ILL Protocol Related Activities in the UK, Europe and Australia

Prepared by Ruth Moulton, London, U.K.

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Currently there is considerable use of the ISO ILL protocol in projects in Europe which is also leading to the adoption of the protocol in operational systems, although this phase is still in development in most cases. A recent survey carried out by KPMG for the European Commission concluded that suppliers of library systems were committed to implementing standards including ISO ILL and integrating them with their existing products [1]. There has been long standing European participation in development of the standard and its profiles and there are now active members from the UK in the ILL Protocol Implementors Group (IPIG) [2].

European Fora

The European Workshop on Open Systems Expert Group on Library Applications (EWOS/EG-LIB) [3] has been the focus of European activities in developing the standard and ISO profiles for use with the standard. It has close links with ISO TC46/SC4/WG4 (the ISO committee developing Library standards such as ILL and SR 23950 (Z39.50)) and the International Federation for Open Bibliographic Systems (IFOBS) and has worked closely with both of these groups. In 1996, in collaboration with the European Commission, DG XIII, the group started the European Forum for Implementors of Library Automation (EFILA) [4] which holds regular meetings four time a year and brings together people from all over Europe to discuss implementation experiences and ways forward for development in all areas of automated library applications, in particular use of the ISO ILL standard. EFILA also maintain a mailing list, to join send a message to *efila-request@dkuug.dk* with a body 'subscribe efila <your name>'.

Projects Funded by European Commission

The European Commission Telematics Applications Programme, funded by DG XIII, have supported a number of projects in the Libraries programme [5] that include development of the ISO ILL protocol:

ION, 1990 to 1993

Project ION (Interlending Open Systems Network) set up a demonstrator ISO ILL network between participants in the Netherlands, France and the UK. The project ran between 1990 and 1993. Participating organisations were LASER (UK) PICA (Netherlands) and MEN/SUNIST (France).

AIDA, 1994 to 1995

AIDA (Alternatives for International Document Availability) [6] was a pilot project which set up Italian and Portuguese library networks providing international interlending and document supply services in Italy and Portugal. The project had partners in Italy, France and Portugal, the lead partner was Studio Staff Srl, Rome.

EDIL, 1994 to 1996

The EDIL project set up an implementation of the GEDI model (Agreements of the Group on Electronic Document Interchange for Electronic Document Delivery) [7] for document delivery between national libraries in France, Netherlands, UK and Germany. It used the ISO ILL protocol to transmit requests for scanned documents between the libraries. This project also used the results of the FOUDRE project.

ELITE, 1996-

This project started a year ago and aims to "develop a generic model for distributed library services to users including a detailed assessment of economic, organisational, managerial and technical options." The project will develop a prototype of the model for evaluation. It will be drawing on results from other projects including RAPDOC, AGADES, EDIL, ION, and FASTDOC. It aims to examine these issues on a European scale. It will integrate information access services such as searching, ordering, delivery, and

billing, a number of reports will be written documenting the work. The second phase will implement the model. The co-ordinators are Telis, France, with participants including INIST (France), Beilstein Institut (Germany), PICA (Netherlands), University of Florence (Italy), University of Thessaloniki (Greece), Bibliotheque de l'Universit, Ren, Descartes and Bibliotheque de l'Universit, de Lyon (France).

DALI, 1995 to 1997

The Document and Library Integration (DALI) project [15] developed a service for multimedia document delivery over Z39.50 within a library-based infrastructure. As part of the project it implemented an ILL-based management and cost recovery service. It used the Z39.50 Item Order service to request documents, following on with the ISO ILL protocol running over TCP/IP to complete the item order/delivery process. The pilot service was targeted at the marine domain as it was felt this would provide sufficient uptake and volume of requests, but the deliverables are generic and therefore may be applied to any domain. The project finished in 1997.

The DALI project has submitted a profile [16] for using the TCP/IP transport protocols to transmit ISO ILL APDUs, the profile has been submitted to EWOS/EG-LIB and to the IPIG. The co-ordinating partner was Fretwell-Downing Data Systems Ltd. partners include Institute of Oceanographic Sciences (UK), University College Dublin and Computer Networks and Distributed Systems Research Group (Greece).

UNIverse, 1996 -

Project UNIverse [20] is a large scale project based on the concept of a virtual union catalogue for libraries. It aims to deliver and utilise a 'logical union catalogue' that is capable of providing a single point of contact for specific subject domains. UNIverse will use this logical union catalogue to deliver a number of library services for both the end-user and the librarian. It will develop an interface that hides the physical distribution of information, its inevitable duplication, and even language. It will include an Interlibrary Loans service integrated to the search process using the ISO ILL protocol over both TCP/IP and e-mail transports. UNIverse will exploit previous Library projects including the DALI project.

The co-ordinating partner is Fretwell-Downing Data Systems Ltd , other partners include Danish Technical Knowledge Centre, The British Library, Irish Library Council, National Library of Greece, Freshwater Biological Association (UK), Southampton Oceanographic Centre (UK), Harper Adams College (UK), Kyros (Greece), UC Dublin, Q-Ray (Netherlands), Ex-Libris (Luxembourg), University of Sheffield Library (UK), Index Data (Denmark), Forbait (Ireland), The Technical University of Delft and Technical University Library of Norway.

The ACTS programme of the European Commission is funding the GAIA project:

GAIA, 1996-

The Generic Architecture for Information Availability (GAIA) project will develop [14] a sector and supplier independent architecture to support multilateral information trading which will facilitate location and delivery of information, content and digital services through a scaleable brokerage model, demonstrating the applicability of the model in three sectors - Music, Publishing and Technical Data. Delivery of information will utilise stream delivery technology as well as 'packet' delivery of such items as electronic or scanned documents. The order module will include an implementation of ISO ILL.

The co-ordinating partner is Fretwell-Downing Ltd , other partners include in the UK Codus Ltd, National Centre of Popular Music, Dialogue Communications Ltd, Nexor Ltd., Warp Records, North West Labs Ltd, and Screenphones Ltd and Computer Securities Technologies (Sweden), Danish Technical Knowledge Centre, FI Soft (Romania), Index Data (Denmark), Q-Ray (Netherlands), Teltec (UCD - Ireland), and in Greece Kyros, University of the Aegean and University of Thessaloniki.

eLib The Electronic Libraries Programme in the UK

The eLib programme [8] is sponsoring a number of projects in the UK, with finding from the Higher Education Funding bodies in England, Scotland and Wales. Following a report by Sir Brian Follett in 1993

a number of projects in Higher Education were set up in order to develop distributed library services for the UK Higher Education community. The programs naturally have an emphasis on using internationally agreed standards, and those which include the implementation and use of the ISO ILL protocol include the following:

EDDIS, 1996-

Electronic Document Delivery - Integrated Solution (EDDIS) will develop a server, comprising several interdependent hardware and software components, that a library may use to provide integrated information access services to it's users. The server will facilitate searching, locating, ordering, electronic delivery, loan of returnable items and the management functions associated with these services. The system will incorporate the ISO ILL protocol for the ordering and loan management services. The lead partner in the project is the University of East Anglia, other participants include University of Lancaster, University of Stirling, and BIDS (University of Bath).

SEREN, 1996 -

The SEREN project has set up services between higher education institutions in Wales in a bilingual environment. This allows searching, locating, ordering and delivery of journal articles between participating organisations using standard WorldWideWeb browsers to access the system. Currently it's ordering services use simple electronic mail messages to place the order, but the project is considering adding ISO ILL messaging to it's systems. Participating supplying libraries include Bangor University, Cardiff University, Newport University and NEWI.

MODELS, 1995-

Moving to Distributed Environments for Library Services (MODELS) is a project being undertaken by the UK Office for Library and Information Networking (UKOLN). It is organising a number of workshops and publishing reports which aim to explore design and implementation issues and work towards a shared view of preferred systems and architectures in providing the rapidly multiplying range of distributed heterogeneous information resources and services being offered to libraries and their users. It is examining

all aspects of these services (searching, locating, ordering and delivery) and amongst technologies for ordering is looking at the ISO ILL standard. A study on document requesting standards for distributed library services, which will compare four protocols currently being used for ordering (HTTP, ISO ILL, Z39.50 Item Order and EDI/EDIFACT) will be published later this year.

LAMDA

The LAMDA project is setting up document requesting and delivery services amongst a number of UK libraries in the London and Manchester areas (10 supplying libraries and over 40 client libraries) and will be using the JEDDS Ariel station as described above. It will only be using the simple ISO ILL requesting mechanisms offered by the Ariel system, in other words it will not be using a full interlibrary loan management system or the full ISO ILL protocol.

Projects in Germany

DBV-OSI II

The DBV-OSI II [10] project is now implementing Z39.50 (Z39.50-1995) to offer users of the abstract databases at DIMDI (medical information centre) koln the ability to search the Zeitschriftendatenbank (union catalogue periodicals) and library catalogues of a number of regions, to copy bibliographic data between systems and access to the bibliographic data and thesauri of the Deutsche. Phase two of the project will look at ordering and delivery. Initially Item Order of Z39.50 will be implemented for non returnable items followed by implementation of the ILL protocol for request and tracking of returnable items. partners include PICA and many German partners including Deutsches Bibliothek.

SUBITO, 1994-

Subito is an initiative of German federal and regional governments to integrate search, ordering and delivery at the workplace of the user. It should help to further the use of research literature in industry. The project aims to give access to search, order and delivery services from the workplace using any kind of

network connections. It relies on technical solutions provided by DBV-OSI. and has decided that the ordering interfaces of existing systems will stay alongside a newly developed services.

University of Constance

A number of services of the ILL protocol have been implemented in a related project.

Organisations

British Library

The British Library has been offering automated ILL request and management through its ART system since 1975, and now handles over 4 million requests every year. The ART system offers a number of access methods including electronic mail and terminal access over the Internet (ARTEmail and ARTTel). Meanwhile the British Library has been very actively participating in the development of the ISO ILL standard, and is a leading member in the UNIverse project and the EDIL project which finished in 1996 (see above). It has been examining the feasibility of offering ISO ILL standard request and loan management messaging for access to its services, but recognises that it would be operationally difficult to simply replace existing access methods to the ART system with ISO ILL. It is therefor looking at the possibility of offering an ISO ILL interface into the ART system that would work along side other access methods. At the time of writing no decisions have been taken, but there is every expectation that such a service will be offered. Meanwhile an ISO ILL service will be offered as part of the Library's participation in the UNIverse project.

London and South Eastern Library Region (LASER)

The LASER organisation offers inter library loan facilities between member libraries in London, counties in the south of England, the Midlands, Yorkshire and Scotland . It holds a union catalogue with about 3 million bibliographic entries (and 30 million locations), organises the transport of loaned items. Automated requesting is available with Viscount which also offers links to the British Library ART system. LASER

participated in the ION project and now plans to install ISO ILL as an access standard for it's Viscount system during 1997.

Fretwell-Downing Limited, UK.

Fretwell-Downing are a UK supplier of library automation systems. They have participated in several projects which utilise the ISO ILL protocol, namely DALI, UNIverse and GAIA. As a direct outcome of this project work Fretwell-Downing will be incorporating ISO ILL protocol facilities into their products.

PICA

PICA is the leading supplier of automated library services in the Netherlands and also provides services to many German institutions. It too has participated in several projects (ION, EDIL, RAPDOC) and is a user of the Ariel system for document delivery.

Group on Electronic Document Interchange

In a number of projects such as EDIL, JEDDS, Rapdoc and Universe, the ISO ILL protocol is used to request items that are transmitted using the GEDI [7] agreement. This entails adding a cover to the document containing a number of fields describing the document (format and bibliographic information), its recipient and supplier and the means by which it should be transmitted. Much of the cover information is derived from the ILL request by mapping between fields in the ISO ILL Request and the GEDI cover. This mapping will be formally defined in the next version of the GEDI agreement, which is being developed and expected to be published during 1997.

Activities in Australia

JEDDS

The JEDDS project is funded by the Australian Vice Chancellors Committee with a special Government grant, and is also funded by the eLib Programme mentioned above. It is funding the enhancement of the Research Libraries Group, California (RLG) Ariel document scanning and delivery station. Ariel will be

enhanced to deliver documents using the MIME electronic mail protocol, Ariel delivers documents using the GEDI agreement. The system will also be enhanced to be able to receive and send ISO ILL Requests, although it will only implement a subset of the protocol and it's messages. It will receive scanning instructions and communicate the results of the document delivery operation using Document Delivery Instructions (DDIs). Since the information needed for DDIs is almost identical to that present in ISO ILL messages it was decided to use the definitions of ISO ILL APDUs to also define DDIs, so that they become, in effect, a special use of the ISO ILL protocol. DDIs are not designed to interact with an ISO ILL protocol machine in any way. The JEDDS project has put forward a suggestion for a MIME mail format for transmitting ISO ILL APDUs which are BER encoded. Partners in the project are the Australian Vice-Chancellors' Committee, the National Library of Australia, the National Library of New Zealand and the Joint Information Systems Committee, (UK) (JISC) through the eLib programme.

CILLA

The Co-ordinated InterLibrary Loan Administration Project (CILLA) will be developing a local interlending and document request management system (ILDRMS) which will handle all aspects of the complex administration and management environment typical in many interlending and document delivery operations which will be used by the Australian library community, having completed an extensive study on the requirements of such a system [21]. The system will use an open-systems approach and require compliance with international standards, including ISO ILL.

NDIS

At the same time the Australasian National Document and Information Service Project (NDIS), which is sponsored by the National Libraries of Australia and New Zealand, will be developing an integrated system for resource discovery, ordering and delivery that will interwork with CILLA systems. The NDIS project is also committed to using open and internationally agreed standards within their systems.

URLs and References

[1] Report by KPMG, ILL implementation in Europe - <http://ww2.echo.lu/libraries/en.kpmgfin1.html>

[2] ILL Implementors Group (IPIG) home page - http://arl.cni.org/access/naildd/ipighome.html

[3] EWOS/EG-LIB - <http://www.ewos.be/index.htm>

[4] EFILA - <http://www2.echo.lu/libraries/en/projects/efila.html>

[5] <http/www2.echo.lu/libraries/en/libraries.html>

[6] Project AIDA - <http://www.cib.unibo.it/aida/>

 [7] Electronic Document Delivery, Towards Further Standardization of International Interchange.

Agreements of the Group on Electronic Document Interchange (GEDI). Version 2.1 July 1995.

<fttp://lib.ua.ac.be/pub/gedi/>

[8] eLib home page - <http://www.ukoln.ac.uk/elib/>

[9] Multipurpose Internet Mail Extensions (MIME), RFCs 2045 to 2049 from ftp://ds.internic.net/rfc

[10]DBV-OSI II project home page - <http://www.ddb.de/projekte/dbv-osie.htm>

[11] DBV-OSI II home page - <http://www.ddb.de/projeckte/dbv-asie.htm>

[12] Rapdoc project home page - <rapdoc http://www.ua.ac.be/MAN/T01/t27.html>

[13] UK Office for Library and Information Networks (UKOLN) - <http://www.ukoln.ac.uk/>

[14] Home page of the GAIA project - <http://www.syspace.co.uk/GAIA>

[15] Home page of the DALI project - <http://dallas.ucd.ie:80/|dali/>

[16] Draft profile for use of ISO ILL over TCP/IP - <http://dallas.ucd.ie.:80/|dali/ill-rfc.html>

[17] Home page of Fretwell-Downing Ltd., UK - <http://www.fdgroup.co.uk/>

[18] Home page for the EDIL project - <http://www.inist.fr/accueil/edil.htm>

[19] Home page for PICA, Netherlands - <http://www.pica.nl/>

[20] Home page of the Universe Project - <http://www.fdgroup.co.uk/research/universe>

[21] CILLA feasibility report - <http://www.gu.edu.au/alib/iii/docdel/cilla>

[22] JEDDS home page - <http://www.gu.edu.au/alib/iii/docdel/jeddshom.htm>