Master of Library and Information Sciences
Second Semester

Library Networks at International Level

1. Online Computer Library Centre (OCLC) (http://www.oclc.org/)

The Online Computer Library Center, Inc. (OCLC), a non-profit corporation, is a membership-based, service and research organization dedicated to the purposes of furthering access to the world's information at reduced cost. The OCLC members are institutions, primarily libraries, which use OCLC products and services to locate, acquire, catalogue, lend and preserve books and other library materials. Researchers, students, faculty, scholars, professional librarians, and other information seekers use OCLC systems through libraries to obtain bibliographic, abstract, citation, and full-text information. The OCLC cataloguing and resource sharing system is the largest and most heavily used computer library system in the world. The OCLC First Search service ranks among the leaders in the online information industry in terms of connect hours. The OCLC bibliographic database, WorldCat (the OCLC Online Union Catalogue), is one of the most consulted electronic databases in higher education. The OCLC and its member libraries cooperatively produce and maintain WorldCat, the Online Union Catalogue of Books available in the libraries of member institutions. Members of the OCLC can also get access to a wide range of services and databases, including WorldCat. The OCLC is the world's largest library network.

2. Research Libraries Group (RLG)-RLIN (www.rlg.org)

The Research Libraries Group (RLG) is a not-for-profit organization consisting of over 150 research libraries, archives, museums, and other cultural memory institutions. The RLG's global membership has remarkable collections for research and learning. Founded in 1974 by the New York Public Library, Columbia

University, Harvard University and Yale University, the RLG provides solutions to the challenges presented by information access and management in the digital era.

The RLG supports researchers and learners worldwide by expanding access to research materials held in libraries, archives, and museums. It works with and for its member organizations enhancing their ability to provide research resources. The RLG designs and delivers innovative information discovery services, organizes collaborative programs, and takes an active role in creating and promoting relevant standards and practices. It offers a variety of information resources useful to institutions and individuals.

The RLG is governed and run by its members, staff and board of directors. It is headquarter is in Mountain View, California, USA.

3. Joint Academic Network (JANET) (http://www.ja.net/)

JANET is dedicated to the needs of the UK education and research community. It connects education and research organizations in UK to each other, as well as to the rest of the world through the Internet. In addition, JANET includes a separate network that is available to the community for experimental activities in network development. The JANET connects all universities in UK, FE Colleges, Research Councils, Specialist Colleges and Adult and Community Learning providers. It also provides connections between the Regional Broadband Consortia. The JANET network currently serves over 16 million end-users. JANET allows videoconferencing and video streaming capabilities to be used to deliver lectures to remote groups of students. For researchers, the high capacity of the JANET backbone allows the linking of large data storage and high performance computing facilities at a national and international level.

4. Consortium of University Research Libraries (CURL)

(http://www.curl.ac.uk)

The CURL is a Consortium of University Research Libraries in UK. Several activities of CURL are funded by the JISC. The CURL helps member institutions to build distributed and hybrid research library in their institutions with an aim to help researchers all over the world i) to search, locate and request resources of all kinds in different formats, easily and quickly from their desktops; ii) have quick and easy access to an increasing amount of electronic resources, both born-digital and digitized; iii) have physical access to manuscripts, archives or printed items that have not been digitized and cannot be moved, wherever these are held; and iv) have other printed items from outside their own institutions delivered to them efficiently. The CURL's mission is to increase the ability of research libraries to share resources for the benefit of the local, national and international research community. The total membership of CURL has grown to 28 libraries in UK including 22 university libraries, as well as the British Library, the National Library of Scotland and the National Library of Wales.

5. China Academic Library and Information System (CALIS) (http://www.calis.edu.cn/).

The China Academic Library and Information System (CALIS), launched in 1998, is a nation-wide resource-sharing system among Chinese academic libraries. Its mission is to serve directly those universities, which are funded by the central government, by providing document and information services to the users through the China Education and Research Network. The CALIS also serves users in other universities and colleges so long as they have network connections to the China Education & Research Network (CERNET). The CALIS is just like a nation-wide academic library consortium in China, half supported by the government, half by the libraries themselves.

6. Australian Academic and Research Library Network
(AARLN) (http://www.aarlin.edu.au/)

The Australian Academic and Research Library Network (AARLIN) is a strategic framework for cooperation and collaboration developed by CAUL (Council of Australian University Librarians). The AARLIN aims to provide seamless access to Australian and international information resources for researchers via their personal computers through a personally customized portal. The project has funding from the Australian Government. AARLIN commenced in the year 2000 with a pilot project and has developed into a fully operational service in Australian universities. Twenty of the thirty eight Australian universities and the National Library of Australia are active participants in the project and have contributed funds. The AARLIN project has established cooperative arrangements between the institutions involved for the direction and management of the project. The project is based at La Trobe University where project staff was employed. It is guided by a Steering Committee which includes representatives of CAUL and the Council of Australian University Information Technology Directors (CAUDIT).

Data Network in India

A brief description of data networks in India is considered important considering the fact that all library networks in India use infrastructure facilities of existing data networks. None of them have their own network infrastructure. Telecommunication networks work as backbone for a network that is used for accessing, communicating, and transforming information. In India, the Ministry of Communications and Information Technology and Videsh Sanchar Nigam Limited (VSNL), Government of India is responsible for providing and maintaining national and international telecommunication facilities. These communication networks are:

1. IT Enabled Services (ITES, formerly INDONET)

The ITES(Information Technology Enabled Services) (formerly INDONET) was engineered and commissioned as India's first data network in 1986 by the CMC(Computer Maintenance Corporation) Limited for the computer user community in India. The ITES offers different services integrated in a single delivery mechanism to end-users. It has been used for a number of well-known projects dealing with education, examinations, libraries and electoral cards. It is a powerful Internet service provider focused on providing business-to-business (B2B) e-Commerce solutions, specifically in the area of electronic data interchange (EDI).

2. Education and Research Network (ERNET)

(http://www.ernet.in)

ERNET was initiated in 1986 by the Department of Electronics (DoE), with funding support from the Government of India and the United Nations Development Program (UNDP) with an objective to create expertise R&D and education in the country in the area of networking and Internet in the country. The project was initiated with eight premier institutions as participating agencies, i.e., NCST (National Centre for Software Technology) Bombay, IISc (Indian Institute of Science), Bangalore, five IITs (Indian Institutes of Technology) at Delhi, Bombay, Kanpur, Kharagpur and Madras, and the DoE, New Delhi. ERNET has made a significant contribution to the emergence of networking in the country.

It has built up national capabilities in the area of networking, especially in protocol software engineering. It has not only succeeded in building a large network that provides various facilities to the intellectual segment of Indian society—the research and education community, it has over the years become a trendsetter in the field of networking. The Govt. of India has committed itself to further strengthen the project by including it in the 9th Plan with the allocation of funds and by creation of a new organizational set-up in the form of a Society.

Today ERNET is largest nationwide terrestrial and satellite network with point of presence located at the premiere educational and research institutions in major cities of the country. Focus of ERNET is not limited to just providing connectivity, but to meet the entire needs of the educational and research institutions by hosting and providing relevant information to their users. Research and Development and Training are integral parts of ERNET activities. International connectivity is achieved through gateways at New Delhi, Bombay, Bangalore and Calcutta, with a total capacity of 6.64 Mb. Daily traffic over ERNET exceeds 20 GB.

3. National Informatics Centre Network (NICNET)

(http://home.nic.in/)

The satellite based National Informatics Centre Network (NICNET) was set up to provide informatics services to the Central and State Government Departments and its organizations. The NICNET provides state-of-the-art solutions and decision support for management and decision support requirements of the Government of India and the corporate sector. The NIC has established a nationwide ICT Network, named NICNET, with gateway nodes at about 53 Central Government Departments, 35 State / UT Secretariats, and in 603 District Collect orates for IT services. The Government has designated the nation-wide Computer-Communication Network, NICNET, as the Government Network. The organizational set up of NIC encompasses its Headquarters at New Delhi, State Units in all the 28 State capitals and 7 Union Territory Headquarters and District centres in almost all the Districts of India. The Organization employs a large pool of efficient technical manpower. At the NIC Headquarters, a large number of Application Divisions exist which provide total Informatics Support to the Ministries and Departments of the Government. NIC computer cells are located in almost all the Ministry of the Central Government and Apex Offices including the Prime Minister's Office, the Rashtrapati Bhawan and the Parliament House.

4. BSNL's Leased Lines and Datacom (http://www.bsnl.co.in/)

The Bharat Sanchar Nigam Ltd. (BSNL) provides data communication services to its subscribers to transmit data between computer and electronic information devices. It offers a choice of high, medium and low speed leased data circuits as well as dial-up lines. Bandwidth is available on demand in most of the cities. Managed Leased Line Network (MLLN) offers flexibility of providing circuits with speeds of n x 64 Kbps up to 2 Mbps. It is useful for Internet leased lines and international principle Leased Lines services (IPLCs). For dedicated point-to-point speech, private wire, teleprinter and data circuits are given on lease basis. Leased circuits are provided to subscribers for internal communication between their offices / factories at various sites within a city / town or different cities/town on point-to-point basis, or on a network basis interconnecting the various sites.

5. INET (http://www.bsnl.co.in/)

INET was commissioned by Department of Telecommunication (DoT) during 1991 and paved way for highly reliable, cost effective and flexible ways of national data transfer and information access. INET is now managed by Bharat Sanchar Nigam Ltd. Packet switching enables error free transmission with dynamic rerouting of calls and provides interconnection between computers / terminals at different speeds and protocols. In its first phase, INET comprise nodes at New Delhi, Mumbai, CalcuttaChennai, Bangalore, Hyderabad, Pune, Kanpur and Ahmedabad; and connected through 9.6 kbps and 64 kbps links. In subsequent phases, this facility was extended to 88 other cities throughout the country. Inet is

now available in 102 cities in India grouped on the basis of business activity and demand.

6. SIRNET

The SIRNET (Scientific and Industrial Network), an initiative of NISCAIR (formerly INSDOC) aimed at networking all 40 CSIR laboratories under SIRNET was made operational in December 1989. The SIRNET provided electronic mail facility as its first application service from the SIRNET servers with a mail number of user nodes. For transmitting a message, a user had to deposit message to one of the SIRNET mail service nodes situated at the NISCAIR(earlier INSDOC), Delhi and at its regional centre at Bangalore from where it was transmitted to its destination which may be any of CSIR laboratory presently linked to the mail node. The SIRNET, in turn, was connected to a large network-ERNET (Educational and Research Network) which is connected to the international network UUNET (Unix User Network) through which other international networks like BITNET, CSNET and JANET are accessible. The SIRNET's mail node at the NISCAIR also acted as a gateway to ERNET and through ERNET to other networks. Connections between various laboratories of CSIR were established using dialup telephone lines, while SIRNET was directly connected to BSNL Mail server. However SIRNET has been presently shelved.

7. BTISNET (http://www.btisnet.nic.in/)

Recognizing the importance of information technology for pursuing advanced research in modern biology and biotechnology, a bioinformatics program, envisaged as a distributed database and network organization, was launched during 1986-87. The program has become a very successful vehicle for transfer and

exchange of information, scientific knowledge, technology packages, and references in the country involving 10-12 thousand scientific personnel. Ten Distributed Information Centers and an Apex Centre at the Department of Biotechnology, and 44 Sub-Distributed Information Centers, located in universities and research institutes of national importance, are fully engaged in this task. national facilities have been set up for interactive graphics based molecular modeling and other bio computational needs.