COMMUNICATION IN THE SCIENTIFIC COMMUNITY
by Kenneth Ratzlaff*

Over the past decade, systems for computer-based communication have sprung up all over the country. Through them, computer users have been able to connect with systems which allow them to down-load information and to send and receive messages and programs.

These systems have taken three main forms. The first is the independent electronic bulletin board. Such bulletin boards are frequently operated by private individuals who have a computer with an auto-answer modem and appropriate software so that others with similar interests can dial in, read or leave messages, and down-load or leave computer programs. Frequently, a particular bulletin board has a clientele determined by geography, type of computer, or outside interest. For example, bulletin boards exist for local computer clubs, Apple or Osborne users' groups, sports car enthusiasts, and other diverse interest groups. Typically, there are no user fees, but long-distance phone charges apply and must be borne by the user.

A second type of communication system is the major information service. Compuserve and The Source are two of the biggest. A very large computer serves many users simultaneously and gives them access to data banks, programming and storage services, and bulletin boards. These services require a membership fee and a charge for connect time since network telephone services are used.

The third type of system is a network of major computers. For example, a UNIX users' network connects medium-size computers (which use UNIX); BITNET connects many major universities; ARPANET connects defense contractors; CSNET connects many computer science departments. In each case, the user may log on and operate either in a bulletin board mode or by directly addressing another user. Although the purpose of these networks is to facilitate collaboration, they are also used for such mundane matters as recommending restaurants or finding a program to solve some particular problem.

Each approach described above has advantages and disadvantages. To be successful, a computer network requires a commitment by all universities, colleges, and other employers, which use the network. The information services have sign-up fees (about $50), but group rates are possible) and monthly use charges (typically $20). The local bulletin board is attractive since small computers can be programmed to ring up at night and down-load desired information at lower long-distance costs; however the number of simultaneous users and storage space are limited.

The chemical community is now in need of a communication facility. Practical applications include transmission of manuscripts between collaborators, asking for help on a problem, sharing software tools, and holding on-line meetings. Both the Committee on Computers in Chemical Education and the COMP division of the ACS are interested in developing this type of communication. The ACS Committee on Science has suggested this approach.

At this point, views and ideas are needed to fuel as broad a discussion as possible. Please feel free to communicate your ideas to me.

*Instrument Design Laboratory
Chemistry Department
University of Kansas
Lawrence, KS 60045
(413) 864-3754

Ken Ratzlaff is editor of the Hardware QUERIES and WHO DONE IT? sections of this Newsletter and a frequent contributor of articles. He is currently Chairman-Elect of the ACS Division of Computers in Chemistry (the Editor).