

INTERNET SERVICES IN CALICUT UNIVERSITY

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Describes the details of installation and utilisation of Internet services in CHMK Library, University of Calicut, the first university library in Kerala to get Internet connection through VSAT. Aspects like connectivity, funding, hardware and softwres, use made by the academic community and future programmes of the Internet Centre are discussed.

0 INTRODUCTION

Men's quest to build up power and establish supremacy over others have some times brought out results which are useful for the entire mankind. Such attempts were always made on strengthening the defence and have been instrumental in the invention of many new things. If we trace the history of Internet we will find its routes in the United States Defence Research Projects. It all started as a part of ARPANET (Advanced Research Projects Agency Network), a military project and later spread all over the world as a global information provision. Internet is the only computer network which has got a truely universal character. It connects academic institutions, research organizations, business establishments, news and entertainment medias etc. all over the world facilitating communication between these easier. It has virtually interconnected all the major networks in the world with one another, there by giving access to information of all kind to users of all categories. The word "Internet" was coined from the words "interconnection" and "network". These networks usually use the Transmission Control Protocol/Internet Protocol (TCP/IP). A protocol is a set of rules and it is obligatory on the part of participating computers to follow such protocols because they are the technical specifications that allow computers to exchange information. Internet provides us with different options and it can be used for various purposes from sending a greetings to some one to make a discussion with a group. It allows to view a small text file stored at a remote computer

and it also allows to access a large database and make a search. The File Transfer Protocol (FTP) allows to transfer a file from one system to another and the Telnet allows to login to a remote computer and operate it within the rights and limitations specified, as in a computer placed in front of us. Various navigation tools and indexes help us to find out the required information from an ocean of information.

1 INFORMATION ON INTERNET

The availability of information on Internet has no limit. Since these informations are stored in the computers scattered all over the world, there can be information on anything and everything, to list a few:

- Library catalogues,
- Large databases of scientific and other information,
- Electronic journals,
- Full text of documents,
- Archives of free or shareware software,
- Commercial advertisings and customer service information,
- Information on political organisations as well as non-profit organizations,
- Newspapers and entertainment medias,
- Comuunication facilities.

The academic community is a major beneficiary group of Internet. Internet provides information for students, researchers and teachers from a wide variety of subjects like pure and applied sciences, humanities, arts etc. Over Internet a teacher can share his knowledge with peers in the subject, a researcher can collect information on his area of study from any where in the world and a student can clarify his doubts which may not be possible in the class room. Further, Internet has widened the concept of distance education by making the information available from far away places to PCs installed in homes. Educational institutions in under developed countries and developing countries can access the latest information available in developed countries through Internet without any time delay.

2 EXPERIENCE AT CHMK LIBRARY

Calicut University is an affiliating university with a large number of

colleges at different places affiliated to and a number of teaching post graduate departments located at the university headquarters. The CHMK Library is the University Library located at the headquarters. It has the distinction of being the first fully computerised University Library in the State of Kerala.

A meeting of the various Heads of the Departments held on 13th Nov. 1996 convened in connection with the allocation of State Plan Fund provided for the year 1996-97 resolved that the balance amount of Rs 13,00,000/- under equipment may be utilised for establishing E-Mail and Internet facility/system in the University. In this meeting the University Librarian advocated the need for establishing such a facility at a central point making the benefit to all departments and convinced the right and responsibility of the university library in making such a provision to the entire university. Hence, it was decided to house the Internet centre at the CHMK Library. To work out the modalities of establishing the facility, a committee was constituted with three Heads of the teaching departments, University Librarian, Registrar, Instrumentation Engineer, and Finance Officer. The University Librarian, Instrumentation Engineer, and Head of the Department of Physics were entrusted to visit different institutions where the facility is already available and submit a detailed report along with quotation/proforma invoice containing the amount required for initial investment and running cost. On the submission of the report by these above mentioned officers, the committee recommended to accept the report and make advance payment of Rs 13 lakhs to the University Librarian for the installation of the Internet facility. To meet the recurring expenditure of the Internet Centre, it was decided to divert funds from the budget heads of the Departments and the University Library for books and journals at the following rate:

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| (a) Departments having an allocation upto Rs 50,000/- | 15% |
| (b) Departments having an allocation above Rs 50,000/- | 25% |
| (c) Departments having an allocation more than Rs.1 lakh | 30% |

The VSAT connectivity was made available through the ERNET (Education and Research Network) programme by the Department of Electronics, Govt. of India. The ERNET Project was initiated with the assistance of Govt. of India and United Nations Development Programme (UNDP). It involves 8 premier institutions in the country as participating agencies in ERNET. To set up a nation wide computer network for academic and research community interconnecting major institutions and

expanding its reach to other institutions progressively and to provide consultancy and support to other organisations in the area of computer networking are some of its stated objectives. ERNET services include Email, File Transfer, Remote Log-in, News Groups, Database Access, Archie, Gopher, WAIS and World Wide Web (WWW). It makes the following three options for Internet connectivity.

- (a) Access through a dial-up telephone line (local or STD)
- (b) Access through a leased line; and
- (c) Access through VSAT.

The Calicut University Internet Centre opted for access through VSAT. Though there is some initial capital investment involved, this option is most suited because it provides digital connectivity up to 64 Kbps and enables to access all IP services reliably. The following equipments/facilities are required for this:

21 THE VSAT EQUIPMENTS

A router;

A system running UNIX operating system and TCP/IP Protocols or a PC with 386/486/Pentium running Windows, or a LAN with gateway server supporting TCP/IP;

A router to provide access to LANs interconnected at users site (optional); and

Mail server software and software for other applications.

The VSAT equipments including Antenna Reflector, Feed Horn etc. and other necessary gadgets were installed at the Centre by the end of March 1998 and the Internet Centre started formally functioning at the Library from 2nd June 1998. During the period in between these, a continuous demonstration programme of Internet was convened and an orientation programme for teachers and researchers was conducted. As the Centre is to be accessible easily for its members the same is placed near the entrance of the Library.

22 HARDWARE AND SOFTWARE FOR INTERNET

As a beginning one Server and eight nodes are provided for the purpose. The Server is Sun Netra with Solaris as Operating System. 8

nodes with Windows 95 are provided to the users. The detailed configuration of the systems is as follows :

(a) *Sun Netra Internet Server*: i 545 with Turbo Super Scalcar Sparc Processor operating at 170 MHz, 64 MB RAM, 2 GB HDD, 644 MB SUN CD Drive, 17" Colour Monitor and software Solaris 2.5 (unlimited user), Netra Internet Software 3.1, InterScan viruswall, Netscape Enterprise Server, Solstice Firewall and IPX/SPX CAT gateway Software and Netscape Communicator 4.1 (10 user).

(b) *Nodes*: Wipro Acer Entra 500 with Pentium operating at 133 MHz. 1.44 MB FDD, 1 GB HDD, 64 BIT PCI VGA, SVGA COLOUR 14" (8 Nos.)

(c) *Printers*: Star- Dot matrix with 24 Pin (5 Nos.)

To facilitate regular power supply a UPS 5 KVA was also procured and installed. Out of the 8 nodes one node is kept exclusively for E-mail checking purposes. For accessing Internet Netscape is used as browser. As the Internet Explorer is available with Windows 95, the same is also used. Five Dot Matrix printers are installed to facilitate printing of E-mail messages. For items downloaded from Internet printing facility is not provided because it is quite difficult for the library to bear such a high expense. For such items users can copy it to the floppy discs and take print-out outside the Centre.

3 MEMBERSHIP IN THE INTERNET CENTRE

Though membership in the University Library is open to the teachers, students, research scholars and non-teaching staff of the university, teachers and students of affiliated colleges, staff of other offices concerned with the university and graduates from public, the membership in Internet is limited to the university students, researchers, teachers and non-teaching staff due to certain limitations like lack of enough nodes etc. Members are charged a fee at the rate of Rs 250 for teachers and staff, Rs 150 for researchers and Rs 100 for students. The Heads of the different departments in the university are given membership for official use without charging any fee. The validity of the membership for students is for one academic year while others are given it for one year. The members have to submit an application in the prescribed form recommended by the Head of the department. The purpose of the Internet use is restricted to study, research and to support teaching. These purposes are specified in the application and users are required to tickmark the

purpose accordingly. On submission of the membership application form members are given a login-id and a password as per their suggestion so as to enable them to send and receive E-mail. User can change his/her password whenever he/she wishes. Presently there are 460 members in the Centre. Users can use the facility according to the availability of time slots without any restriction for maximum utilization.

The Centre functions from 8.30 in the morning to 7.30 in the evening. These hours are divided to 6 time slots. The first five slots are of 2 hours duration and the last slot is from 6.30 to 7.30 for one hour. Members have to make advance booking of time slots and have to occupy the machine within 10 minutes of the beginning of their time slot. Due to heavy rush members are placed in waiting list and if a member hasn't occupied the machine within 10 minutes it is allotted to person in waiting on the basis of priority. No user is allowed to reserve time slots on consecutive days and nobody can reserve the next slot without availing the first slot. The Centre is compelled to do this in order to give all the members the facility. Due to overwhelming response from users and resulting heavy rush in booking the Centre finds it very difficult to cope with the situation with only 8 nodes. Hence it has been decided to increase the number of nodes in the nearer future.

4 UTILISATION OF THE INTERNET FACILITY

The multiplying number of members day by day shows the keen interest of users in the facility. The number of persons in waiting list in each time slot is a clear indication of the need for expansion. All categories are making the maximum use of the facility and all are allowed to use all facilities provided that they are for study, research, teaching and administrative purposes. It is found that the researchers in science subjects are getting more information and they are showing more and more interest in searching information as they are now able to find latest information in their area of study from elsewhere in the world which was not been possible for them earlier. Some of the uses made by members are :

- To search for information related with their studies using the search option provided in certain search engines like Yahoo;
- To send and receive E-mail using their local E-mail addresses as well as in the address created in Hotmail, Yahoo etc.;
- To send papers and communications, both official as well as personal as attachment with E-mail;

- To search catalogues of libraries and other information agencies to find out required bibliographical information;
- To search abstracting and indexing services which are available online;
- To download pictures and other images related with studies;
- To make discussion with others who are interested in their field of study.

5 E-MAIL FACILITY

E-mail facility is one of the most utilized services of Internet. In CHMK Library all members are given E-mail addresses and are allowed to send and receive E-mail. Since a node is exclusively kept for checking Email any user can send as well as read messages in his folder without making any reservation of time slots. It is found that all members are making maximum use of this facility and the node for this purpose is always seen engaged. For sending long messages users are advised to bring the messages in floppy and send it as attachments. This is done to avoid the rush at this node and to facilitate the service to reach maximum users.

PINE, developed by the University of Washington, is the software used for E-mail at the Internet Centre. This software is free of cost and can be downloaded from Internet. As it can be operated using mouse and editing of the message is very much possible users are well satisfied over the performance of Pine software. To avoid unnecessary wastage of hard disc space users are advised to limit the number of incoming messages in their folder to a maximum of five. Any how this is not strictly followed and users are allowed to keep more than five messages if they wish so.

6 FUTURE PROGRAMMES

To meet the growing needs of the Internet Centre, action has already been taken to increase the number of computer systems and it includes some multi media systems to support sound and animation. To widen the Internet facility in the university it has been decided to give connection to different teaching departments and other offices in the campus. This will be made available through EPBX telephone lines. The ground work for this has already begun and it will be fulfilled with the availability of necessary infra structure. Later it is expected to provide the facility to

various colleges affiliated to the university through dial up connections. This possibility is under consideration and it requires from the part of colleges to take initiative and make available necessary systems, modems, telephone connection etc.

CONCLUSION

The Internet Centre of the University established at CHMK Library has been wholeheartedly welcomed by the academic community of the university and the overwhelming response shown by them indicates that without the provision of information, which is available at far away places, libraries in the coming days will find it difficult to cope with the situation. Users find the required information scattered as well as unorganised on Internet. So it is the duty of librarians who are really concerned with collection, organisation and retrieval of information to see that the users are able to attain right information at the right time. For this librarians have to equip themselves to know various aspects of Internet so that they can help the users, and the Library & Information Science schools need to include the Internet and its information provisions in their curriculum. Internet has helped us to cross all geographical barriers. Hence co-operation between libraries can be widened to greater extents with diversified possibilities of Internet.