

## PAN-EUROPEAN INITIATIVES

By

Ian Pettman

Pettman & Associates, 1 Templand Oaks, Allithwaite, Grange-over-Sands,  
Cumbria, LA117QX, UK

### Abstract

*Pan-European initiatives relevant to aquatic library and information centres are reviewed under the two main categories of 'Library Catalogues and Related Services' and 'Development of Internet Information Services'. Some useful tools developed by these initiatives are outlined. Consideration is given to possible opportunities for EURASLIC libraries.*

### Introduction

*"EU and National level funding are driving lead edge research into new models for information management and delivery."*

Some of this work has implications and practical applications useful to aquatic library and information centres but, as in most areas these days, the quality varies and the quantity increases. This paper is an attempt to pick out some of the initiatives that may be of interest for our services.

The question underlying this survey, although not specifically formulated, was along the lines of - are these initiatives providing useful tools and ways forward for special libraries such as ours and, if so, what are they?

The relevant initiatives seemed to fall into two major categories:

- development of traditional library tools (mainly catalogues) and services
- development of "Internet Information Services".

Some initiatives attempt to blend these specific categories and combine them with other components (encryption, e-payments etc) to form the building blocks of the future Digital Library. These have been excluded from this overview since the outcomes may be relevant to our libraries only in the longer term.

### Library Catalogues and Related Services

There has been and continues to be a large number of initiatives relating to cross-searching library catalogues and providing services (particularly document delivery in various forms) from the cross-search results. The majority of these projects are based around the Z39.50 Search & Retrieve standard, the ISO Interlibrary Loan Protocols and the GEDI proposed standard for Document Delivery.

Several EURASLIC libraries were involved in one of the largest and most ambitious of these - the **UNiverse project**. The ideas for this project were formulated in 1994 and submitted to the March 1995 Call for Proposals of the European Union 4<sup>th</sup> Framework, Telematics for Libraries Programme. The proposal was accepted and the project ran from October 1996 to the end of September 1999.

## UNiverse project

Full details of the project are available from various papers. In outline, UNiverse aimed to deliver a pan-European 'Virtual Union Catalogue', to demonstrate parallel search and retrieve, and to provide integrated multi-media document delivery services. It was envisaged that 50 libraries would be involved and these were organised into Special Interest Groups (SIGs).

The Environment SIG comprised 7 libraries - all EURASLIC members:

- The Freshwater Biological Association (SIG Co-ordinator)
- Bundesamt für Seeschifffahrt und Hydrographie
- The Centre for the Economics and Management of Aquatic Resources (CEMARE), University of Portsmouth
- The National Centre for Marine Research, Athens
- The National Marine Biological Library, Plymouth Marine Laboratory
- The National Oceanographic Library, Southampton Oceanography Centre
- The Swedish Environment Protection Agency

The commitment and quality of the work contributed by the librarians from these organisations was much appreciated not only by the SIG Co-ordinator and the Project Manager but also achieved recognition from the EU Review Panel. The Panel described the Environment SIG as "functioning well having established clear objectives and tasks".

The project achieved a considerable amount and the concept is being taken forward in terms of both commercial products and as the basis of services for library consortia. However, these products are complex and require considerable resources in both staff time and finance to implement. Their value to special libraries at this time is doubtful.

Many challenges were encountered including:

- Z39.50 interpretation and implementation variations - mainly resulting in inconsistent search results
- slower than expected take up of the Java programming language
- web browser inconsistencies
- firewalls leading to difficulties in the transmission of electronic document delivery
- existing multilingual thesauri not built to international standards and not Z39.50 compatible
- problems outside the scope of the project eg authentication, copyright, network capacity and performance problems etc.

Most of these problems, having been brought to the attention of the relevant bodies and organisations, are now being addressed in various newer initiatives.

## Newer Initiatives

Variations in Z39.50 implementation had raised interoperability issues for several projects. In August 1999, a group of representatives from these projects met in Bath, England to work out solutions that would improve semantic interoperability between Z39.50 systems used in library applications. Makx Dekkers represented the UNiverse and other EU projects. These deliberations resulted in the draft **Bath Profile** released for comment in October 1999. It is hoped that implementation of the final version of this profile by systems developers will overcome the problems that we faced in UNiverse.

Further development of the UNiverse architecture and ideas are being taken forward in four other research projects:

- **PRIDE** (EU Telematics for Libraries Programme)
- **ONE II** (EU Telematics for Libraries Programme)
- **Riding** (UK Higher Education eLib Project - one of the regional 'Clumps' projects)
- **Agora** (UK Higher Education eLib Project)

However, these systems do not cater well for catalogues containing analytical and grey literature records. They also tend to require a higher level of resources than most special libraries could justify. Therefore we may have to wait a little longer for a pan-European 'Virtual Aquatic Catalogue'.

## **WEB Portals/Subject Gateways and Related Services**

This is a time of great upheaval for the library profession as the Internet becomes a major medium in the information world.

As we are all aware, the Internet offers the potential of vast resources but the fact remains that it is still hard for people to locate required, high quality, information in a reasonable time frame. In the past few years the issue of resource discovery on the Internet has been the focus of much work by many different communities. A brief overview of some of these initiatives follows.

### **Search engines**

The well known Internet search engines, such as **AltaVista** and **Excite**, rely on automated solutions to resource discovery. They search only a small proportion of the total number of pages on the Internet. For example, the relatively new **Alltheweb** site, which indexes more than 200 million pages, is estimated to cover only 25% of all the web pages. Even then, the resulting list of retrieved sites is often far too large and contains a high proportion of irrelevant sources. User frustration is common.

Although search engine development is a very active field, there do not appear to be any specifically Pan-European initiatives. However, the project **Research and Education Indexing Service for Europe (REIS)** maintains a very useful Internet page which gives an overview of recent developments in Internet search engines and search engine tools.

### **Web directories - "humans do it better"**

Web directories such as **Yahoo** (approximately half a million pages) rely on a team of editors to create directories with each resource described briefly and placed under a subject heading. The number of people in the team tends to dictate the maximum number of pages that can be included.

The **Open Directory** is an international attempt to overcome this limitation by using *volunteer* editors from the general public (currently over 6,000 of them). They add resource links and resource descriptions to the directory (currently over 100,000 links). Many of the aquatic topics do not have editors at the present time and maybe there is a potential role here for EURASLIC?

### **Subject gateways**

Subject gateways offer an alternative to the Internet search engines and Web directories.

They are *quality controlled* information services with the following characteristics:

- provision of links to numerous other sites or documents on the Internet
- selection of resources is according to published quality and scope criteria

- intellectually produced content descriptions (ie not automatic extraction) - a good criteria is the existence of intellectually assigned keywords
- intellectually constructed browsing structure (classification)
- manually generated bibliographic metadata for each resource

A number of Internet subject gateways have been developed in Europe and a significant community of libraries involved in gateways is developing. These initiatives are not, of course, restricted to Europe. A comprehensive listing of information gateways is available at the **Pinakes** site.

Although there is not a subject gateway specifically for the aquatic sciences at the moment (although there are some at the 'scoping study' stage - more details will follow in the EURASLIC Newsletter when available), the following may be worth visiting if you have not already done so **AGRIGATE**, **ELDIS**, **NOVAGate** and **Port**.

Taking the subject gateway concept a little further, as well as being more central to our needs, is **oneFish** the new Internet based community knowledge management system being developed by SIFAR, the Support unit for Fisheries and Aquatic Research. This was covered in depth in yesterday's presentation.

### Hubs and distributed gateways

Inevitably, as the Internet continues to expand rapidly, it is clear that no single gateway or country can hope to catalogue all the Internet resources available. Several initiatives (both national and pan-European) have arisen in responses to this.

In the UK:

Due to be launched in Late Spring/Early Summer 2000, **BIOME: The Hub for Internet Resources in the Health and Life Sciences**, will consist of five subject gateways which will be cross-searchable and cross-browsable at the **BIOME** level as well as retaining their own individual entities. These five gateways are:

- **BioResearch** - covering biological and biomedical research
- **OMNI** - covering medicine
- **Natural Selection** - including plant and animal life, ecology and the environment
- **VetGate** - all subjects relating to animal health
- **AgriFor** - covering agriculture, forestry and food science.

The service will be consortium based. The partners and content providers include:

- The Natural History Museum
- CTI Biology, University of Liverpool
- The Royal College of Veterinary Surgeons
- Oxford University
- Reading University
- BRIL - the Biotechnology and Biological Sciences Research Council Librarians
- The Royal Free Hospital

In Europe:

The **DESIRE** project is an international project funded by the European Union. The original aim of **DESIRE** was to support the development of new large-scale gateways at National Library level across Europe. Stemming from this work, the focus shifted to research on interoperability and several of the subject gateways have already implemented cross-searching into their working services (eg SOSIG and Biz/ed).

This work is being taken forward in *Renardus*, a project funded under the European Union 5<sup>th</sup> Framework Information Society Technologies (IST) Programme. *Renardus* partners are drawn from European library and other information-related communities. The aim of the project is to provide users with integrated access, through a single interface, to the subject gateways distributed across Europe. Between January 2000 and June 2002, the project will investigate technical, information and organisational issues, build a pilot system and develop a fully-operational service.

Internationally:

*Imesh* - International Collaboration on Internet Subject Gateways is a collaborative network to further international collaboration amongst subject gateways. It was formed as a result of the Second European Conference on Research and Advanced Technology for Digital Libraries, held in Crete in September 1998. One of the main aims of *Imesh* is to explore the potential for collaborative development of gateways internationally.

### Useful tools

Distributed systems and interoperability have been the 'Holy Grail' for many of the information visions and projects to aim for in the last few years. Although developing models, tools and standards continues to be important, many of them have been progressed sufficiently to enable consortia to exploit pan-European and international opportunities. Useful and usable results include:

- *ROADS* - an open-source set of software tools which enable the set up and maintenance of Web-based subject gateways. Developed as part of the UK's Electronic Libraries Programme, *ROADS* is now freely available for anyone to use. The software includes the database technology required to set up a gateway, the administration centre required to facilitate remote cataloguing and everything else needed to run a gateway.
- *Product Comparison: Information Gateway Software* - a report investigating the availability of resource discovery software for setting up gateways and comparing the products. This report is updated when new softwares are brought to UKOLN's attention.
- *Information Gateways Handbook* - published in October 1999 by the DESIRE project, this is a very useful guide for libraries interested in setting up large-scale subject gateways of their own. It is freely available on the Web.
- *Selection Criteria* - formal quality selection criteria are as essential for collection development in subject gateways as they are in traditional libraries. Examples of selection policies for gateways have been collected by the DESIRE project.

### Multi-lingual access

One area where tools have not yet been extensively implemented is that of multilingual access and support. This is an area that one would expect pan-European initiatives. There are two basic issues relating to multilingual access:

- the storing, processing and presentation of information in many languages
- multilingual search and retrieval.

A lot of research has been going on for some time, especially in the retrieval of documents in languages other than that used for the query (cross-language information retrieval). An overview of projects in this field has been produced by the Digital Library Research Group at the University of Maryland.

Nevertheless, existing gateways do not have much to offer (yet) in terms of multilingual support. Quite a few do have a bilingual interface, but more sophisticated

facilities such as multilingual search or browse support, are not often available. So far, little or no use has been made of multilingual thesauri for retrieval.

Multilingual thesauri do not exist for many subject areas. The Environmental Sciences and Aquatic Sciences, however, are in a strong position in this respect with several multilingual tools already available. A scheme is at the planning stage for a 'Common Global Environmental Vocabulary' amalgamating the existing multilingual thesauri from many organisations and further developing such a tool. Details are likely to be made public by September 2000.

### **New Proposals and Funding**

Initiatives to support research and development proposals seem to be moving from the domain specific programmes such as the EU Telematics for Libraries Programme under the 4<sup>th</sup> Framework. The new focus seems to be on cross-sectoral 'memory institution' projects, ie, the attempt to encourage convergence in technical approaches and applications for Libraries, Archives, Museums and related cultural institutions. This certainly is the case with the European Commission's 5<sup>th</sup> Framework Programme for Research and Technology. In the UK, library research funding has been transferred to a new body called the Museums, Libraries and Archives Council (MLAC) and the latest calls from the UK Higher Education Funding Council have also reflected this trend.

How funding bodies would react to a joint proposal from say an aquatic library, a data centre and an aquarium is not known at this time. Some EURASLIC members will, I am sure, have begun to address these convergent interests and the possibilities of shared network space with other cultural organisations.

Many of you will be aware that within the European Commission Framework Programme 5 (EC FP5), library research now comes under the Digital Heritage and Cultural Content area. If you have not yet updated your bookmark, the URL for the new homepage is: <http://www.cordis.lu/ist/ka3/digicult/>

Some of you may have proposals in for the call which closes next Wednesday (10<sup>th</sup> May 2000) - if so, we all wish you good luck.

There are two more calls scheduled for June this year:

- "Trials on new access modes to cultural and scientific content"
- "Virtual representations of cultural and scientific objects".

### **Conclusions and Possible EURASLIC Actions**

Examining the available information on pan-European initiatives has highlighted a bias towards Internet information management and subject gateways. This is hopefully because we have come to accept that the needs and expectations of our users have changed. Potentially, librarians can forge the same role for themselves on the Internet that they have had traditionally - as third party information providers that end-users can learn to trust and rely on when searching for information.

Although the structure for the Internet "library" still resembles a building site, it does not mean that we have to wait until the structure is complete to start our service vision for the future based on this new landscape. Most of the initiatives that have received funding revolve around large national or academic libraries. Most of the subject gateways that have survived for any length of time have the resources of large organisations behind them. They need considerable staff time and investment to develop and maintain and a long term strategy for a sustainable service.

The challenge for most EURASLIC libraries, being smaller units, is how to use their strengths and grasp the opportunities presented by the developments and initiatives within Europe.

We have shown that we can co-operate as well as, if not better than, the national and academic libraries in large scale projects such as UNiverse but the outcomes from such leading edge projects may not be immediately relevant to our daily needs. However, with further EC FP5 calls due in June this year, we may have another opportunity to be involved in research and development if we so desire.

Over many years, we have shown that we can co-operate to produce useful tools for our users that we would not individually have been able to produce or afford eg, **Aquatic Sciences and Fisheries Abstracts (ASFA)**.

We now have opportunities to co-operate with Internet subject gateways and, by doing so, again bring immediate benefit to our users. There are potentially many ways that we could do this. Some immediate ones that come to mind are:

- we could agree between ourselves who might best cover which aquatic topics as *volunteer editors* for the **Open Directory** project. Working as a group we might be able to achieve the beginnings of a subject gateway with the minimum of resources
- if fisheries is central to our users requirements, we could watch the progress of **oneFish** and assess when we could make useful contributions to the many possibilities this system should make available
- the Internet based Aquatic Directories will always benefit from more co-ordinated action on our part

The human networks to effectively catalogue the Internet will take many years to build. EURASLIC has a head start, the year 2000 seems to be a good time to consolidate our strengths and develop our skills and services further. The steps from library cataloguing to Internet metadata are not difficult to take.

## Bibliography

1. **Smith, N.** 2000. Inside the Digital Library. Exploit Interactive , Issue 5, 6pp.
2. **Pettman, Ian and Suzanne Ward**, 1998. The UNiverse Project - Global, Distributed Library Services. In: *Libraries Without Walls 2: the delivery of library services to distant users. Proceedings of a Conference, Mytilene, Greece, 17-20 September 1997*, (ed. P. Brophy, S Fisher & Z Clarke), pp.157 - 170. London. Library Association Publishing.
3. **Murray, R; Smith, N; Pettman, I.** 1999. The UNiverse project: a review of progress up to the demonstration phase. In: *New Library World* Vol.100 Issue 1149, pp.153-159).
4. LB-4032 /B UNiverse Third Review Report. September 1999.
5. [http://www.ukoln.ac.uk/interop-focus/activities/z3950/int\\_profile/bath/draft/BathProfilePublicDraft15Oct99.htm](http://www.ukoln.ac.uk/interop-focus/activities/z3950/int_profile/bath/draft/BathProfilePublicDraft15Oct99.htm)
6. The PRIDE Project; <http://www.viscount.org.uk/pride/>
7. The Riding Project; <http://www.shef.ac.uk/~riding/>
8. The Agora project; <http://hosted.ukoln.ac.uk/agora/>
9. <http://www.alltheweb.com>
10. <http://www.terena.nl/projects/reis/isir/reisnews9908isir.html>

11. The Open Directory Project;  
[http://dmoz.org/Computers/Internet/WWW/Directories?Open\\_Directory\\_Project/](http://dmoz.org/Computers/Internet/WWW/Directories?Open_Directory_Project/)
12. **Pinakes**; A Subject Launchpad; <http://www.hw.ac.uk/libWWW/irn/pinakes/pinakes.html>
13. AGRIGATE an agricultural information gateway for Australian research workers;  
<http://www.agricate.edu.au/>
14. ELDIS: the gateway to development information; <http://nt1.ids.ac.uk/eldis/>
15. NOVAGate: Nordic gateway to information in forestry, veterinary and agricultural sciences; <http://novagate.nova-university.org/>
16. Port, National Maritime Museum, Greenwich, UK; <http://www.port.nmm.ac.uk/>
17. **Baron, J., Bostock, T., Pettman, I. and Searle, G.** 2000. oneFish by SIFAR: the participatory approach to information management in the virtual environment.
18. BIOME: The Hub for Internet Resources in the Health and Life Sciences;  
<http://biome.ac.uk/>
19. The DESIRE Project; <http://www.desire.org>
20. Renardus: Academic Subject Gateway Service for Europe; <http://www.renardus.org/>
21. Imesh: International Collaboration on Subject Gateways;  
<http://www.desire.org/html/subjectgateways/community/imesh/>
22. ROADS; <http://www.ilrt.bris.ac.uk/roads/>
23. Product Comparison: Information Gateway Software;  
<http://www.ukoln.ac.uk/metadata/roads/product-comparison/>
24. Information Gateways Handbook; <http://www.desire.org/handbook/>
25. Selection Criteria: Examples; [http://www.desire.org/results/discovery/cat/select\\_des.htm](http://www.desire.org/results/discovery/cat/select_des.htm)
26. Cross-Language Text retrieval Systems;  
<http://www.ee.umd.edu/medlab/mlir/systems.html>