



COMPUTING NEWS

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Spotlight on Electronic Communications



This issue of *Computing News* focuses on the various electronic communication (e-com) facilities available through the Computing Center. Whether you're exchanging information with a local colleague or transferring a data file across the globe, the speed, economy, and convenience of e-com can make your life easier.

The primary e-com medium at the U of O is the Computing Center's VAXcluster — a VAX 8800 system for academic computing and research and a VAX 6230 for administrative applications. The articles that follow are designed to acquaint you with some of the major networks and communications programs accessible through the VAX 8800. For information on how to open a communications account at the U of O, see "Opening Communications Accounts" below.

Opening Communications Accounts

Communications accounts are designed for those who are interested in using the VAX 8800 for electronic mail, conferencing, and remote log-in. All U of O faculty, staff, and GTFs are eligible to open one of these accounts.

Unlike general accounts, communications accounts are limited to a maximum of 1000 disk blocks of file storage and cannot be used to run computer-intensive programs. Since most communications programs use little CPU time, these limits are adequate for using the VAXcluster to communicate with others at local and remote sites. Those wishing to use the VAX for other applications, such as statistical analysis, will need to open a general account.

To open a communications account, contact the Computing Center's accounting clerk in Room 107. Communications accounts are paid for by a special medium of exchange called QUACs (see article "What Are QUACs?" in adjoining column). At the beginning of each term, 20 QUACs are credited to every communications account—enough to cover about 40 average electronic mail sessions (10-15 minutes) at regular computing rates. During lower-priced unstaffed periods, the allocated QUACs permit up to 160 communications sessions.

What are QUACs?

QUACs ("quasi-dollar units of access to computing") are part of a new accounting system for VAXcluster computing accounts which are funded from the University's Academic Computing Account. The new system will go into effect Winter Term.

Under the new system, academic users will be assigned budgets in QUACs. Default budgets will range from 20 to 60 QUACs per term, depending upon need and the type of account. The Computing Center will periodically review the number and history of these accounts, and adjust budget limits accordingly.

Initially, three default budget levels have been set:

- communications accounts - 20 QUACs
- students enrolled in classes - 40 QUACs
- student and faculty researchers - 60 QUACs

An online notice will warn account-holders when 80% of their budget has been used. When an account reaches its limit, the account-holder will no longer be able to log in.

Communications accounts can be reactivated by special arrangements for "real money" payment with the Center's accounting clerk (x4404, Room 107). Students and researchers should contact their instructor or departmental representative before their account's budget is fully depleted.

Meet the VAXcluster's Networks. . .

For newcomers to network computing at the U of O, this article summarizes some of the major networks available to VAX users. Communications account-holders may consult the Electronic Communications Information Packet for more details on VAX networks. The packet contains a UF Handbook, a BITNET write-up, several handouts describing how to access the VAX from a

microcomputer, and a VMS reference card. It is available at no charge in the Center Documents Room (205).

The Computing Center's new e-com handbook, "Electronic Communications on the VAXcluster," is slated for publication in Winter Term. It will incorporate much of the material in the Information Packet.

Meet the Networks. . .

UOnet -

UOnet is the U of O's campus network, linking most campus buildings with central computing facilities and each other. Locally, UOnet serves as an alternative to the Gandalf Switch, providing access to the VAX 8800, the University Library's online catalog, the Computer and Information Science Department's mini-computers, and other departmental resources. UOnet is part of a national network complex known as "the Internet," providing local users with direct access to more than 60,000 other computers worldwide.

For information on how to get connected to UOnet, contact the Center's Network Services Director, JQ Johnson (JQJ@OREGON; x4394).

NWnet -

NorthWestNet (NWnet, for short) is a Northwest regional network connecting the local-area networks of nine Northwestern universities, including campuses in Washington, Oregon, Alaska, Montana, Idaho, and North Dakota. NWnet offers remote log-in, remote file exchange, and electronic mail capability, among other features, and serves as a regional gateway to national and international research networks. It also provides convenient access to supercomputing facilities at Boeing, Seattle, and the San Diego Supercomputer Center.

NSFnet -

NSFnet is the National Science Foundation network, the network of choice for accessing supercomputers. It also provides the backbone that interconnects regional networks like NorthWestNet.

Because supercomputer centers are directly connected to NSFnet, response time can be faster when communicating with one of them than when accessing a computer on a regional network.

The Internet -

The Internet is actually a complex of networks, all of which use the TCP/IP network protocols. The complex links national research networks like ARPAnet and NSFnet, regional networks like NWnet, and other national, local, and military networks.

In addition to providing electronic mail and file transfer services, the Internet allows you to log in to a remote Internet host just as you would to a local computing system. The local gateway to the Internet is UOnet. OREGON.UOREGON.EDU is the VAX 8800's official node name on the Internet.



BITNET-

BITNET ("Because it's time" network) is a national network linking some 700 universities and other educational and research institutions throughout the U.S. It also serves as a gateway to foreign networks, such as EARN (the European Academic Research Network) and Canada's NetNorth, providing international access to more than 3000 individual sites.

The VAX 8800 is directly connected to BITNET and serves as the University's primary BITNET node. Its BITNET node name is OREGON.

BITNET services include electronic mail and file transfer, and a limited interactive message-exchange facility. Because it does not provide remote log-in capability, BITNET is not the ideal medium for accessing national supercomputing centers. While BITNET is still the network employed by most academic institutions, emphasis at the U of O and many other sites is shifting to the Internet.

USEnet -

USEnet is an international bulletin board system. While most mail systems emphasize private communication between individuals, USEnet is specifically designed for publicly sharing information with a general audience.

Because of its unique design, USEnet is a more powerful group communication tool than the distribution lists and list servers on other networks.

The VAX 8800 is a member of USEnet, as are some other UOnet hosts. See the article on NEWS in this issue for more information on USEnet and how to use it from the VAX.

DECnet -

VAX/VMS systems come equipped with a standard set of network protocols and services designed, marketed, and maintained by the Digital Equipment Corporation. This collection of network software is known collectively as DECnet. The U of O's DECnet network can be used for electronic mail exchange with other DECnet subscribers on UOnet and NWnet. It also provides remote log-in and remote file access capability, among other services. DECnet services are available through standard VMS commands and file specifications.

UUCP -

UUCP (UNIX-to-UNIX Copy) is an international network of some 7000 VAX- or UNIX-based computing systems. UUCP subscribers include nearly all major universities, some minor ones, and many corporations.

VAXcluster access to UUCP is currently limited to electronic mail.

Communicate With E-Com Software

Communications software provides network users with the tools they need to communicate electronically with colleagues at local and remote sites. The programs and facilities presented below represent some of the more popular communications tools available on the VAX 8800 and other UOnet hosts. Additional information is available in the Documents Room (205).

Electronic Mail

- **MAIL** is an interactive utility program that enables you to exchange mail messages with people at any location served by the VAX 8800 and any of its affiliated networks. Because of its ability to reach virtually any network destination, you can also use MAIL to send text files to locations that can't be reached through network-specific file-transfer utilities. Like some other VAX utilities, MAIL is designed to be used most effectively on workstations that are compatible with standard DEC VT100-, 200-, or 300-series terminals.

Bulletin Boards and Conferences

- **NEWS** is a VAX program that provides access to the many bulletin boards on the USEnet international network. In addition, NEWS can serve as a medium for distributing public domain software. (See the article "USEnet's NEWS Keeps You in Touch," in this issue.)
- **University Forum (UF)** is a local computer conferencing system limited largely to U of O faculty, staff, and GTFs. Groups of UF members called "conferences" each discuss a topic of focus. Conferences may be public (open to anyone) or private (membership limited by the organizer).

In addition to submitting conference notices and comments, UF members may exchange personal mail-like messages. UF membership applications are available at the Center's downstairs reception counter (108).

- **CIE** is a student-operated computer conferencing system that runs on the UOnet host CIE. It is open to all U of O students, faculty, staff, and alumni. Like UF, CIE offers both public and private conferences, as well as personal mail capability. Membership applications are available in the Philosophy Department, Room 338 PLC. CIE offers a free trial period for prospective members. Those wishing to join are charged a small annual fee. For further information, call x5547 or 345-4989.

Remote Log-in

- **TELNET** is a utility that enables you to log in directly on other computer hosts connected to the Internet. You establish a connection to a remote system through TELNET, then log in just as if you were a local user. Because national supercomputer centers are Internet nodes, TELNET is a convenient way to access them.

Public domain versions of TELNET for the Apple Macintosh and IBM PC are available in the Documents Room. These utilities may be used to access other Internet hosts directly, bypassing the VAX 8800.

File Transfer Utilities

- **FTP (File Transport Protocol)** transfers files of all types from one Internet host to another, including microcomputers and high-performance workstations. It can be used to move formatted word-processor files, and even executable microcomputer programs, without pre-processing. In addition, FTP takes advantage of the multiple connections of the Internet to deliver files via alternate routes if one path is blocked. The TELNET versions for the Macintosh and IBM PC also support FTP.
- **SEND/FILE:** This command is the method of choice for transferring files of any type between BITNET hosts. Unlike FTP, SEND/FILE stores stalled files on a waiting list until a blocked path re-opens.
- **Kermit:** In addition to emulating a VT100 terminal (see below), the Kermit program may also be used to transfer files on the VAX. Unlike FTP and SEND/FILE, Kermit does not utilize a network, but transfers files over phone lines or a hard-wired connection. Kermit is slower than network file-transport programs, and more costly when long-distance contact is required. Consequently, it is sometimes used in conjunction with network programs like FTP or SEND/FILE (e.g., Kermit may be used to upload a file to the VAX, where FTP can transfer it to a remote site).

Brief Real-Time Messages

- The **SEND** command allows you to send brief one- or two-line messages to people who are currently logged in on the VAX 8800, or any BITNET host. You may also use SEND to communicate with BITNET servers, allowing you to subscribe to a mailing list, request a remote file, or query a database with a single command.

Terminal Emulation

- **Kermit** is one of a number of terminal emulation programs that enable you to communicate with the VAX from a microcomputer via modem or hardwired connection. Versions of Kermit for the Macintosh and IBM PCs/compatibles are available in the Documents Room's Public Domain Software Library (see "New Versions of Kermit Arrive," in this issue).



USEnet's NEWS Keeps You in Touch

If you're interested in tapping into an international electronic bulletin board for group communications, USEnet's NEWS program could be what you're looking for.

Recently installed on the VAX 8800, NEWS offers subscribers an opportunity to stay current on a wide variety of topics ranging from the highly technical to the fanciful. NEWS sites represent a broad spectrum of organizations, including government agencies, educational institutions, and large corporations (AT&T, IBM, Xerox, etc.).

Unlike person-to-person mail, NEWS messages are entirely public. Notices posted in NEWS are available to all subscribers, so NEWS items should be written for general viewing.

To access NEWS, you should be using a workstation that is compatible with DEC-standard VT-type terminals. Log on to the VAX 8800 and type

```
$ news
```

From this point on, you use your cursor and RETURN keys to choose news groups and view entries. Pressing RETURN selects the news group or item indicated by the arrow in the left margin of your screen. Pressing the cursor keys moves the arrow up or down. Type `help` for online assistance and `exit` to exit.

Newcomers may orient themselves by reading the items in news group "BEGIN." For more details, see the NEWS reference manual in the Documents Room (205). This manual is also available as an online Quickdoc. To print your own copy of the Quickdoc, type

```
$ print sys$document:news.quickdoc.
```



New Versions of Kermit Arrive

The latest versions of Kermit for the Macintosh (MacKermit 0.9/40) and IBM PCs/clones (MS-DOS Kermit 2.31) are now available in the Documents Room (205). Interested users may check out the Kermit software for copying at no charge.

Both versions emulate a DEC VT100 terminal and may be used to communicate with VAXcluster systems and many other computers. Both are appropriate for workstations that access the VAXcluster via modem/phone or hard-wire to the Gandalf Switch, or UOnet terminal server. (A cautionary note to Kaypro users: although MS-DOS Kermit 2.31 works on all IBM PCs and most compatibles, some problems have been reported locally on a Kaypro system.)

If you are connected to UOnet via Ethernet or Appletalk/Ethernet, you'll need to use NCSA Telnet software instead of Kermit to communicate with the VAX. Public domain versions of NCSA Telnet are also available for checkout in the Documents Room.

MICRO SCOPE

Take Virus Precautions

Recent outbreaks of Macintosh computer viruses at the U of O demonstrate the need for taking precautions. Two departments on campus experienced computer virus infections in the past month: University Housing, which was hit by the Scores Virus; and the Math Department, which was invaded by the latest strain of the virus "nVIR." Both departments subsequently had to spend many hours purging their machines.

It's possible that people from either of these departments could have unknowingly spread the contamination to other parts of campus. If you've been using a public or shared Macintosh during the term, it's important that you check your disks with a viral detection program.

Several programs are available to Mac users to help detect and eradicate viruses. Some of these may be checked out and copied from the Documents Room's Public Domain Software Library (Room 205). Among them is VirusRx, a program from Apple Computer written to detect SCORES and nVIR viruses. A program called Interferon 3.0 has often been able to detect the latest strain of nVIR.

Since computer viruses continue to proliferate and their effects differ, preventing infection is often easier than applying a cure. A few simple, economical habits can protect your software and hardware from infection:

- Make regular backups
- Write-protect master program and backup disks
- Test any new programs you have
- Download programs only from trusted sources
- Avoid copied and pirated programs

The Computing Center is currently expanding its collection of public domain software for detecting and purging viruses. Watch future issues of *Computing News* for more information on these programs.

Merry Xma\$

The cost of CPU time on the VAX 8800 is being reduced. Effective January 1, 1989, the CPU time-per-second rate will be lowered from \$0.055 to \$0.03.

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