

Online Services for Library and Information Centre

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Abstract

This abstract reviews various avenues available for a modern library to access remote databases and provide an efficient and comprehensive service to users. It specifies gateways of online services available to Indian libraries and lists the hardware needed to use such services. Some of the upcoming Indian networks are also briefly discussed.

1. INTRODUCTION

Academic libraries throughout the world are at crossroads. New challenges and opportunities are emerging due to rapid growth of publications, shrinking budgets, rising prices and ever increasing expectations of users. These are few basic challenges facing library and information specialists. Rapid economic, social, political, educational, cultural and technological changes are making it difficult for the professionals to respond efficiently and effectively to environmental changes.

Due to improved communications and networking facilities, the researchers, academic institutions, students etc., are beginning to discover the potential of information retrieval from online database services. Information, communication, and networking technologies are providing the professionals with new opportunities to improve their resources and services.

Relevant and adequate information is vital under present social, economic and political

situations for taking decisions at the right time. But inspite of all these restrictions, change is a must for survival of the library profession.

2. NETWORKING

2.1 Scope

Networking technologies have enabled the libraries and information sciences professionals to reconsider their priorities. As developments take place at a rapid pace, information gains importance according to its currentness, hence there arises a need for new technologies which have the ability to store, retrieve and enhance dissemination. Networking also implies the congregation of libraries on an equal footing for the purpose of sharing resources and information.

Developing a common classification system is vital for improving the flow of information between different libraries. Now since there is a trend away from 'just-in-case' to 'just-in-time' approach, towards developing library collections; no library can be self-sufficient. Hence, there is trend towards improving access to networked information, as compared to the traditional commitment towards developing self sufficient collections. Networking technologies are providing basic links to numerous routes of digital information. Internet, a network of

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networks, is such a link. It has made virtual library almost a reality. Time and space are no more constraints, and saturation of services is taking place. Any individual or institution connected to Internet, is in a position to access Internet based resources and services, round the clock from about 120 countries of the world. One can access local as well as remote resources and services, as and when needed, from one's desktop computer.

2.2 ERNET/Bombay Gateway Project

ERNET (Education and Research Network) is one such endeavour aimed at setting up a computer network for academic and research community with initial participation from eight leading academic and research institutions including Department of Electronics (DoE). In India, ERNET is connected to Internet via National Centre for Software Technology, Bombay and apart from providing e-mail, it also provides Ftp (File Transfer Protocol) and Telnet modes of access, to various resources and services available on the Internet. The main aim of the project was to build capability in the area of computer networking in the country and setup a country-wide computer network for academic and research community to facilitate informal and frequent interactions, sharing of computing resources and extend cooperation in research activities. ERNET programme is currently focussing on expanding its reach to the entire academic and research community of the country.

2.3 Gateway to Networks

A gateway is a link between two separate e-mail systems and they allow members of different systems to swap messages. Most of the gateways are automatic and they work on the following principle.

Messages for a remote system are stored in the home system. The remote system is periodically dialled up and all incoming and outgoing mail is swapped. They also allow the users on local e-mail systems to swap messages and share information with users around the world. Any individual or institution interested in accessing the Internet-based resources and services, must get a connection from ERNET or

VSNL which are currently available in India. This can be done by becoming a member of any one of the two networks named above. Network-based information is more valuable for the developing countries, as it can be retrieved instantly and is current unlike the printed documents from the developed countries. But for the telecommunication problems, ERNET is a very good facility in India to access various network based information sources across the world.

2.4 Modes of Access

Electronic mail (e-mail), Ftp, World Wide Web (WWW), Gopher, Archie and the Telnet modes for internet are being made available by ERNET now. By e-mail, one can transmit small files of information. E-mail is a very good service which ensures interaction in a cost-effective manner, which was otherwise not possible by 'Snail-mail'. It is a store-and-forward facility and the term is an acronym for postal mail.

Ftp helps to transmit large files to-and-fro among various sites. Ftp and Telnet modes are fully interactive. Whenever we use this mode, it is possible to browse the files available on other computers, and the results of the interaction are visible on the monitor of the searcher. Telnet is just like manipulating a movie on a VCR. People who do not have access to Ftp and Telnet services, can retrieve information via Ftp-mail, gophermail, and mail-archie, by using the e-mail facility. All the above mentioned features of the Internet can be accessed by any standard modem; a good quality high speed modem is normally recommended in order to access the WWW. Computer communication plays an important role in speedy transfer of information and libraries around the world use this technology. Following are a few useful addresses for this purpose:

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<ftpmail@ncc.go.jp> or  
<ftpmail@cs.uow.edu.au>  
<gophermail@ncc.go.jp> or  
<gophermail@calvin.edu>  
<mailarchie@archie.ans.net or  
147.225 .1.10>
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2.5 Tools for Internet Use

There are various tools available for Internet use which facilitate in accessing, searching, indexing, retrieving, and organising networked information on the Internet. Since navigation of networks is another issue of serious concern, lot of developments are taking place to facilitate the locate and search operations of the digital data and literature. Archie is one such service. It is possible to find numerous files available on various anonymous sites, with the help of this tool. The Archie database also indexes files from selected directories on major sites.

Veronica is an index which facilitates Boolean keyword searches and connection to Gopher's menu resources for information. Gopher is a tool for decentralised distribution of digital information. Mosaic, Prospero, Wais, and Jughead are a few other tools which help to deal with search of networked information. Mosaic is a software programme developed by the National Centre for Super Computing Applications in Champaign at Illinois. It is a graphical user interface (GUI) that removes the need to know arcane Internet addresses and procedures. The programme is designed to let users browse through the WWW, a subset of databases available on the Internet. Prospero is designed to allow an individual user to organise Internet sources of personal interest. An important feature of this system is that same information can be organised in multiple ways depending upon the needs of an individual or a group, and user can access multiple organisational schemes.

Wide Area Information Server (WAIS) is a tool for indexing. It maintains a full-text collection of documents and allows users free text searching to access the collection. Jughead is also becoming a standard tool for browsing gophers like Veronica.

2.6 Internet Hunt

Training of Internet users is another service to enable them to exploit the Internet-based resources and services fully. Rick Gates of the University of California, Santa Barbara, [Lbo5gate@ucsbx.ucsba.edu] has started Internet Hunt every month which puts a few

difficult questions pertaining to the items of information available on the Internet, and then announces the results of the hunt. This is a very good way of training Internet users and enhancing their awareness of the documentary, institutional, and other sources of information available via Internet. This hunt is posted on various mailing lists, such as PACS-L, NETTRAIN, etc (These lists are discussed later on in this paper). The questions, answers, and instructions related to all the Internet hunts are available from the FTP.CNI.ORG in the [/pub/netguides/i-hunt/](ftp://pub.netguides/i-hunt/) directory. This is a very useful method of improving reference service in libraries.

Online Public Access Catalogues (OPACs), Bulletin Board Systems (BBSs), mailing lists, usenet newsgroups, computer conferences, directories, guides and numerous databases are a few examples of the resources and services available on Internet. The best way to know about these resources and services is to get membership from ERNET or VSNL and use these services for hands-on experience. Another way is to browse a few directories and guides to use the network based services effectively.

3. ONLINE SERVICES

Databases are collections of related numeric and/or textual information in machine-readable form that are processed for computerised publishing and/or electronic dissemination. Now it would be appropriate to produce them as new OPACs, BBSs, Usenet, Newsgroups, electronic journals and newsletters. Many academic, research and national libraries have mounted their OPACs on the Internet, and it is possible to browse them via various routes, such as, Hytelnet, gophers, bulletin boards, and various other gateways.

3.1 Hytelnet

Hytelnet (Hypertext browser for Telnet-accessible sites) is a utility that allows access to telnet sites on the Internet. Telnet sites include OPACs, BBSs, CWISs, Free-Nets, full-text databases, electronic books, etc. It can be received from Peter Scott by sending an e-mail message at the address: scott@sklib.usask.ca. Online databases have a number of advantages

especially if conventional paper searches are their main means of obtaining information. The advantages are:

- Reduction in the number of costly subscriptions to periodicals and journals.
- Reduction in the space required to store paper based information.
- Instant access to information.
- Access to up-to-date information.
- A user can perform a task in minutes that would take hours to perform manually.

Other benefits of using online services are as follows:

- ⊕ By going online one can immediately satisfy his/her desire for information.
- ⊕ There are scores of important databases containing more information than is normally available in a library, and are far more accessible.
- ⊕ Online systems are normally available 24 hours a day, 7 days a week.
- ⊕ Online information is updated regularly whereas library reference material can be outdated.
- ⊕ The required information is available at one's workplace.
- ⊕ The time consuming job of searching manual systems, which often rely on the depth of knowledge of an individual is removed. It eliminates the time spent in clipping and filing articles which may be of interest.
- ⊕ Depending on the equipment being used to access the database, extracted information can be downloaded and incorporated into a document without the need for rekeying the data.

3.2. Alternate Access

An alternate way to access these online catalogues is to login to local gopher and browse the concerned catalogue. There are a few good online guides to get the telnet addresses of these online catalogues. For example, Art St. George and Ron Larson's Guide to Library Catalogues and Databases is

probably the most complete and up-to-date guide to these libraries. To access this guide, send the following e-mail message to: listserv@umnvma.bitnet. The message should contain: 'get library package'. This guide can be searched on the WAIS also. The place to be looked on the Internet is: 'WAIS online-libraries-st-george.src'. The ftp access is also available at: 'ftp.ariel.unm.edu'. It is in the directory 'library' as the file 'internet.library'.

With the help of OPACs, it is possible to make collection development, online searching, technical processing, reference service, and bibliographical services more effective. Library of Congress gopher is a very good source of information for library and information community. To access this gopher, you may enter it either through your local gopher or telnet to: 'marvel.loc.gov' or '140.147.2.69' login as 'marvel'. After this the first screen appears and for selecting and entering the screens of your choice. 'Virtual Reference Desk' at Irvine, California, is a very good place for reference materials. These sites can be accessed via local gopher and any other public gopher. 'Consultant.micro.umn.edu' or 'uxi.cso.uiuc.edu' are very useful public sites as they provide further routes of information available on Internet. While telnetting to these places type 'gopher' at login prompt.

The Bulletin Board for Libraries (BBL) at Bath in UK is a very good source of one stop information hunting. It has a special section on electronic journals and newsletters. It is accessible via various gophers and gateways. Direct access to it can be ensured by telnetting to: 'sun.usf.ac.uk' or '128.86.8.6' logging in as 'janet' and at the password prompt by simply pressing the return key and finally at the host prompt by typing 'uk.ac.bath.bubl'. National Information on Software and Services (NISS) gateway in the UK provides access to many commercial services and European and American networks and databases. DIMDI (a German online service with several bilingual biomedical databases and unique expert system menus for end-users), ECHO (the European Community Host Organisation's online service), and ESA-IRS (European Space Agency Information Retrieval Service) are the main

services available via the NISS gateway, besides various other OPACs, commercial databases, and regional American networks such as, CARL and MELVYL. Another important feature of the NISS is that it is possible to search BUBL files via the NISSWAIS. To access the NISS gateway, use the following instructions: 'telnet.sun.nsf.ac.uk or 128.86.8.7' and type 'janet' at the login prompt, press the return key at the password prompt and type 'uk.ac.niss' at the host name prompt.

4. ELECTRONIC JOURNALS AND NEWSLETTERS

Another important development is the emergence of electronic journals and newsletters on the computer networks. Many of these journals are peer reviewed and distributed freely via various mailing lists. These are available on various gopher, bulletin boards, and anonymous Ftp sites. 'PACS Review', 'PACS News', and 'Current Cities' are the three examples of bulletin boards. PACS Review is a peer-reviewed journal; Current Cities is an abstracting journal, but PACS News is simply a newsletter. There are many more e-journals and newsletters available for access. Details of these journals and newsletters can be got from 'strange loves' directory of Bailey's List. The above three publications can be subscribed by sending the following e-mail message to: listserv@uhupvml.bitnet; subscribe PACS-P your name.

Almost all the free LIS electronic journals are available in the directory 'library without walls' on the North Carolina State University Library Gopher. This gopher can be accessed via a local gopher. Ftp site 'dewey.lib.ncsu.edu' is another very useful place to look for LIS electronic journals and newsletters. To browse archives of Internet-based serials, gopher to: 'gopher.cic.net 70'; choose 'electronic serials' and then go through the alphabetical listing 'L'. You can browse or retrieve all the issues of the available LIS e-journals and newsletters. Some are *Online Journal of Clinical Trials* (1992), published by the American Association of Advancement of Science; *Online Journal of Knowledge Synthesis for Nursing* (1994), by Sigma Theta Tau International, Honor Society of

Nursing; Electronic Letters Online by Institution of Electrical Engineers.

5. NETWORKS IN INDIA

Information networks have grown enormously over the past three decades. These have become an essential tool for users in business, government and universities. A large section of society wants access intelligent machines situated in different locations via networks. The concept of 'information society' is fast emerging where information networks forms the key for all activities. Different types of information networks available in India are discussed in the following paragraphs.

5.1 NICNET

The basic aim of this network is to link government offices, other state and district centres spread out in the Country. It makes use of satellite communication for long distance links and terrestrial communication for short distance intra-city network. The network is based at Delhi and the host has terminals spread over ministries and other departments. Similar networks are being developed at regional centres and state capitals. NICNET offers various online databases on health, population, geographical facts and other statistical data pertaining to the Country. High speed error free communication linkage to NICNET can be achieved by installing a standard PC with a standard communications software connected to a modem.

5.2 ERNET

Education and Research Network (ERNET) project was initiated as a result of identification of computer networking as a thrust area by the DoE. It is aimed at setting up a computer network for the academic and research community with active support from leading academic and research institutions including DoE. ERNET offers a variety of applications which include electronic mail, file transfer, remote login, database access, conferencing,archie, gopher, WAIS, World Wide Web, etc. The main objective of this network is to enhance national capabilities in the areas of design, development, research, education and

training on state-of-art concepts of computer networking and related technologies.

5.3 BTIS

The Bio Technology Information System (BTIS) is a large network of computers established by NIC as distributed information systems in India linking state capitals to the centre, and also districts with cities through satellite communications. The networking of information and communication system thus facilitate the use and sharing of available resources in specialised centres under BTIS. This network is linked with the NICNET system, and every node of BTIS has an identity and they are linked to the satellite communication through a dedicated line. Each node of BTIS operates in conjunction, and each computer runs a separate network program which accepts mail/data files to be sent or received to/from its destination.

5.4 SIRNET

This network is actually a node housed at Indian National Science Documentation Centre (INSDOC), Delhi, and is connected to larger network ERNET which is at DoE. Any subscriber on this node can access all the Council of Scientific & Industrial Research (CSIR) laboratories. Institutions on Scientific and Industrial Research Network (SIRNET) and can swap e-mail from various other networks of the world.

5.5 CALIBNET

Calcutta Library Network (CALIBNET) has been registered as a society and is based at Jadhavpur University, Calcutta, with Shri AP Mitra as its coordinator. This network has up to 32 libraries as its members and is divided into two clusters (north and south zone) while INSDOC Regional Centre at Calcutta is its operating agency. This Network uses standard ethernet and TCP/IP software using X.25 gate-ways. Prominent members of this network are the Satyan Bose Institute of Nuclear Physics, Bose Institute and Radiophysics Library at Rajabazar, all of them based in Calcutta. Phase I of the Project was completed in 1992 and Phase II is in progress. This network however is not fully operational.

5.6 DELNET

Delhi Library Network (DELNET) was initiated with the objective of connecting all the libraries in and around Delhi. This network provides features like e-mail, inter-library requests, distribution of questionnaires, file transfer, etc., with a view to eventually link national and international databases and networks. However, in the final phase it is supposed to provide services like serials control, books and journals maintenance, circulation, user service, inter library user services, circulation and maintenance of bibliographic database, access to national and international databases, subject profiles, abstracts, etc.

5.7 INET

Any user connected to this network can have access to a vast number of bibliographic lists and related documents available at different libraries and this can be achieved by using a search term or a subject name.

6. CONCLUSION

It is obvious from the above discussion that LIS resources and services on internet are expanding rapidly. Lot of developments are taking place in the field of access tools also. E-mail, Ftp, and Telnet modes of access have improved access to digital information. Ftp-mail, Gopher-mail, and mail-archie are new developments for people without access to Ftp and Telnet facility. With the help of these services, information from various anonymous Ftp sites and public gophers can be retrieved via e-mail facility. Networked information and online services are more valuable for developing countries, as printed documents from developed countries are not easily available in time. The Government of India must ensure subsidised access to Internet-based resources and services via ERNET. In India, Internet based resources are available through ERNET and VSNL. Libraries and Information centres are required to work as gateways to networked information. Librarians should act as intermediaries for accessing, retrieving, organising and making available networked

Information to end-users. There is also a strong need for bibliographic information.

Frequent short-term training courses should be organised by librarians, and other organisations such as NISSAT, DRTC, INSDOC, ILA, IASLIC, ITALIS, NASSDOC, DESIDOC, etc. Libraries are required to adopt a balanced approach to ensure timely availability of indigenous as well as quality information. This can be done by developing comprehensive indigenous databases at local level and by providing connections to Internet for quality information. Our mission should be to provide access to those materials, which give maximum satisfaction to our users, by ensuring availability of these sources locally but in a timely manner. The gap between the 'haves' and 'have nots' must be abridged to enable end-users improve the quality of their life and work. Only this way, we can make library and information services

relevant to the needs of the end-users in twenty-first Century.

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