

THE TIRONET (TRANS-IRELAND OPTICAL NETWORK) SHARED LIBRARY RESOURCES PROJECT

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This report describes an EC funded project which has the objective of providing transnational access to CD-ROM databases using a high bandwidth network link between three universities: The Queen's University of Belfast, University College Dublin, and the University of Ulster. The paper touches on the technical aspects of the project but focuses on the identification of suitable databases, the negotiation with publishers and distributors, and the service, managerial and support aspects of the project.

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Background

During the calendar year 1993 the Queen's University of Belfast, University College Dublin and the University of Ulster participated in an EC funded project to establish a pilot service allowing shared access to CD-ROM databases. This was, in fact, part of a much larger project called TIRONET (Trans-Ireland Optical Network) involving the establishment of a 2 x 2 Mbyte telecommunications link between the Municipal Area Network in Dublin and the STAR SDH ring in Northern Ireland. Our project was just one of a number of 'work packages' and had the aim of providing a viable service on this broad bandwidth link. The project team also included a consultancy company, Octacon Ltd., which had a particular role in establishing project management and evaluation procedures across all the work packages. Other work packages in which the universities were involved included shared access to a Cray supercomputer at Queen's and to a database of lecture materials held at the University of Ulster.

Identifying the databases to share

One of the initial tasks for the consortium was to establish which CD-ROM databases would be suitable for sharing. The libraries exchanged lists of CD-ROM databases they either had current subscriptions to, or to which they were giving serious consideration towards taking out subscriptions in the near future. Two categories of database were readily identified as being of interest to all three universities while at the same time falling into groups using identical search software which would undoubtedly facilitate shared access. These were:

- full-text databases of EC documentation, and other EC-related information:
- and* full-text newspaper databases.

The distributor/publisher of each of these groups was approached to seek permission to network these CD-ROMs across TIRONET. In many ways the suite of EC databases was the obvious first choice, given the context in which this pilot service was being established. However, whilst the publisher of these databases would have allowed such networking to take place there would have been no financial benefit to the consortium members under the terms of the proposed licensing arrangement.

The second group of databases, full-text newspapers, was then followed up and the distributors, Chadwyck-Healey, were able to offer a licensing agreement that provided some financial benefit to the consortium members, whilst offering a fair return to the publishers.

It was agreed that one database should initially be mounted at each site to prove the viability of the service before further investment was entered into. The three databases chosen were:

The Economist on CD-ROM

The Financial Times on CD-ROM

The Independent on CD-ROM

The technical infrastructure

One of the initial issues to be resolved at the outset of the project was the networking protocol to be used. IPX was quickly identified as the preferred protocol. However, this protocol was originally designed for LAN use only, and while broad ban networks may allow some of the requirements of this protocol to be satisfied, permitting wide area usage, the project identified a number of problem areas when using this protocol on such networks. The project needed to establish a convention for the creation of globally unique addresses. The IPX protocol has two main addressing mechanisms, these are a network address and an associated logical name. Coincidentally, the network address space used by the IPX protocol is 32 bits wide and therefore matches exactly that used by the IP protocol. This fact was used by the project to establish an IPX addressing convention based on IP numbers assigned to the participants by the IP registry, thus providing globally unique addresses.

Establishing the service

One difficulty the project faced was the fact that although University College Dublin had an established campus-wide CD-ROM network such provision was not available at Queen's or the University of Ulster. However, both of these universities subsequently implemented the same mechanism to provide such a facility and this has helped in developing refinements which can easily be transferred from one site to the other.

The databases selected for the pilot service could be searched using a DOS based program

Easysearch or a Windows based program *Personal Librarian*. It was felt that, at least initially, it would be more straightforward for library users if only the EasySearch software was made available. At present, although the number of users with Windows experience is growing, the majority of users would first have to be taught how to use Windows before being able to use *Personal Librarian* effectively. In a few years time, when Windows is more commonly used in the universities, *Personal Librarian* may well become the preferred option.

The service is intended to be a full campus-wide service at each of the sites. However, there are some limitations at the University of Ulster and at Queens. At these sites campus-wide access is available to the degree that end-user workstations operate within a Novell network attached to the campus ethernet. At both of these universities this is an environment which will become the norm.

Each university mounted a different database: UCD mounted *The Economist*; Queen's mounted the *Financial Times* and the University of Ulster mounted *The Independent*.

At the time of writing the service is now fully operational at each site.

Market assessment

The databases currently made available were licensed under terms that produced reduced costs for the individual libraries and increased sales for the publisher (given that initially only one site had purchased, or planned to purchase each of the databases). Thus there have been real financial advantages for the libraries. There is also a financial advantage in sharing the equipment load - each library requires fewer CD-ROM disk drives than would be the case if individual purchases were made. However, the service has been operating in a subsidised environment, as the telecoms companies in the UK and Ireland are making no transaction charges during the project period (this concession has been extended until June 1994). If telecommunications charges were introduced this could have a considerable effect on the financial viability of sharing databases in this way. Another factor is the ability to negotiate mutually attractive terms with publishers. We have not yet

tried to extend the range of commercially available databases but the extent to which we do this will be dependent on the terms that can be negotiated. We are optimistic about this, however.

Planned extensions of the service

The project team has already taken major steps to extend the scope of the service offered. As well as making other local services available via the TIRONET link, such as the online catalogues of the different libraries, two major facilities are being introduced.

Multimedia computer assisted learning software, including a hypertext guide to the Library has been introduced at the University of Ulster. Also available are overhead projector slides used in course lectures. These are now viewable under the access mechanism set up under the Shared Library Resources Project. This is a particularly interesting extension since it links this work package with one of the other TIRONET work packages.

The second extension is a collection of architectural slides relating to Ireland which is being transferred to PhotoCD. These will be mounted at the University of Ulster and access provided over TIRONET. An important element of this experiment will be testing the feasibility of networking PhotoCD formatted material. An interesting aspect of this extension is that the slides making up this experimental disc come from the collections of the three consortium members and Trinity College Dublin, thus introducing another partner.

The role of TIRONET as a catalyst

An important aspect of the Shared Library Resources Project has been its role as a catalyst. The project has captured the imagination of the

project team and has effectively established a purchasing and service development consortium. This aspect will be explored more fully in a paper to be presented by the project leader at the Irish Universities' Information Systems Colloquium in Malahide, Co. Dublin in March 1994. There is potential to establish a purchasing consortium for all libraries on the island of Ireland.

Conclusion

The Shared Library Resources work package of the TIRONET project had the specific aim of establishing a service based on the sharing, over the TIRONET link, of full text CD-ROM databases. Although there have been some difficulties along the way it is clear that the service is both viable and useful. However, it must be borne in mind that no tariff was levied for TIRONET access by the relevant telecoms companies.

There are definitely real prospects of expanding the existing pool of databases and the project team has looked at other innovative ways in which the service may be developed. In particular, providing access to databases for which the home institution holds copyright is a development which has already been established, and the extension of the service to include multimedia documents such as the Irish architectural photographic slides database is currently being implemented.

An important outcome of the project has been the spirit of co-operation engendered in the participants - with a clear vision of the potential to extend the consortium to include other Irish universities and to establish a purchasing consortium with sufficient membership to enable deals to be struck for expensive material which are attractive both to the publishers and the universities.