
From cards to clumps: a look at developments in the world of union catalogues

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Abstract

With shrinking local library resources and the growth of resource sharing, union catalogues, in one form or another, are an important feature in today's library world. This article takes a look at some of the developments in union catalogue production, from card catalogue to virtual union catalogues or clumps, and discusses their use for document access and supply. *The IFLA World Directory of National Union Catalogues*, a kind of union catalogue of union catalogues, is also described.

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Some years ago the value of union catalogues for document access and supply was questioned in some quarters. It seemed that most of the job could be performed by large-scale collections like the British Library Document Supply Centre, and that union catalogues played only a supporting role (Russon, 1980). Since then the world has changed, local library resources have shrunk, resource sharing has grown, and union catalogues, in one form or another, are an important feature in most libraries.

There have been great strides along the road from the traditional card catalogue to the concept of distributed union catalogues or "clumps", visiting *en route* microfiche holdings lists (the UK's Combined Regions' ISBN fiche, for example, listed by ISBN, provided details of the holdings of all the UK's regional library systems), printed, and online union catalogues, and all manner of unfinished, half-useful catalogues covering various subject categories, geographical regions or combinations of libraries (the Union Catalogue of Slavic Manuscripts in Macedonia is one such). This article discusses how developments in this area have come about, and how union catalogues contribute (or not) to the work of library staff and users in finding holdings locations for library materials.

The almost universal trend towards declining library collections and a greater emphasis on "just-in-time" remote access as a way of supplementing the provision of library collections requires the availability of clear information about the holdings of other libraries. As libraries are less and less able to guarantee that items will be available in their own collections, users will require information on where to obtain a copy of the required material. Whereas in the past, therefore, union catalogues may have been seen as a "last-resort" resource for those items which could not be supplied through normal routes, the current trend towards resource-sharing and co-operative activities has brought about something of a revival in their fortunes.

Card catalogues are almost a thing of the past, with notable exceptions such as the British Library Document Supply Centre's (BLDSC) Union Catalogue of Books, and it would be highly unusual to find a new catalogue being developed on the basis of cards. Even where the technology does not yet exist to produce an automated union catalogue, the idea of establishing a card catalogue

is likely to be out of the question. In Ghana, where an IFLA project is aiming to improve document delivery services throughout the country, and where progress is hampered by telecommunications problems outside the influence of libraries, it is said that “it is obvious to project participants that it would not be feasible [...] to start building a union catalogue based on cards. That would seem like using yesterday’s technology to solve tomorrow’s problems” (Kisiedu, 1999). The “normal” union catalogue can now be said to be the online catalogue. In such a catalogue holdings data are submitted electronically at regular intervals by all the contributing libraries, some elimination of duplicate records is carried out, and the resulting database is made available to each of the participating libraries.

The most recent development in the area of union catalogues is the concept of distributed catalogues, “virtual” union catalogues, or “clumps”, where holdings are not submitted to a central database, but in which individual library catalogues are linked. Software allows searches to be made of each of the catalogues in a seamless way: multiple catalogues are searched, results are integrated and delivered to the user, and the effect is that of using a single union catalogue.

Online catalogues

Although there has been some discussion and promotion of the concept of virtual union catalogues, their effectiveness for the purpose of location finding for ILLs has yet to be proven (Lynch, 1997), and it is true to say that the vast majority of holdings data are still to be found in conventional union catalogue databases. Examples of this type are plentiful: MELVYL (<http://www.melvyl.ucop.edu/>) run by the University of California, is a highly regarded and well used union catalogue, which is free to access, and is particularly useful for those US libraries which do not have access to the large bibliographic utilities such as OCLC. UNITY (Sheridan and Powell, 1996) is the UK’s combined regions database, and contains the holdings of eight regional library systems which cover a very large proportion of the UK’s public and academic libraries; the holdings of the BLDSC and some of the British Library’s other catalogues; and the records of the

National Union Catalogue of Alternative Formats (NUCAF) (which in turn lists the holdings of the major national providers of material for visually impaired people). The Unity database contains over nine million records and more than 30 million locations, for material including monographs, music, audiovisual materials, newspapers, serials and special collections.

The UNITY database contains many of the key features of a union catalogue, which makes it such a useful tool for interlending purposes. For each record, the locations screen shows a BLDSC location first, and there is an ARTTel link which allows ordering of items from BLDSC direct from UNITY. The BLDSC location is followed by locations from the region in which the UNITY system is being used, and these are shuffled with each record to allow equal distribution of potential ILL requests. Networking facilities are available, and there are now plans to incorporate ILL management modules into the system, and, where appropriate, Z39.50 protocols (UNITY press release, 1999). Another possible extension is to allow end-user access to UNITY, and this has been considered by Information North, one of the participating regional library systems, and demonstrates the flexibility of the UNITY system, which aims to accommodate the differing requirements of the individual regions.

A union catalogue can only be as effective as the accuracy of the holdings information provided. One of the criticisms often levelled at union catalogues is the labour-intensive nature of their management. New records must be added, additional locations added to existing records, duplicate records matched and eliminated, and of course – crucially – records or locations deleted when stock items are removed from contributing libraries. Good planning is essential, and requires long-term commitment, especially if the situation is to be avoided where “the world is littered with the torsos of half-grown and decayed union catalogues, on which much money and human effort have been spent” (Line, 1985). Proof of the essential nature of this work comes from a project at the University of Notre Dame Library, USA, where the satisfaction rate for incoming ILL requests was only 50 per cent, and of all the unsatisfied requests 35 per cent were requests for material not held by the library (Ryan-Zeugner and Lehman, 1998). The

assumption was that requesting libraries were checking holdings data on OCLC and the more local Indiana Union List and were receiving false hits since the holdings information for Notre Dame University Library had been poorly maintained and records had not been deleted even where all libraries in the Indiana co-operative region had ceased to hold items. Questionnaires to the region's ILL departments confirmed that the ILL units did rely on union listings to identify holding libraries, while at the same time admitting that they did not place any priority on maintaining their own holdings information on the various union listings. Little surprise then that ILL requests were being sent to libraries which no longer held the serial title, or which had never received the issues being requested.

Just three months into the union list maintenance project, the satisfaction rate for incoming ILL requests at Notre Dame University had increased from 55 per cent to 62 per cent, and the proportion of requests which went unsatisfied because the library did not own the item fell from 35 per cent to 20 per cent. Project leaders are convinced that ILL units (in the USA at least) do use union lists to select potential suppliers, and that money spent on maintaining the lists is money well spent. The aim now is to "reach those with the power of the purse, whose approval is required to allocate money and staff for the creation and maintenance of union lists".

For union catalogues to be most effective, it is clear that money has to be spent on their maintenance. It is not just that the contributing libraries must dedicate resources to maintaining their own holdings information: the central maintenance of the catalogue itself is also a costly affair. In order for a catalogue to be as effective as possible, there should be a single record for each distinct item, with individual library holdings information attached to the one master record. For this to be achieved, elimination of duplicate and "dead" records is an essential if time-consuming part of union catalogue maintenance. The emphasis which is placed on the importance of consolidating records naturally varies from one catalogue to another: OCLC maintain a single "master" record for each item, and eliminate duplicates through algorithmic record editing, but do not bother to record each library's cataloguing variations, while the MELVYL system does record all

cataloguing variations, which is highly efficient but results in very high costs for this element of maintaining the catalogue.

COPAC (the CURL OPAC) is the union catalogue of the Consortium of University Research Libraries in the UK, and the managers of this major union catalogue have devised and improved their own system of duplicate detection and record consolidation. Unlike both OCLC and MELVYL, detailed comparisons between all new incoming records and all existing records is thought to be too time-consuming and expensive, so an initial check based on matching ISBNs or ISSNns or on matching an author/title acronym plus date, is made for potential duplication, and a detailed check carried out only on that first selection. Once record duplication has been identified, records are consolidated to form a single COPAC record for each item (Cousins, 1998). Clearly, duplicate detection is at its easiest where records are for monographs, while multi-volume works, series, and indeed journal titles are more challenging, not least because they are quite likely to have been handled in different ways by the cataloguing departments of the various contributing libraries.

Directory of union catalogues

Taking one step further back in the process of searching for holdings of material relevant to one's search, the need has been recognised for a complete list of all union catalogues which are in existence. This would not only make it easier to identify sources of material relating to particular subjects or geographical regions, but would also help in preventing duplication of effort in developing new, and maintaining existing, catalogues. This gap in the provision of union catalogue data was filled recently by the development of the *IFLA World Directory of National Union Catalogues*, which acts as a kind of "union catalogue of union catalogues". Available through IFLANET, IFLA's web site, the directory (<http://www.ifla.org/VI/2/duc>) aims to list all union catalogues which are national or international in coverage, and to act as a starting point for union catalogue searching worldwide.

The directory is an IFLA initiative which is supported by a number of sections, including the IFLA section on serials; IFLA section on document delivery and interlending; IFLA

section on bibliography; ISBN international agency; ISSN international centre, and the IFLA core programme for Universal Availability of Publications (UAP). Data so far have been collected by means of a questionnaire sent to all national libraries, and other institutions known to be responsible for national union catalogues, and many more references have been included as the existence of other, perhaps more specialised, union catalogues becomes known to the compilers.

The directory lists national union catalogues, excluding as a rule catalogues which cover only libraries in one region of a country, or only a certain number of libraries in a country, although many important regional catalogues which are used by libraries outside the region have also been included.

Another criterion which determines the inclusion of a catalogue in the directory is the level of current maintenance: catalogues which are currently maintained are included, but not those which are now closed. Although this is usually clear-cut, a case can be made for including those catalogues which may be closed, but are still of great value, for example because they cover a specific sector of material (such as ancient Mongolian manuscripts), where holdings information is unlikely to change over the years, and there is no alternative information available. Such catalogues are indeed included. Many of the catalogues listed are the union catalogues covering the major national collections of a country, for example, *Catálogo Colectivo de Publicaciones Periódicas* (the union catalogue of serials in Spanish libraries), and are general in subject coverage. Specific catalogues, either because of their subject or the type of material, are also included, so long as they are national in their coverage.

In order to ensure a comprehensive directory, union catalogues are included even when they are not accessible from outside the managing library. For example, the British Library Document Supply Centre's Union Catalogue of Books (UCB), which has holdings records on cards for thousands of older monographs, is listed in the directory although it is not accessible outside the BL/DSC. (Staff at BL/DSC have recently begun the retrospective conversion of UCB, although it will be some time before the records are available via the BL's OPAC97.)

Where the union catalogue is accessible on the Internet, then the URL has been

provided, and a clickable link allows the user to go directly from the directory to the union catalogue. Telnet access details are also provided where appropriate.

The directory is still a fairly new initiative, and there are plans for further developments which include expansion of the directory, improvement in the information which is provided, such as access routes to the union catalogues via other systems such as OCLC, and, in the case of general catalogues, clarification of the relationship between the union catalogue and the national bibliographic record.

The future of the directory will be dictated to some extent by the use which is made of it. The project to compile the directory came from a clear demand from library staff for such a database, and its development fits well with the aims of the IFLA UAP programme to initiate practical tools to improve access to publications. Statistical data on its usage will be used to assess its future, since, as with all IFLA projects, a balance needs to be sought between the resources required to maintain the service and the demand for that service.

Virtual union catalogues

Union catalogues are becoming more integrated into the whole document finding/location/ordering process, so that they are less and less likely to stand alone, but rather will become just one part of a more complex system. EDDIS (electronic document delivery: the integrated solution) (Larbey, 1997) is a project which recognises this, and aims to produce an integrated, end-user driven identification, holdings discovery, ordering and electronic supply service for non-returnable items (typically journal articles), which could be used by all UK higher education institutions. The main modules in the system would be available either together or separately, to suit the particular needs of purchasing institutions, and the project shows how union catalogue searching can be integrated into a total library management package. The EDDIS project has now come to an end but the work of this JISC (Joint Information Services Committee)-funded project which is part of the eLib (electronic libraries) phase 1 programme (<http://www.ukoln.ac.uk/services/elib/>), is being extended by phase 3 projects looking at extending the concept of the hybrid

library and, in particular, at "large scale resource discovery" projects or clumps (Stubley, 1998).

Before looking at some examples of successful infant clumps, it is worth noting that distinctions appear to be becoming blurred between the idea of union catalogue searching and the simultaneous searching of a number of individual library catalogues. These "virtual" union catalogues are not union catalogues by the traditional definition at all, since they consist not of one list of single consolidated records for each item which have a list of holding libraries attached, but rather are linked groupings of separate library catalogues. Searching is based on a single user interface, and to all intents and purposes the user need not be aware that separate catalogues are being searched: the results are the same, or at least similar: a single list of records with holdings locations provided. Clumps may be physical clumps, where records from several library catalogues are physically collected to form a union catalogue, or virtual clumps, where catalogues are linked and searching is carried out normally through Z39.50.

It is easy to see how virtual clumps can be built to offer targeted services by region or by subject. RIDING, the Z39.50 Gateway to Yorkshire Libraries, is one of a number of eLib projects in this area, and aims to support large scale resource discovery across the Yorkshire and Humberside region. The project demonstrates the use of Z39.50 to create a distributed union catalogue across multiple sectors, including public libraries (Leeds Public Library and Information Services), academic libraries (the University of Sheffield is the lead partner), and even a national library (BLDSC). Although regional in focus, the project clearly has national impact and relevance.

As an example of a national subject-based clump, the music Library Online (Sloss, 1998) faces particular challenges since music requirements can take many forms: printed music, sound recordings, vocal scores, videos, and as such, will test the compatibility of new-generation Z39.50 compliant systems with older and larger systems. The Music Consortium is made up of the nine conservatoire libraries of the UK, whose OPACs will all be linked by the project using JANET and Z39.50, to form a virtual union catalogue for music resources. In addition to providing an effective virtual union catalogue, the project

will aim to develop the interlending system, and to improve co-ordination of acquisitions policies.

The future of virtual union catalogues is not yet secured, however. A vast amount of the work which is being carried out in this area is still at the project stage, and the effectiveness of Z39.50 has not yet been assured. One well-developed virtual union catalogue is vCuc, the Canadian Virtual Union Catalogue, which began as a project in 1996 to test the use of Z39.50 to link library catalogues. As recently as 1998, the conclusion was that although use of a virtual union catalogue is effective now for functions such as copy cataloguing, there is still scope for improvement in the use of virtual catalogues for location finding and interlibrary loan purposes (Lunau, 1998). In a 1998 survey, 37 per cent of vCuc participating libraries said they found Z39.50 useful for interlibrary loan. Those who did not gave lack of holdings information, inconsistent search results, and slow response times as some of the reasons. Inconsistent search results appears to be one of the major difficulties of virtual union catalogues, but many projects are working on solutions to this challenge.

The move from card catalogues to distributed or virtual union catalogues has been rapid and exciting. It is clear that Z39.50 cannot yet replace a well-managed centralised union catalogue, but it is also clear that in these days of funds shortages and essential resource sharing arrangements, a centralised catalogue is not always practical or available. In conclusion, there is room for both types of union catalogue in today's libraries, and the view that "centralized catalogs are still the best way to support high volume searching against fixed collections that reflect explicit consortia or other resource-sharing arrangements" (Lynch, 1997) may well need to be challenged in the near future.

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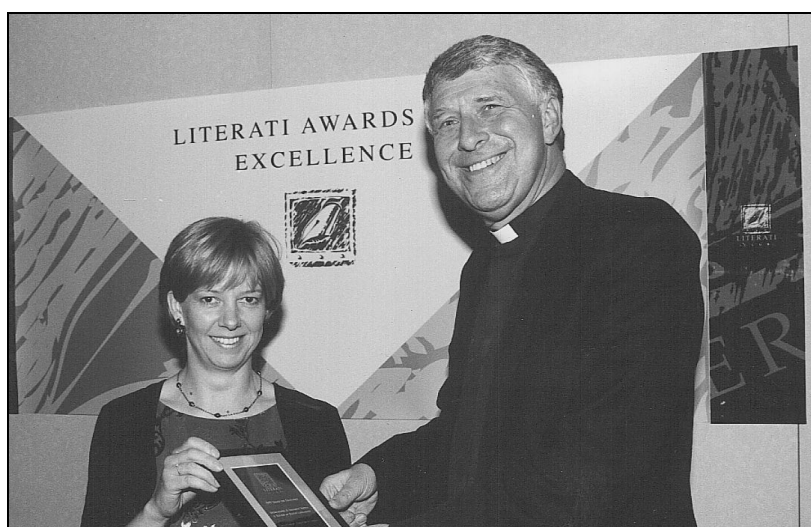
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