

The Use of Computer Networks for Translators

Computer networks interconnect millions of people world wide and offer tremendous amounts of information. The basic technology used to connect to networks is fairly simple, but it opens an electronic universe that is growing so fast that it has indeed become difficult to keep up. The following paper will discuss some basic telecommunications and networking concepts, and then point out some of the uses of this technology in the various stages of the translation process.



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Basic Concepts

Getting started in computer communications is easy, both on the pocketbook and otherwise. Only three pieces of hardware are required: a computer, a modem, and a telephone hookup. Software is no problem either, as the market abounds with inexpensive high-quality programs, many of which are available as shareware.

The simplest form of a computer network is a direct connection between two computers. If a direct link is impossible or impractical, communication may be established by using larger networks spanning a building, a campus, a country, or the entire world. The *Internet* is an example of a global network. It is really a network of networks. It has an estimated 3,500,000 users and is growing exponentially. It is able to inter-connect computers ranging from the simplest PCs to the most sophisticated mainframes. Large networks are incredibly complex, but that need not concern the average user. Most people who use global computer communications today do not know more about the computer than the average person knows about the inner workings of a car or television set. Before discussing the specific uses of this technology for the translator, a short introduction to the types of services offered online and the types of networks providing these services will be provided.

Online Services and Networks

The services available online fall into four categories: information, communication, special interest groups, and special services.

Information services are systems such as DIALOG, ORBIT, or public access online library catalogues, which make databases compiled by database producers available to the public. The information offered in those databases appears in the following formats: statistical, bibliographic citation, abstracts, and full text, with the last two being the most important for the translator.

Communication refers to sending messages or files from one computer to another. Typically, this includes electronic mail, computerized conferencing, electronically transmitted paper mail, file exchange, faxing and telexing services. The ability to send and receive faxes and telexes through networks makes it unnecessary in many cases to buy expensive hardware.

Special interest groups are known under various names depending on the network. On *Bitnet* they are called Listserv, on Unix-based platforms they are newsgroups, on *CompuServe* they are Forums and on *Genie* they are called RoundTables. Whatever their name, the underlying concept is the same. People from all over the world who share an interest in a particular field use these groups to exchange ideas, communicate, and discuss research. The importance of such groups will be discussed in more detail below.

Special services are not likely to have a bearing on the translator's professional activities, so they will only be mentioned for the sake of completeness. Typical commercial examples are online shopping, games, brokerage, travelling, and banking services. Supercomputer and statistical applications are examples of special services offered on non-commercial networks such as the Internet.

Online networks may be divided into three different groups. The first group is *educational and research networks*, such as BITNET (Because It's Time Network) extending to Europe as EARN, Internet, InterEunet (European Network), USENET (International NEws and Mail Network), UUCPnet (International Email Network), and a large number of national networks. To have access to those networks and enjoy the full benefits, an affiliation with a university, government agency, a research institution, or a corporate user is required. The fees are usually paid by the government or the owner of the network node and not passed on to the individual user. For those not affiliated with an such an institution, it is now possible to get accounts for the Internet through commercial vendors for a moderate fee. All four service groups discussed above are available on research and educational networks, although strictly commercial applications are not allowed.

The second category is *commercial networks* such as CompuServe, Genie, SprintMail, MCI-Mail, DIALOG, and various national providers in Europe. Most of these online providers offer all four service

groups, although some, such as MCI-Mail or DIALOG, concentrate on communication or information, respectively. No affiliation with an institution is required to use those networks. All it takes is a valid credit card.

The third category is *amateur networks*. They are referred to as BBSs (Bulletin Board Systems) and are operated by private individuals, called sysops. These systems are typically based on personal computers. Many are linked through *FidoNet*, which now has over 10,000 member nodes world wide. Most of these private boards are dedicated to a theme, such as programming, cooking, games, or translating, although the latter is in the minority. A listing of local BBSs and the services they offer is usually available in computer magazines or through local computer clubs. In most cases, the people who operate those services do it for the love of it and charge no fee or only a negligible amount. Anyone with a modem can log on, but most BBSs have user policies which must be complied with to gain full access.

Communication between computers hooked up to the three types of networks just discussed is frequently possible through inter-connections of different networks called gateways. Users of *FidoNet*, for example, may send mail to users of the Internet. Users of the Austrian national network BTX users may send messages to CompuServe through the Internet, etc. As efforts continue to adopt standardized networking protocols and allow users to connect to a multitude of databases around the world using a uniform interface, it will become easier and easier to tap into the resources offered online around the globe.

Using Online Resources to Facilitate the Translator's Work

In discussing the use of online resources for the translator, it is practical to break down the translation process into a number of stages, pointing out the benefits offered by these technologies at each stage.

1. Finding Work

One of the problems many translators face is that they have nothing to translate. Getting work may be more difficult than performing it, at least for the more common languages. Advertising in translating journals does not always do the trick because these journals are read mostly by other translators, not by potential clients, although agencies do use them regularly to increase their pool of freelance translators. An online database of translators is a much better alternative. Translators can post their résumés and a work sample online, and people who need a translator simply dial up the database, enter the required qualifications on a query form, and the computer will provide a listing of translators who fit the bill. The advantages are clear. The information in such a data-

base can be updated anytime, and the amount of information provided will give the potential client a much better idea of whom he is dealing with than an ad or a listing in the yellow pages. Several of these databases are already available. Transnet (now operated by GENie) or CompuServe are examples of US-based providers. In Europe, the EC is working on its *ETNA*-system, but progress appears to be slow. A good example in Europe is NGVBBS, a Dutch bulletin board system dedicated to translators. It has the support of the Dutch translators association and contains the profiles of all 1100 members.

Not being able to communicate electronically may actually disqualify translators from getting work from abroad. Translating agencies in the United States, for example, are always on the lookout for qualified translators and will not shy away from contracting work out to people outside of the States, provided that the data can be transmitted electronically.

2. Communicating with Clients

Once a client has been found, the material to be translated needs to be sent to the translator in some form or another. Since the translation was probably needed the day before yesterday, and the client has generously agreed to give the translator an extra day to finish 150 pages, time is of the essence, and every day the material spends in the mail is a day lost to the translator. Even if the original text is not available in electronic form, it is possible to save a lot of time and money by returning the completed translation to the client electronically. To transmit a 25 page document from Vienna, Austria to New York City takes approximately 8 minutes with a 2400 bps modem. At a rate of AS 18.00/minute, that amounts to AS 144.00. If the file is compressed, the transmission time can be reduced to about 3 minutes at a cost of AS 48.00. To send the file to New York with an express carrier costs AS 450.00 and takes two days. The savings are tremendous: about AS 300.00 without compression, about AS 380.00 with compression. The numbers speak for themselves. Since the translator can easily set up the communications software to allow the client to dial into his/her computer and pick up the completed translation, it is possible to take advantage of cheaper phone rates offered by foreign carriers for international calls.

3. Locating and Retrieving Information

In most cases the translator will have to gather some background information on the text to be translated. Since translators are not, and cannot be, experts in all the fields they translate in, it is important to find information and help quickly. Nobody will expect translators to know everything, but people will expect them to be able to locate the information needed to produce a high-quality translation. Publicly accessible

online catalogues make the information retrieval process much more efficient. An exhaustive bibliography on just about any topic can be compiled in a matter of minutes. In illustrating the information tools available online, the focus will be on the Internet. Similar information is also available on other platforms, but it would fill several books to discuss them all.

Literally hundreds of libraries in the US and other countries have made their catalogs accessible online through the Internet. The ability to search electronic catalogs at other institutions offers tremendous potential in identifying resources. Although it is not yet possible to check out books remotely, the keyword searching features on a remote system can serve to identify materials that may in fact be available locally, but are not identifiable through a keyword search on the local system. Keyword searches may produce items that are not available locally, and may be ordered through interlibrary loan. Remote catalogs may offer more detailed cataloging information for certain types of information, such as sound recordings, books containing multiple essays, song collections, etc. Many Online Public Access Catalogs (OPACs) offer access to specialized databases, ranging from indexes to materials, such as manuscript and statistical collections to full text documents, such as newspapers and literary classics. Specialized periodical indexes are an integral part of many remote cataloging systems. Free electronic directories are available providing the name and a short description of the services available at participating libraries. Software tools to use such guides are also available free of charge through the Internet. The following practical example will further illustrate the usefulness of OPACs. The text to be translated from German into English was about *Risikofaktoren der Venenthrombose*. The first stop on my online search was the library at the University of Illinois to which my desktop computer is connected through the campus network, which in turn is part of the Internet. The search strategy employed was very simplistic. I just told the computer to list all the titles of books containing the string *venous thrombosis*. The search produced about 25 entries, each with detailed subject headings and other information which proved helpful in the translation itself and in searches conducted at other facilities. The search string *thrombosis of the veins* yielded no hits, giving me a pretty good idea what the better term for *Venenthrombose* is. (The dictionary listed both options.) Like most larger libraries, Illinois provides online access to the Library of Congress headings, allowing the user to compile a taxonomy on any field. In a matter of a few keystrokes, the computer generated an exhaustive taxonomy of *thrombophlebitis*, the term used to catalogue *venous thrombosis* in the Library of Congress. Armed with this kind of information, it is easy to use more sophisticated search strategies to retrieve only those entries which are really relevant to the topic at hand.

The next stop on my online search was the library of the Georgetown University Medical Center which was listed in one of the online library guides. Although Georgetown is some 700 miles east of Illinois, it only took but a few seconds to log into their catalogue, where more information was indeed available. The third source I checked was a database of periodicals called Carl UnCover. In addition to bibliographic citations, it also provides article abstracts. The same simple-minded search strategy first employed at Illinois returned 170 hits, each accompanied by an abstract. Using the computer-generated taxonomy, it was easy to narrow down the search to the most relevant entries. The abstracts provided with each entry were extremely helpful in solving terminological issues. If the abstract does not provide enough information, the full text of each article available through Carl UnCover can be ordered by fax for a fee of US-\$ 8.00 per article — a small price to pay for badly needed information. I think the reader can see how helpful these searching capabilities can be. By looking through the headings alone, it is possible to gather valuable information for the translation. The entire search covering three catalogues featuring over 10 million entries took less than 30 minutes.

Another valuable resource is the *Special Interest Group*, called SIG. SIGs may be very useful throughout the translation process, not just for identifying resources. But here is as good a place as any to say a little more about them. Whatever the topic may be, there is a pretty good chance somebody will have started an interest group for it. Complete directories of these groups are available online, and becoming a member is a matter of sending a simple e-mail message to register. If a translator has difficulty understanding a term or a concept, a message sent to the right group may provide a speedy answer. Every member on the list will receive the message, and the chances of getting help within a matter of hours are very good. Many scholars and scientists use these groups to exchange ideas and also to get help. Translators looking for help will not feel the same inhibition as they may experience when personally approaching a known authority in the field whom they have never met. Without the help of the computer, it might even be impossible to find an expert. Two groups are of special interest to translators. Lantra-L is a Listserv group for translators, Humanist is for scholars in the humanities in general. Both offer stimulating discussions and are a good source of information.

4. Help with Translation Problems

Having identified and obtained most of the resources necessary to perform the translation, the translator can now go ahead and start translating. There are

very few tools to tell the translator how to express a given concept in the target language, or determine if blood flows, runs, or squirts in a given context. Dictionaries do not always provide the answer, nor do native speakers. A large number of texts which can be searched to see what verbs are to be used to describe the actions of blood, for example, is a great supplement to conventional aids. Even with a very simple retrieval engine such as the shareware program *list*, text corpora are a tremendous resource. This is true for all types of translations, technical and literary. The frequency with which the author uses certain grammatical patterns, words, or phrases may provide invaluable insight into the linguistic structure of the text which the author may have used to bring across a point. But can you imagine going through the work of Thomas Mann and doing such an analysis by hand? Or how about terminological work? Glossaries or full-fledged terminology banks may be built in a fraction of the usual time by using online corpora.

While many of the full-text databases are offered by commercial vendors for a stiff fee, some are also available through the Internet free of charge. Electronic texts can be retrieved from the Oxford Text Archive, for example, where literary texts are collected in a variety of languages. At Georgetown University, a Catalogue of Projects in Electronic Text was established which can be searched online. It gives detailed information on the various projects underway to collect electronic text. Project Gutenberg at the University of Illinois and ARTFL at the University of Chicago are two other examples of electronic text projects. And the amount of material that becomes available electronically is growing. The Text Encoding Initiative was launched a few years ago to provide a common standard for encoding electronic texts and make them more suitable for a varied list of tasks. Major software developers such as WordPerfect are working on add-ons to their programs to enable users to computerize text and format it using a Standard Generalized Markup Language (SGML). Marked text will greatly enhance our ability to use it for advanced tasks such as concept searching, stylistic and grammatical analysis, and statistical applications. Above all, it will provide a way to exchange data more easily.

The European Community is an important provider of information and of special interest to translators working in Europe. The European Commission Host Organization, ECHO, "is the Community instrument for the development of the information services market, offering access to a range of unique information services online. The databases offered by ECHO are multilingual, mainly of a European nature and range from information on research projects, reports, research organizations and a multilingual

terminology data bank to Users Guidance files." (Commission of the EC: 1990:3-4) Users who are connected to one of the national Videotex systems have immediate access to ECHO. One ECHO database which deserves special mention is EURO-DICAUTOM, a multilingual terminology database representing all the official EC languages. The database contains mainly scientific and technical terms, contextual phrases and abbreviations. This database is an invaluable tool, as many of its entries are not yet available in printed form.

Conclusion

Online networks will not solve all the translator's problems. But there are some real benefits to these technologies. The use of online networks will grow rapidly, so a basic familiarity with the possibilities they offer is necessary. These technologies should be incorporated into translator education, as some institutions have begun to do. The Dutch translators association set a very good example by supporting a translator BBS, and I would strongly encourage such organizations in other countries to follow suit.

Soon multi-media will be widely available, combining text, graphics, images, full-motion video and sound. When reading an article on human anatomy, for example, the reader may click on a headphone icon next to the heart muscle to produce the recording of a heartbeat in the speaker. A click on the camera icon beside the paragraph will show an animated sequence of a knee bending. Click on any word in the text, and the program will instantly look up that word in its dictionary. These possibilities simply did not exist a few years ago. They will not do your work for you, but they will greatly facilitate it. So venture out on an online, multi-media safari. You may like what you see.

Appendix: Guides and References for the Internet

Following is a short selection of guides which will make it easier to use the Internet. Frequently, guides are provided through user groups, account providers, and the computer services office at your local university. The following list is limited to English guides. Guides in other languages are available, but it is impossible to list them all in this article.

Books

Kroll, Ed. *The Whole Internet User's Guide & Catalogue*. O'Reilly and Associates. Sebastopol, CA 1992. ISBN 1-56592-025-2, 376pp, \$ 24.95.

This book provides a good general introduction for newcomers to the Internet. It is all you need to get started and to use the Internet unless you are interested in the technical aspects of networking.

Kehoe, Brendan P. *Zen and the Art of the Internet*. Prentice Hall, 1993. ISBN 0-13-010778-6, 112p \$ 22.50.

This book is the printed version of the popular electronic

guide available free of charge throughout the Internet. It will serve as a reference and guide through the vast amount of services available on the Internet.

Frey, Donnalyn & Adams, Rick. *!%@:: A Directory of Electronic Mail Addressing and Networks*. O'Reilly & Associates. Sebastopol, CA 1991. ISBN 0-937175-15-3. This book is not a how-to guide but a reference work to look up different addressing schemes and gateways connecting networks around the globe. It provides a brief description of each network, its gateways, and its mail addressing system. It is for advanced users and network administrators.

Electronic Guides

Hytelnet — TSR program which contains library addresses and other Internet databases in hypertext format. Runs under DOS and WINDOWS. Available on many ftp hosts.

NURSIG — NorthWestNet User Services Internet Resource Guide available at no charge as PostScript file from ftp.host.nwnet.net or via mail order for \$ 25.00. NorthWestNet, NURSIG Orders, 15400 SE 30th Place, Suite 202, Bellevue, WA 98007, USA phone: (206) 562-3000

Commercial Internet Accounts

Software Tool & Die

1330 Beacon Street, Suite 215
Brookline, MA 02146
USA
(617) 739-0202

Offers complete Internet services, including ftp, telnet, various mailing programs, and more. Very competitive rates. Can be reached via telephone or through CompuServe packet switching network.

Netcom — Offers local dial-in in most major Californian cities. For more information call (408) 554-UNIX or send e-mail to dina@netcom.com.

PSI — offers a service called Global Dialup Service. It costs \$ 39.00 a month and is available through local dial-up in about 160 cities throughout the USA. You can reach PSI through X.25 PAD access, at 31 1060740013602 or through TELENET/SPRINTNET by typing "c psinet, ACCOUNTNAME".

PANIX — is a public access Unix system in New York City which can be accessed via PC pursuit. It offers dial-up Internet access at \$ 40.00 startup cost plus \$ 19.00 a month. Have your modem dial (719) 832-1525 and log in as NEWUSER to register. You may also call (718)-832-1525 or (212) 877-4854 to receive more information.

The WELL

27 Gate Five Road
Sausalito, CA 94965
USA
Modem: (415)-332-6106
E-mail Internet: info@well.sd.ca.us
Fax: (415) 332-4927
Voice: (415)-332-4355

The WELL provides a variety of services and is also part of the Internet, allowing its members to connect to all publicly accessible Internet sites. The WELL charges \$ 2.00 per hour. Additional connection charges may apply.

European users should check with their local **VIDEOTELEX** service and other electronic network providers to find out about Internet access. Procedures and prices differ from country to country and cannot be discussed here. One option is to get a CompuServe account and use the packet switching network offered by CompuServe to connect to an Internet provider in the States. Expect surcharges of \$ 15.00/hour or more to connect to Internet accounts in the States from Europe or Asia.