities are not currently available.

Terminology used in this document:

Term:	How this term is used:
Record	The bibliographic record
Item	Components of the thing that has been catalogued
Holdings	Copies of items catalogued in the record
ISBN	International Standard Book Number (unique identifier for individual publications)
ISSN	International Standard Serial Number (unique identifier for serial publications)
UKMARC	United Kingdom Machine Readable Cataloguing
MARC21	Consolidated US/Canada/Australia Machine Readable Cataloguing
AACR2	Anglo-American Cataloguing Rules, second edition

Appendix B

List of Attendees: 'Think Globally, Act Locally', London School of Economics, London
17th February 2004

Delegate Name	Institution
Peter Boaden	University of London Library
Sandra Bracegirdle	John Rylands University Library
Shirley Cousins	COPAC, MIMAS
Alan Danskin	The British Library
Robert Davies	The National Library of Wales
Denis Dorman	Canterbury Christ Church University College Library
Gordon Dunsire	Centre for Digital Library Research, University of Strathclyde
Abigail Edwards	King's College London Library
John Gilby	M25 Systems Team, London School of Economics
Jackie Hwang	University of Birmingham Library
Martin Kelleher	University of Liverpool Library
Debra Kobasa	University of Durham Library
Graeme Leng-Ward	University of Warwick Library
George Macgregor	Centre for Digital Library Research, University of Strathclyde
Hannah Mateer	Birkbeck College Library
Thomas Meehan	University College London Library
Mike Mertens	CURL
Diana Miles	University of Leeds Library
Susan Miles	Bodleian Library, Oxford
Rose-Ann Mosovic	Reading University Library
Eileen Nazha	Queen Mary, University of London Library
Fraser Nicolaides	M25 Systems Team, London School of Economics
Caroline Perrett	Middlesex University Library
Penny Pope	University of Westminster Library
Jennifer Prada	London South Bank University Library
Ashley Sanders	COPAC, MIMAS
Gwen Smith	University of Greenwich Library
Hugh Taylor	Cambridge University Library
Nallini Thevakarrunai	Cambridge University Library
June Tomlinson	London School of Economics Library
Diane Tough	Natural History Museum Library

Appendix C

List of Attendees: 'Think Globally, Act Locally', University of Strathclyde, Glasgow 3rd March 2004

Delegate Name	Institution
Katherine Baxter	University of Dundee Library
Lynn Corrigan	Napier University Library
Katherine Dickie	Heriot-Watt University Library
Gordon Dunsire	Centre for Digital Library Research, University of Strathclyde
Graeme Forbes	National Library of Scotland
Marian Fordom	Royal Scottish Academy of Music & Drama Library
John Gilby	M25 Systems Team, London School of Economics
Duncan Irvine	University of Strathclyde Library
Andrew Jackson	Glasgow College of Building & Printing Library
Cathy Kearney	Scottish Library & Information Council
George Macgregor	Centre for Digital Library Research, University of Strathclyde
Morag Macgregor	EDINA
Les McMorran	University of Aberdeen Library
Chris Rogers	North Glasgow College Library
Rosemary Stenson	University of Glasgow Library
Liz Stevenson	University of Edinburgh Library
Ritchie Thomson	Scottish Cultural Portal
Julie Wands	Royal College of Physicians & Surgeons of Glasgow Library
June Willing	Mitchell Library, Glasgow City Libraries
Stephen Winch	Scottish Cultural Portal

Appendix D

'Think Globally, Act Locally'
CC-interop Workshop, LSE Library, 17 February 2004

Open discussion led by Gordon Dunsire (GD): a summary of issues raised

CAIRNS Guidelines: utility?
Attendees at 'Think Globally, Act Locally' considered the CAIRNS Cataloguing Guidelines as more a document for raising awareness of the political and cultural issues than directly influencing the practice of cataloguing itself. Emphasising this view further, several participants opined that the document was a 'marker' of political issues and was useful as an instrument with which to raise awareness among members of senior management. GD did state that whilst the guidelines were particularly bland and lacked explicit stipulations, the CAIRNS cataloguers did find them useful at the time of their inception. GD attributed this to their involvement throughout the original discussions.

Attendees were universal in their belief that greater awareness of the issues would help facilitate a cultural change throughout the upper echelons of library management. It was agreed, albeit reluctantly in some cases, that libraries must function locally first and foremost, but should be informed by global issues. Since the primary focus of senior management was functioning locally, greater awareness would ultimately help.

Most felt that, following the original CAIRNS methodology, it would be productive for attendees to produce their index mappings and then meet at a later date to identify where there are similarities and where there are not. Such a meeting would facilitate the sharing of knowledge and experience among cataloguers.

Global attitudes
Picking up on this issue, one attendee remarked that when their library automated they consciously adopted a global attitude, where possible, by assuming global standards as they had hitherto been constrained by localised standards and practices.

This facilitated a belief among attendees that in the majority of cases libraries that do not 'think globally' first run the risk of providing an increasingly ineffective local service. Users, after all, want access to global resources. This is especially the case when one considers that the 'local patron' quite often assumes the guise of distance learner, lifelong learner, those engaging in Continuous Professional Development (CPD), etc., and that accessing resources out with the confines of the 'local user group' is paramount. Local patrons are autonomous agents and are not 'owned' by specific libraries. Moreover, it was considered unsafe for libraries to direct their resources exclusively at the conventional local user group since the information requirements and demands of a distance learner is likely to be, with some legitimacy given that they often pay higher fees, much greater.

Whilst 'political economy' dictates that libraries are in competition with one another, it is possible to turn the competition argument upside down. Effective education ultimately dictates a quality library catalogue with access to widely varying and disparate resources - this will unquestionably be a future determining factor in assessing the quality of a

library. For example, feeder streams from local FE colleges may increasingly judge libraries on their ability to respond to the above demands.

Bath Profile issues & issues of conformance
One potential way forward, as identified by attendees, is to proceed using an existing standard or global mechanism, like the Bath Profile. It was acknowledged that the Bath Profile currently does not specify what precisely is mapped to what indexes and it consequently offers too much choice. This, in turn, is impeding vendors' conformance with the profile. It was therefore agreed that the Bath Profile needs to be more prescriptive, and that the vendors reflect such discipline. It is no longer sufficient for systems librarians to use Z39.50 'out of the box' - and cataloguers cannot be expected to continually confront systems librarians with the reasons why finer configuration is required - but, in general, systems librarians expect a mature product and are unaware of the mapping difficulties.

Most attendees agreed that libraries should be telling vendors that if they do not conform with the Bath Profile they should at the very least provide, for instance, a title index that allows for fully truncated searching, or, that 'out of the box' default mappings to the Z indexes conform to the profile. This would also address the tendency of systems librarians to simply take the Z39.50 package out of the box and install it as is.

The view was also expressed that systems librarians have to be better informed so that they are fully acquainted with the issues and are in a position to question the word of vendors. Vendors remain relatively noncompliant, but often mislead libraries and systems librarians, or do not provide sufficient information as to Z specification and consequently let libraries believe that they are relatively compliant with the profile. Ultimately, it was felt that the UK represented a tiny market for international vendors and that bigger initiatives would have to be undertaken in order to make vendors more receptive to national/international profiles.

Summarising this view for attendees, GD stated that recommendations to a funding body be submitted suggesting that there be further investigation into the Bath Profile and index mappings to improve interoperability. When it came to discussing the framework under which this work should be adopted, most felt that a national initiative would be ineffective and inefficient, and that the development of a profile was a far bigger issue. Adopting an *Anglophone* approach (UK, USA, Canada, Australia, etc.) was deemed the most preferable and would encompass some of the most influential organisations, such as the British Library, Library of Congress, OCLC, etc.   Only this way would the UK have enough clout to influence the overall development of Z39.50 and simultaneously resolve interoperability. GD also remarked that this could compliment and facilitate the increasing FRBR-ization being implemented by the Library of Congress and OCLC.

Authority control
The discussion then moved to the issue of authority control and the effect this had on interoperability. GD said that he had heard rumours that LCSH and LCNAF authority files might be made available for remote linking. He also pointed out the there was a Z39.50 protocol for authority records, and he was aware of at least two implementations of it. These might allow for the automatic updating of bibliographic records with the most up-to-date headings. Concern about such a system was voiced by attendees, particularly regarding the deployment of LCSH terms that supersede local headings since confusion may arise between different terminology sets. GD expressed the view

that this already occurs in libraries at the moment. He also pointed out that NACO (The Name Authority Cooperative Program) would allow local name headings to be incorporated into the international authority files.

Terminologies
Concerns about terminology led some to state that a 'professional attitude' has to be adopted (i.e. joining NACO, or joining SACO, etc.), as without this the UK will be unable to influence terminology, headings and subject schemes. GD spoke of the problems encountered by the Scottish Cultural Portal (Scotland's Culture), which has adopted LCSH. This has obviously created a plethora of issues, particularly in a portal dedicated to Scottish culture. Some users can cope with US bias, but the novice searcher has to utilise the canned searches that the Scottish Library & Information Council (SLIC) have created. Some attendees felt that although LCSH was a big problem, it was part of a bigger 'mine field' involving MeSH, DDC, UNESCO, etc. and that it was inappropriate to act locally in these situations. Others felt that this was an issue that had to be dealt with at a local level, because projects like HILT (High Level Thesaurus) are not going to provide immediate solutions.

Normalization
The scope for a project addressing normalisation issues was deemed wholly necessary. Agreeing on how normalisation should be applied consistently was considered to be a key issue.

Vendors
Returning to the issue of the Bath Profile, some attendees expressed the view that vendors have usually absented themselves from the Bath Profile process. Whilst it is obvious that vendors should be involved more, it explains their unwillingness to conform to a profile, particularly one to which their input has been negligble. GD mentioned that commercial competition is also a problem for conformance since vendors would sooner provide customers with 'quirky' functions or add-on's as unique selling points, rather than addressing conformance issues.   Yet, as one attendee noted, vendors should be competing on being better and cheaper, rather than offering useless gimmicks.

Disclosure
Most admitted that the disclosure of information to users about the catalogue and searching was lacking. However, most stated that users, by in large, rarely use help screens, and those that do rarely understand them. Further still, the maintenance of such facilities is resource intensive since changes to indexing require changes to numerous help pages, for instance. Compounding this opinion, attendees felt that the general user was not interested in how the system works; they simply want their results as efficiently and as effectively as possible. Some attendees did state that greater disclosure would be of benefit to users, if only to obtain user feedback. Such a model helps with prioritisation work and facilitates a feedback process.

GD commented that this has become increasingly important when users are using distributed systems and allows them to refine searches. After some consideration, most felt that a uniform approach to disclosure within the library catalogue, and in turn the union catalogue, would be helpful and would highlight the nuances.

The way forward
The meeting recommended:

- Future work on developing the Bath Profile should include consideration of index scope, coverage, and content.
- Normalization rules used in the NACO part of the PCC should be identified, disseminated, and more widely applied in local catalogues.
- System vendors should be encouraged to be more closely involved in interoperability issues.
- Developments involving FRBR, the LC authority files (LCNAF, LCSH), and other global initiatives should be monitored and taken into account.
- More information about local cataloguing policies, index coverage, etc. should be disclosed to users.
- More information in a suitable format for machine-to-machine interoperability should be made available.

Appendix E

'Think Globally, Act Locally'
CC-interop Workshop, University of Strathclyde, 3 March 2004

Open discussion led by Gordon Dunsire (GD): a summary of issues raised

Is interoperability important?
Introducing the discussion, GD posed the question of whether improving interoperability was important. Attendees at the workshop indicated that the issues raised earlier in the day were important and most agreed that some sort of strategy should be adopted to address some of those issues. Moreover, attendees agreed that attempts to alleviate interoperability problems were not entirely futile. GD did state that whilst the CAIRNS Cataloguing Guidelines were bland and lacked explicit stipulations, the CAIRNS cataloguers did find them useful at the time of their inception. GD attributed this to their involvement throughout the original discussions.

Some attendees said that they did not realise the CAIRNS Cataloguing Guidelines were deliberately made bland, so as to be acceptable to senior library management, but stated that there were other factors involved in interoperability, rather than just issues surrounding cataloguing.   Some felt that vendors, by delivering increasingly customisable systems, were immediately thwarting the concept of interoperability since divergent implementations of that particular system will occur, particularly with regards to setting up Z39.50 targets. One attendee felt that cataloguing was such a subjective pursuit that it will always be difficult to truly resolve issues of interoperability, particularly where the barrier remains the catalogue record itself.

Optimisation: for which user group?
Does optimisation for needs of local users necessarily work to the detriment of global users? One attendee stated that the needs of local users were paramount, especially when it is the local patron that will invariably be using the resources. However, most took the view that the 'local patron' was often synonymous with the 'global patron'. Indeed, the local patron quite often assumes the guise of distance learner, lifelong learner, or someone engaged in Continuous Professional Development (CPD), not to mention international researchers. GD emphasised this point by stating that JISC is increasingly defining service provision on the basis of what defines a local user in the global information environment.

After recognition by attendees that the user essentially resides at the centre of the 'interoperability question', it was expressed by some, that the library and information community has to ensure that certain groups of users do not find themselves disenfranchised in the name of being global. That is, by gradually 'dumbing down' records and concentrating on the 'core' fields experienced users (researchers, academics, etc.) will gradually be excluded from the powerful searches necessary in order to provide the sure foundation for productive research.

CAIRNS Guidelines: issues
Most agreed that the CAIRNS cataloguing guidelines were useful for laying down a definite marker for minimal cataloguing standards, particularly in a climate of reducing

cataloguing costs. The existence of the guidelines themselves gave those responsible for cataloguing a tool with which to bargain in issues pertaining to the adoption of certain standards and the overall quality of bibliographic records to be created. In addition, it was felt that the guidelines helped to raise awareness of the issues and went some way to facilitating a cultural change throughout library management.   Some attendees suspected that many libraries failed to conform to their own rules for optimum cataloguing standards, let alone the cataloguing rules dictated by a clump or cooperative.

The opinion also emerged that many of these barriers to interoperability are the result of legacy metadata and constitute long term issues. Indeed, it would take considerable and unlikely level of resources to maximise a library collection for the purposes of interoperability. Yet it was also recognised by attendees that present decisions should be made as carefully as possible as they could have major future repercussions.

It was stated that cataloguers rely on other institutions' cataloguing to inform their own. It was therefore argued that it is extremely important, for those within the community, that bibliographic data be made available to a wider community in an attempt to help assist them, not only in their local cataloguing, but to ensure that they are consistent with initiatives to improve interoperability.

Some remarked that this cooperative approach existed. Indeed, pressures of time dictated that some staff had little time to create bibliographic records from scratch and where possible they downloaded records. Yet, it was drawn to attendees' attention that this approach did not resonate well with the spirit of cooperation since someone somewhere has to create the original, definitive record from scratch.   This resulted in a discussion of 'ethics' in capturing records.

It was suggested, by GD, that perhaps it would be appropriate to measure the quality of catalogues. That is, gauging the totality of individual records within a given catalogue. Such an approach would allow institutions to be assigned a 'score' depending on the quality of their metadata and it would be entirely consistent with the realignment within LIS toward great disclosure.   Though unsure how useful this would be for the user, GD commented that it would extremely useful from a machine perspective and could be utilised to great effect by a service like SCONE.   However, when speculating, GD remarked that if the user knew the limitations of the bibliographic records held in a specific repository, they could better refine their information queries and conduct searches reflecting this quality. Though some attendees recognised that it would benefit the 'sophisticated searcher', others felt that such a strategy was far too subtle for the majority of users and would reflect poorly on libraries and cataloguing staff.

A counter argument emerged stating that such a facility would not be considered 'negative' by a sophisticated user, particularly since the provision of such information could inform their search strategy. Indeed, disclosing information such as, "Material catalogued prior to 1995 does not conform with modern cataloguing practice" or "only 60% of the catalogue has a 'xyz' index" was felt to offer some benefit. Yet, it was acknowledged that novice users might consider it negative to be told near the beginning of their information query that there exist catalogues seemingly irrelevant to their task. Others also were sceptical of whether this information would be effective, if delivered via help screens.

Attendees agreed that it was damaging and dangerous to make generalisations about user behaviour in the absence of comprehensive and thorough user studies. As well as being entirely subjective, it was context dependent and encompassed users from HE, FE, national libraries, public libraries, and so forth. Taking this view further, some attendees opined that this was precisely why standards have been created, because no one can usefully speculate as to how users search for information. Rather, more emphasis should be placed on educating the user.

Mapping issues
It was not unknown for Z software to be installed using vendor defaults and without appropriate local adjustments. Systems librarians have to be better informed so that they are fully acquainted with the issues and are in a position to question the word of vendors. By being aware of some of the issues themselves, most agreed that cataloguers should approach systems librarians and question mappings. However, this issue did not stop at the systems librarian, and confronting vendors was seen to be essential to improve the provision of adequate technical documentation and support.

Some suggested that a brand of 'service level agreement' could be introduced. Such an agreement would incorporate advice and requirements to be met when a library is purchasing a new system and function as an agreed conformance document that vendors could use. GD did note that vendors are beginning to pay heed to buyer pressure and have acknowledged the Bath Profile - indeed there are fewer interoperability problems than there were 5-6 years ago.

Content interoperability?
Attendees were in agreement that more attention should be paid to the content of the indexes and that a document outlining such content would prove extremely useful.

Some attendees considered the move to LCSH as inevitable, as well as moves to other US centric authorities, especially since the British Library has assumed LCSH. Whilst many had concerns with this, most were complimentary of LC's ability to resolve incorrect headings. LCSH may be North American and riddled with errors, but the potential for international practitioners to influence the development of the standard, particularly via NACO, is significant and should, according to most attendees, be embraced. This ability to influence the development of standards should be viewed positively as an opportunity for local expertise to inform and enrich the world - unlocking the work at the local level for the benefit of the global level. Although some felt that this was too much work, others commented that in such an environment, sharing is king. Most did recognise these issues were likely to arise in the future, given the extensive coverage of union catalogues (e.g. the issues surrounding death dates - users need to be able to distinguish between two similar authors, to give just one example).

A discussion then ensued as to why the Library of Congress administers NACO. Most recognised that it is an attempt to internationalise the exchange of bibliographic records and some suggested that LC had a vested interest in selling bibliographic records. It was also noted that the motives might be more selfish with a degree of cultural hegemony.

Most agreed that some attempt should be made to address all these issues on an international scale, as only this way will issues of interoperability be truly resolved.

Catalogue coverage, depth, and variations
Initiating this portion of the discussion an attendee noted the British Library no longer catalogued children's bath books at item level, and instead use collection-level description to catalogue small collections of those items. This scenario was also recognised within the realm of microform whereby common practice was to include thousands of surrogate publications on one microfilm, yet libraries quite often only had (or have) a fraction of the publications listed for viewing. How does the cataloguer approach such scenarios? And when, and if, he/she does, what implications will that have for interoperability? However, GD noted that this approach, as advocated by LCRI, has now been superseded by the increasing 'FRBR-ization' occurring, particularly at a theoretical level, at OCLC and the Library of Congress.

Cooperative cataloguing
Some attendees felt that dividing up cataloguing responsibilities in a cooperative network could alleviate many of the problems. GD informed attendees that the SLIC funded SPEIR project is investigating collaborative cataloguing, particularly as part of the Scottish Distributed Digital Library (SDDL). Some did voice copyright concerns over submitting bought records to, say, a service such as COPAC.

After some discussion, most attendees opined that with the wider adoption of MARC21 now extensive, and as a result of the 'bland' CAIRNS guidelines, it would be welcomed if the document were more prescriptive. Not only would this address interoperability issues, but it also would assist cataloguing staff in raising the optimum standard of their records and would ultimately provide another lever with which to bargain with senior management. The training implications would result in a more general awareness by cataloguers of remote access to local records, and would orient senior managers as to the issues surrounding interoperability.

How much disclosure?
GD conjectured as to whether CAIRNS and SCONE could be improved by sending out a simple 'tick' orientated questionnaire designed for cataloguers and seeking answers to questions such as 'what does your title index include?' Many were concerned about how such information might be used and were conscious that issues of subjectivity would creep into the collection of such data. If such an exercise was to be undertaken, there should be some agreement in advance as to what the exercise is for, what would be asked, how the information would be used.

Regular Cataloguing Group?
Attendees welcomed the idea that a regular cataloguing group, with institutional representation, be formed. This view was emphasised by the exclusive nature of CIGS, which is limited to CILIP members. There was recognition that such a group needs to encompass FE, HE, the NLS and public libraries, with the possible inclusion of archives and museums.

The way forward
The meeting recommended:

- Bath Profile style approach, perhaps with more teeth, should be continued in order to resolve mapping issues
- Content interoperability could be improved on a global level and appropriate mechanisms should be put into place.

- That coverage of catalogue records could encompass the collaborative cataloguing of digital resources
- Clear need to re-draft the guidance in CAIRNS in order to render it more prescriptive.
- There should be some guidance on basic cataloguing standards.
- Greater disclosure to users regarding cataloguing policies, index coverage, etc. should be undertaken.
- That CAIRNS should conduct a review of the 'health' of institutions' catalogues. The precise remit of this would have to form the basis of another meeting.

Finally, that there be some shared information on copyright issues, etc, that could improve interoperability.

Appendix F

'Think Globally, Act Locally'
CC-interop Workshops, London and Glasgow, 2004

Specific issues raised for discussion

- Is any of this important?
  - Are attempts at better interoperability futile?
- Are the CAIRNS guidelines useful?
  - Did you have to be there?
- Does awareness of the issues help?
  - Think globally before acting locally
- Improved guidelines?
  - More depth and specifics?
  - How practicable for libraries?
- Disclosure to users and systems
  - Local index maps
  - Content standards
  - Catalogue coverage, depth, variations
  - How?
- Bath profile
  - Will conformance resolve most indexing issues in Z39.50 union catalogues?