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## Resource sharing and networking in the FUNET network

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FUNET, the Finnish University and Research Network was founded in 1984 and is a unit run by a staff of six. Based at the Center for Scientific Computing (CSC) of Finland and reporting directly to the Ministry of Education, it has the responsibility for maintaining and developing the physical network and the services within the net. The FUNET network has 54 members of which 22 are universities, 26 research centers and six colleges. Each of them pays an annual membership fee (40 000 Fmk) and it has been estimated that there is a core of more than 150 000 individual users of FUNET in Finland. The private enterprises can be members provided that the use of the network is limited to non-commercial use only, and there is a need to communicate with the academic world. Thus, classified as research institute members, are all the major Finnish companies employing a large R&D staff (1).

Within Finland the backbone of the network is Frame Relay Datanet, provided by Finnish Telecom. The network supports multi-protocol traffic and it provides gateways to domestic messaging systems and networks such as the UNIX-users, DataNet and LanLink. Links to the international research community are provided through NORDUnet, a Nordic academic network. It connects the Finnish users with colleagues on Internet, NSFnet, EARN, EUnet, EuropaNet, SPAN, HEPnet, EASINET and almost all national networks in Europe and in other continents (1).

The FUNET services include electronic mail, transmittal of both mass data, such as measurement results, and images, e.g. pictures or animation. The different file servers connected to the network distribute software and hold the electronic publications published via Usenet. FUNET also

provides access to the catalogs of the Finnish academic libraries, allowing the users to browse through the collections of remote universities. In addition to this, FUNET connects the academic institutions and their administration with the Ministry of Education and its databases.

The network is increasingly used by students. The Network Information Centre (nic.funet.fi) of FUNET is the largest file server for distributing software in Europe, containing more than 200 000 files of software, data and documents. The Helsinki University of Technology is the most active user of this server; for instance in December 1992 some 37 000 files were transmitted by the staff and students of the university (2).

The infrastructure provided by FUNET connects more than 16 000 computers in Finland to Internet, to which there are more than 720 000 information providing hosts connected. To aid the user to navigate in Internet, the use of which is growing like a snowball, there are several services: Archie, the index tool of file servers, has been implemented to the Network Information Centre of FUNET and Gophers are implemented locally in Finnish universities.

The founding of LINDA, the central catalog database of all Finnish university libraries, accessed via FUNET, will no doubt promote the use of the network for resource sharing in libraries. LINDA is scheduled to be in operation within 1993. Once it is opened for libraries the materials acquired by universities should only be cataloged once as a rule, all those obtaining the same publication just copy the information to their local OPACs.

The college level polytechnical institutes offering a BS degree, that have been founded just recently, have based their future plans for information management on the FUNET network. From their point of view the network provides them with access to national information resources,

relieving the acute need in collection development.

In times of budget cuts the sharing of resources is becoming more and more important. This means not only the sharing of the collections of the libraries by means of interlibrary loans but also sharing the labor: work dealing with the cataloging, indexing and classifying the material can be shared as well. As mentioned before, LINDA, the university libraries' joint database will allow libraries to copy cataloging information in FINMARC format, provided naturally that another library has already done the first, original cataloging. It has been agreed that all libraries give priority to material published by their own university in their cataloging.

Remote access can thus compensate for a lot of the traditional in house tasks of the libraries. A person actually doing the original cataloging, classification and indexing is not necessarily on the payroll of the library using the information produced by this person.

During the spring of 1993 there was a major change in the practical organization of work related to cataloging and classification at the Helsinki University of Technology Library. A subject specialist who describes the contents of an individual publication is no longer a person specialized in classification but part of a group of specialists with true interest in the subject. Today personnel from all departments of the library can participate in the process. Furthermore, accepting this less ambitious classification level within one library the next step was only logical: the classification given by a subject specialist at another technological university or special library can well be adopted into our own online catalog. It must be said, however, that this type of resource sharing requires close cooperation between the libraries using one another's resources. One must be aware of the "standard practice" applied in these libraries. FUNET provides us with easy access to these libraries, all applying the same classification system, the UDC, a fact

that is vital in avoiding major disagreements. Experiments concerning serial publications have been made with Internet connections to Nordic libraries but the lack of in-depth knowledge of their standard practices allows us to use their description of contents as an indication only.

Electronic mail, the service provided by FUNET, saves the users both time and money. Since the message is in electronic format on arrival it can be modified to serve different tasks, either as print copies or as an electronic document. At present the Helsinki University of Technology Library uses the facility, not only in personal communication but also in receiving both interlibrary loan and acquisition requests. The latter can then be enhanced, e.g. with more specific information such as ISBN numbers, author names, etc. and forwarded to the publisher in electronic format. Of course, electronic mail is an unbeatable service when it comes to delivering messages to other time zones between continents. Furthermore, electronic mail eliminates the costs of ordinary mail, telephone and telefax. To promote the use of electronic mail, it is made a mandatory part of the student training programme organized by the Helsinki University of Technology Library.

FUNET, the Finnish gateway to the world beyond the borders, allows the Finns to access other library catalogs, major online vendors, such as STN and Dialog, and document delivery systems through different international networks, such as Internet. For libraries and information services which aim to promote the beneficial exploitation of information, the growing number of information providers within the networking community means great expectations and perhaps also a prosperous future as well. Resources that are saved with networking can be used in developing the local services.

On the other hand, local services can be developed with networking, too. In this respect the recently opened

gateway between the Helsinki University of Technology Library, the Technical Research Center Information Service of Finland and the Geological Survey of Finland is a good example. These institutions are all members of the very active science community of Otaniemi. The Otaniemi Network connects the TRIP information retrieval systems of these organizations, making their databases searchable with one connection only. These 22 databases, in various fields of science and technology, include information about research in progress, measurement data, article indexes in different topics and holdings catalogs. Only one password to any of the hosts is required and, since the databases all run with the same software, there is one common command language (CCL). This "joint venture" of the three different organizations has attracted very wide attention and the users are extremely pleased. In fact, the Otaniemi Network was awarded the prize for "Information Product of the Year" during the national 1993 Conference on Information Services. The realization of the Otaniemi Network is based on enthusiastic cooperation between the information professionals within the participating organizations. The databases are maintained in the computing centers of the individual organizations while the gateway provides for a smooth and elegant move between the computers, according to the user's commands. The user does not, in fact, notice that the search is being executed in another computer than the one he actually made contact with. It is expected that other research institutions within science and technology, using the same software, will be joining the network in the near future.

Within FUNET a bulletin board newsgroup devoted to libraries has been set up. It is a forum where the scientists conduct lively discussions concerning libraries in general, their role in the future and the library's policies. These conversations reflect the topics that are important at the moment to the library users, information that may otherwise be hard to obtain by the library management.

The role of the libraries within the FUNET network should not be restricted to the use of the services only. The development of the services is calling for expertise already found in libraries. Information management is a task on which the libraries have always based their existence. In Finland there are plans of cooperation between FUNET and the libraries to manage all the unindexed 200 000 files of the Network Information Center of FUNET. Also, the computer specialists behind the Internet services, such as Gopher and Archie, have expressed their interest in including the library's knowledge and ideas of information management into the development of these services (3). The library and information services have, therefore, a possibility, as well as a responsibility, to participate in the developing of the network services.

#### References

- (1) Hakala, Juha (ed.). Tietoa tutkimusverkoista (in Finnish, "Information about research networks"). Tieteellisten kirjastojen atk-yksikkö. Helsinki, 1993. 27 p.
- (2) Ojala, Petri. NIC.FUNET.FI archive. FUNEWS 1, 1993: pp. 5.
- (3) Peter Deutsch, Mark McCahill, Tim Berners-Lee and Chris Weider at the NORDUnet 1993 Conference in Helsinki.