Databases

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVM1)

It is more and more apparent that we are living in an age of information. Signs of this fact not only exist in the computer world, but are evident throughout broadcast and print media as well. Need the latest news of the world? Turn on CNN. Wondering what Congress is up to? Flip over to CSPAN. Thinking about investing some money? Check out any number of financial newsletters (but don’t necessarily believe them all). In the computer world, we are noticing a definite upward growth pattern in the amount of information that is available in electronic form. This may be data that has been collected over numerous years, or is more often text bases of either software documentation or, more and more frequently, literary collections which have been entered for online analysis. The need to organize and be able to retrieve the growing amount of electronically available information is spurring the growth of a number of database technologies.

The theme of this month’s issue of Benchmarks is databases. In terms of data storage, there are two basic types of database systems, centralized and distributed. Examples of both types of databases are discussed in this issue. According to Korth and Silberschatz (Database System Concepts, McGraw-Hill, 1986), the main difference between centralized and distributed database systems is that in a centralized database system, data are stored in one single location while in a distributed database, data are stored in several locations and the database itself is stored on several computers. The computers in a distributed system may vary in size and function, and may include microcomputers, workstations, minicomputers and large general-purpose computer systems. These computers are referred to by many different names, including sites, nodes, hosts, and computers, depending on the context in which they are mentioned.

Distributed databases are of particular interest in this age of information, because they enable large numbers of people to access vast quantities of information. Examples of distributed databases discussed in this issue are those accessible from the Wide Area Information Servers system (page 5) and the Internet library catalogs (page 13). The most common approach for distributed databases is to have some computers act as front-end devices and others back-end. This is also known as a database engine. The front-ends handle all user interaction and send queries to the back-ends. Then the back-ends, which hold all the data, process the queries and send the output back to the front-end. Finally, the front-end displays the information to the user.

While we can’t cover every aspect of databases inside the pages of Benchmarks, we hope that the information provided here gives a bit of an introduction to some of the database technologies which will be helping to manage and access the growing body of on-line information.
SERVICES AVAILABLE TO USERS OF THE UNT COMPUTING FACILITIES

The UNT Computing Center is located in the Information Sciences Building (ISB), Room 119. Phone Numbers:

Computing Center: (817) 565-2324
ISB 110 Lab: (817) 565-3048
Network/Micro Services: (817) 565-2316
ISB I/O Area: (817) 565-3890
BA I/O Area: (817) 565-3350

All personnel listed below can be contacted either by calling the Computing Center or by sending them electronic mail on VM/CMS (USER-IDs follow each name. All IDs are on BITNET node UNTVM1).

**Benchmarks** - Claudia Lynch

Information & ID-Codes; Disk Space Problems, Passwords - Pam Summers

Statistical/Research Support - George Morrow (AC59), Panu Sittiwong (PANU), Phanit Laosirirat (AC44), James Yarbrough (AC32)

AcademicADABAS/COM-PLETE - Cathy Hardy (AC55)

CRSP & COMPSTAT Problems - Panu Sittiwong (PANU), Phanit Laosirirat (AC44)

Student Programming Problems - CSCI Dept.; GAB Room 550; BCIS Dept.: BA Room 152

Problems with JCL, Operating Systems - ISB 110 Lab

Communication/Terminal Problems - Network/Micro Sys.

Data Entry; Test Scoring & Analysis - Betty Grise

Administrative Applications - Coy Hoggard

Printout Retrieval - ISB or BA I/O Operators


DIALING-UP UNT COMPUTERS OVER THE TELEPHONE

Phone numbers for accessing UNT computing systems:
300-2400 BAUD: (817) 565-3300
300/1200 BAUD: (817) 565-3499
300-9600 BAUD: (817) 565-3461
300-2400 BAUD: D/FW METRO 792-4140

Set Data Bits to 7, Parity to S, and Stop Bits to 1. The autobaud feature requires you to hit the RETURN key repeatedly after the connection is made so that the receiving modem can determine the baud rate. When you see the prompt (# for non-metro numbers, UNTModems for the metro lines) you can enter one of the following commands to connect with the system of your choice.

<table>
<thead>
<tr>
<th>Metro Lines</th>
<th>Non-Metro Lines</th>
<th>System</th>
</tr>
</thead>
</table>
| UNTModems> | CALL 8040       | MUSIC/SP
|             |                 | [lineediting and PCWS] |
| Connect VM3270 | CALL 3270 | Academic Mainframe FullScreen |
|             |                 | (MUSIC, CMS Academic COM-PLETE) |
| Connect DEC | CALL DEC | VAXcluster |
|             |                 | (VMS) |
| Connect Sol | CALL 900 | Solbourne |
|             |                 | (UNIX) |
| Connect Ponder | CALL 780 | Sequent |
|             |                 | (Ponder) |
| Connect Library | CALL 3000 | UNT Libraries' on-line card catalogue. |

To exit from the local phone lines, press ESCAPE<RETURN>, and type DONE (at the # prompt), then press RETURN<RETURN>. To exit from the metro lines, press CTRL+SHIFT+6, then type DISCONNECT (at the UNTModems prompt), then press RETURN.

HOURS FOR UNIVERSITY OF NORTH TEXAS COMPUTER ACCESS AREAS: Fall 1991*

<table>
<thead>
<tr>
<th>Day of Week</th>
<th>Willis Library Lab</th>
<th>ACS Lab</th>
<th>General Access Labs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday - Thursday</td>
<td>Open 24 hours a day</td>
<td>7:30 am to Midnight</td>
<td>8 am to 10 pm</td>
</tr>
<tr>
<td>Friday</td>
<td>Open 24 hours</td>
<td>7:30 am to 9 pm</td>
<td>8 am to 5 pm</td>
</tr>
<tr>
<td>Saturday</td>
<td>Open 24 hours</td>
<td>9 am to 9 pm</td>
<td>10 am to 5 pm</td>
</tr>
<tr>
<td>Sunday</td>
<td>Open 24 hours</td>
<td>1 pm to Midnight</td>
<td>1 pm to 10 pm</td>
</tr>
</tbody>
</table>

*Hours may vary. Check MUSIC/SP, VM, CMS, VAX or Solbourne NEWS and/or posted schedules for exceptions.

The Computing Center RJE (for pick-up of output) is open 24 hours a day starting at 7 a.m. Monday through Midnight on Saturday. It is open from Noon to Midnight on Sunday.

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Commercial Databases Available to Academics: Dialog's Knowledge Index Service

By Terence K. Huwe, Institute of Industrial Relations Library, University of California at Berkeley

This is an edited version of an article that was originally published in the Berkeley Computing Quarterly, Summer 1990 (Volume 2, Number 2) pp. 10-12.

Dialog, a commercial database vendor, has established a program that enables academics to search Dialog files from their own desktop computers. This program, Knowledge Index, is useful for researchers who might not always wish to journey to the library in person and who have developed on-line search skills with various systems.

Knowledge Index provides access to 75 commercial databases during evening hours for a single connect-time rate. This service is available in both menu and command search modes; therefore, users may follow either a simple menu format or, if they have already gained experience in Boolean search strategies, they may search databases in a command language similar to Dialog's commercial command format.

Although Knowledge Index is an excellent information product, it should be stated that it may not be the starting point for every project. Academics should decide whether to dial up on-line systems from home or to seek professional guidance and referral from local librarians.

System Highlights

Dialog has devised Knowledge Index to increase its usage during evening hours, which benefits both the vendor and the user. There are two appealing factors in this arrangement. First, it can be convenient for the user to have the choice to go on-line after hours from any remote location; and second, it is less expensive than prime time rates. For example, the database Chemical Engineering Abstracts costs $98 per hour, plus up to $.80 per printed record when it is searched as a Dialog file. As a Knowledge Index file, it may be searched at the rate of $24 per hour.

A diverse array of bibliographic and full-text files is available through Knowledge Index. This "something for everyone" approach has its advantages — namely, that researchers can turn to the service for guidance in areas such as chemistry, law, social sciences, and engineering. It also means that Knowledge Index is an attractive, value-added information product. Since use of this service will typically be one part of a larger strategy, academics might benefit from a discussion about their overall needs with on-line searchers who are familiar with the resources of their discipline. Dialog files are highly structured, and they may be searched and manipulated in very specific ways. Consequently, many researchers may not be interested in learning every nuance of on-line technique. Knowledge Index subscribers should keep in contact with information specialists, so that their search strategies remain in line with product capabilities.

Conclusions

Although Knowledge Index cannot replace all library-based research, it is a useful and powerful tool for bibliographic surveys, and may be used from remote locations. With its optional menu and search modes, this service could provide an excellent forum for academics to learn more about commercial databases, and to improve their understanding of electronic information retrieval. The service is very attractive from a cost-effectiveness point of view. As a safeguard, subscribers should always discuss their needs with experienced on-line searchers.

For More Information

For more information about Knowledge Index Databases, contact Dialog Information Services at 3460 Hillview Avenue, Palo Alto, CA 94304, or call (800) 334-2564.

Knowledge Index Databases

Below are some databases available through Dialog Information Services.

- Agriculture
  - Agribusiness U.S.A.
  - Agricola
  - CAB Abstracts

- Biology, Biosciences, & Biotechnology
  - Current Biotechnology Abstracts
  - Food Science and Technology Abstracts
  - Life Sciences Collections

- Chemistry
  - Agrochemicals Handbook
  - Analytical Abstracts
  - Hellbron
  - Kirk- bombings Online
  - The Merck Index Online

- Computers and Electronics
  - Business Software Database
Databases

- Computer Database
- INSPEC
- Microcomputer Index
- Microcomputer Software Guide
- Micro Software Directory

Drugs
- Consumer Drug Information Fulltext
- Drug Information Fulltext
- International Pharmaceutical Abstracts

Economics
- Economic Literature Index

Education
- Academic Index
- A-V Online
- ERIC
- Gradline
- Peterson's College Database

Engineering
- Chemical Engineering Abstracts
- Compendex Plus
- Aerospace Database

Environment
- Pollution Abstracts

Government Publications
- GPO Publications Reference File
- NTIS
- Legal
- Legal Resources Index
- Magazines
- Canadian Business and Current Affairs
- Magazine Index

Medicine
- Aidsline
- CANCERLIT
- Clinical Abstracts
- Health Planning and Administration
- MEDLINE
- Nursing and Allied Health
- Smoking and Health
- Sport

News
- Current Digest of the Soviet Press
- Facts on File
- National Newspaper Index
- Newsearch
- UPI News
- USA Today Decisionline

Psychology
- Mental Health Abstracts
- Psychnfo

Reference
- Academic American Encyclopedia
- Consumer Reports
- Dissertation Abstracts Online
- Magill's Survey of Cinema
- Marquis Who's Who

Social Sciences and Humanities
- America: History and Life
- Art Literature International (ARL)
- Archival Bibliographies Modern
- The Bible
- Historical Abstracts
- Linguistics and Language Behavior Abstracts
- MLA Bibliography
- PAIS International
- Philosopher's Index
- Religion Index
- Sociological Abstracts

Manuscript Information Exchange Database Established

This edited announcement was posted in the Humanist Discussion Group (HUMANIST@BROWNVM), Vol. 5, No. 0323, Monday, 16 Sep 1991.

The Department of Archives and Manuscripts at Arizona State University and the Manuscript Society have announced the official opening of the Manuscript Society Information Exchange Database, listing manuscripts, documents and letters held by private individuals throughout the United States. For the first time, it is possible for researchers to have access to primary source materials held by private collectors.

Through an agreement between ASU Libraries and the Manuscript Society, an international association of manuscript collectors, the Department of Archives & Manuscripts will enter information about rare documents into a searchable database.

For a fee, researchers can request a search for materials relating to their interests. In addition, ASU is often able to supply photoduplication of original documents.

The database contains thousands of items, both national and international in scope. Many documents are authored by historical figures such as Edwin Booth, Queen Isabella I, Sam Houston, Davy Crockett, Brahms, Puccini, Catherine de Medici, Aldous Huxley, Florence Nightingale, Virginia Woolf and Mark Twain. Also, most U.S. presidents and their wives are represented. Searches can retrieve documents authored by an individual, written to an individual, or written about an
individual. In addition, subject searches are also available. For example, the American Revolution and Civil War are heavily represented. Nineteenth and 20th century authors, artists and musicians appear in abundance. Other subject matter includes: Polar Exploration; California Gold Rush; Indians of North America; Slavery; Colonial History; World War II; Western Americans; and more.

For additional information and search request forms, please contact:
Patricia A. Elter (leller@asuacad)
Assistant Archivist for Information Services
Archives and Manuscripts
Haysdon Library
Arizona State University
Tempe, AZ 85287-1006
Phone: 602/965-3145

Classroom Databases at UNT

By Cathy Hardy, Academic Database Administrator

Two mainframe databases are currently used in classroom environments here at UNT: Software AG’s ADABAS and IBM’s SQL/DS. Both are used by classes in the BCIS department in the College of Business. Both run on the HDS 8083; ADABAS runs under the MVS operating system, while SQL/DS uses CMS minidisks.

ADABAS (Adaptable Data Base) is a product of Software AG, a German company. Along with the database, NT also uses their 4GL product, Natural, their report facility, SuperNatural, their data dictionary, Predict, their TP Monitor product, Com-Plete, and their SQL product, ADABAS SQL. ADABAS has been used in the classroom since 1985.

SQL/DS (Structured Query Language/Data System) is a product of IBM. Along with the database, we also plan to use their QMF (Query Management Facility). SQL/DS was installed in June of this year as a test system and this is the first semester it will be used in the classroom at UNT.

One of the Computing Center’s Academic Computing and Technical Support areas’ goals is to have the databases used in the classroom available to the student seven days a week and, except for normal backup time, twenty-four hours a day. We realize that students (especially any type of computer major!) do their best work at 2 a.m.

Wide Area Information Servers on the Internet

by Billy Barron, VAX/Unix Systems Manager (BITNET: Billy@UNT/VAX)

The Wide Area Information Servers (WAIS) system is probably the most exciting thing to happen on the Internet in several years. These servers provide many databases of information that can be searched.

Some of the databases that are available:

- CIA World Factbook
- Internet Resources Guide
- Mailing List Archives
- NIH Guide to Grants and Programs
- Computer Algorithms
- Electronic Frontier Foundation Documents
- MIDI Documents
- The Bible
- Internet RFCs
- Biology Abstracts
- Wall Street Journal
- US Government Programs
- Poetry

The number of databases that are available is growing rapidly. Right now, the access to WAIS is rather limited from the UNT campus. Two interfaces are available on the Solbourne. The VAX client has just been released and installed on the VAX. A Macintosh client is available for those users who have the MacTCP product from Apple. Two different groups are working on clients for MS-DOS machines.

X Window users with a Solbourne account can use the xwaisq command to access the WAIS databases available over the network. When xwaisq starts, the first step is to click on the “Add Source” button. This will bring up a menu of the available databases. Click on the database desired. Move the cursor to the “Tell me about” dialog box and enter an English language query. Then click on the “Search” button. At this point, the WAIS software will query the database over the Internet. A list of documents will appear in the scroll box near the bottom of the window. Select a document and click on the “View” button. Then another window will appear containing the document. At this point, you can read the document or save it to disk. Now if you go back to the xwaisq window, highlight a document, hit the “Add document” and then hit “Search” again, a technique known as relevance feedback is used to find similar documents. The xwaisq program has many other options that are available. The command line interface to WAIS on both the Solbourne and is the waissearch command. If you wish to use it, see the man page on waissearch for the Solbourne or type HELP WAISSEARCH on the VAX. A menu-driven ASCII based client is in the works and should be available soon.

Watch the news on the Solbourne and VAX for information about other WAIS clients on those systems becoming available. Also, watch Benchmarks for announcements about clients for other machines.
An Overview of Academic Computing Services

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVM1)

In last month's Benchmarks, you may have read about some reorganization which has occurred within the Computing Center. Some previously Academic Computing Services staff have been tapped to form the new division of Network and Microcomputer Services. In the wake of these changes, there has been some confusion about the scope and role of the Academic Computing Services division within the Computing Center.

This article is intended to provide an overview of the Academic Computing Services (ACS) organization and familiarize you with the various functional support areas within ACS. For additional information you can also refer to the documents Welcome to the University of North Texas Computing Center, for a description of hardware and operating systems available on the host systems, as well as Policies and Procedures for Academic Computing, for the operating policies related to the host systems. For a list of programming languages and applications available on the host systems, refer to Software: What We Have and What We Support. All are available at the Computing Center offices (Information Sciences Building, room 119). In addition to the descriptions below, you can refer to the accompanying "Academic Computing Services Organization Chart" on page 8 and "Academic Computing Services Roster" on page 7.

Academic Computing Services is the division of the University of North Texas Computing Center which exists to provide centralized computing support for instruction and research at UNT. Academic Computing Services provides access to host-based computing, wide area networking, and distributed computing technologies. We support a number of software products, including the principal statistical analysis packages in use by researchers and programming languages used for computing instruction. Towards these ends, we offer information in the form of locally written documentation, computing short courses, or personal consultations.

As you can tell from the organization chart, ACS contains five computing support areas as well as an administrative services component which also serves other areas of the Computing Center. While each staff member has a specialization within their particular area, you will find that often their expertise also includes topics from one or more of the other areas of ACS. This broad base of support helps maintain the greatest possible access to academic computing information as it pertains to the UNT environment. With this in mind, each area and the services it provides are described below. To fully understand the resources available from ACS, you must also examine the accompanying roster, and notice the special set of skills and background experience that each ACS staff member contributes to the organization.

VAX and UNIX Systems Support Services (4.5 FTE)

VAX/UNIX Systems manager, Billy Barron, and his staff are responsible for providing management, operations, and user services for the VAX 6310 minicomputer running the VMS operating system, as well as the Solbourne 5F/902 UNIX super-minicomputer. This group also provides consultation on Sun or Solbourne workstation configuration and management, and some general support for the utilization of other UNIX workstations. Programming expertise in this group includes C, FORTRAN, LISP, Pascal, and Perl. In addition to supporting the frequently used programming languages and applications on the VAX and Solbourne systems, this group has primary responsibility for consulting on UNT's connection to the worldwide Internet TCP/IP network. They also provide installation assistance and consultation on two microcomputer TCP/IP packages: NCSA Telnet for the Macintosh, and CUTCP for IBM PCs and compatibles running MS-DOS.

ACS General Access Lab (4.5 FTE)

The ACS General Access Lab, located in Room 110 of the Information Sciences Building (inside the Science and Technology Library), is part of the campus-wide system of General Access Labs available to all UNT students. Lab manager Eric Lipscomb has seven part-time student-employee monitors who are available to staff the lab during open hours which parallel those of the Science and Technology Library. The lab is supported by the ACS Novell file server, which provides a number of software packages and printing options to both the eight Macintosh computers and the fifteen PC-compatible machines available for student use. In addition to the standard word processing and productivity software packages available in many of the General Access Labs, the ACS General Access Lab offers a number of specialized applications: SAS-PC, SPSS-PC, and SPSS-Macintosh for statistical analysis; Grammatik and Right Writer for grammar and writing style analysis; DrawPerfect for the PC and SuperPaint for the Macintosh for microcomputer graphics. ACS lab monitors are also available to give basic assistance to those who are novices in accessing the Academic Computing host systems.

Academic Mainframe User Services (3.5 FTE)

The HDS 8083 IBM-compatible mainframe available for academic use runs VM/XA and CMS as the primary oper-
ating system with MUSIC/SP and MVS/SP running as guest systems under VM/ESA. Operations and systems programming support for the academic mainframe is provided by the Mainframe Technical Services division of the Computing Center. The Academic Mainframe User Services group provides the information and consultation support for those using applications and programming languages on any of the three operating systems. Programming expertise in this group includes COBOL, FORTRAN, MVS JCL, PL/I, REXX, SAS and SPSS. Additionally, this group provides support for the mainframe database systems used for instruction in the College of Business. They also have the primary responsibility for consultation on the BITNET wide area network and its cooperative networks worldwide.

Research and Statistical Programming Support Services (2 FTE)

Panu Sittiwong and two part-time consultants provide consultation support for those wishing to use the various host systems and supported microcomputer platforms to perform statistical analysis on research data. Statistical analysis software supported by this group includes SAS, SPSS, BMDP, LISREL, EQS and Minitab. They also provide installation assistance for PC versions of SAS and SPSS and the Macintosh version of SPSS. In addition to the software support, this group maintains a number of machine-readable data archives, including the Inter-University Consortium for Political and Social Research (ICPSR) data archives, Standard and Poor’s COMPUSTAT, and the Center for Research in Security Prices’ CRSP data sets.

Documentation Services (1.5 FTE)

Documentation Services manager Claudia Lynch also serves as Editor of the Computing Center newsletter.

Benchmarks. Along with her assistant, she oversees the production and distribution of Academic Computing documentation as well as coordinating Academic Computing short courses on a number of topics related to host system, wide area network, and computer applications use. Claudia is also available to provide consultation on desktop publishing using Ventura Publisher.

Administrative Services (2 FTE)

Administrative Assistant Pam Summers, plays a key role for those seeking access to the Academic Computing host systems. Pam and the two part-time receptionists receive and process user-ID and password verification requests. They also oversee the distribution of Academic Computing Services documentation and process registration requests for ACS short courses. When additional information is needed, they will refer you to the appropriate ACS consultant.

The Network and Microcomputer Services Division

Network and Microcomputer Services is a division of the Computing Center separate from Academic Computing Services. While serving all aspects of the University, they offer a number of services in support of faculty and students. This includes the distribution of site-licensed communications software to faculty, staff, and students and the resale of volume-purchased WordPerfect software products to faculty and to academic departments and labs. They also offer problem resolution assistance on supported software and hardware items. Network and Microcomputer Services is located in ISB 224 and can be reached at telephone extension 2316.

Academic Computing Services Roster

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVM1)

Philip Baczewski, Acting Director of Academic Computing Services

Degrees:
- Doctor of Musical Arts, University of North Texas, 1989
- Master of Music, North Texas State University, 1979
- Bachelor of Music, North Texas State University, 1978

Research/Publication & Artistic Areas:
- Computer-Assisted Composition
- Digital Sound Synthesis
- Computer-Assisted Instruction in Music Theory
- Music Perception
- Wide Area Network Services

Computing Experience:
- Computer Operations
- Academic Mainframe User Services
- Microcomputer Lab Management
- Wide Area Network Information Representative

VAX and UNIX Systems Support Services

Billy Barron, VAX/UNIX Systems Manager

Degrees:
- Master of Science, Computer Sciences, University of North Texas, 1988
- Bachelor of Science, Computer Sciences, North Texas State University, 1986

Publication Areas:
- Internet Access to Library On-line Catalogs
- Wide Area Network Services
Areas of Expertise:
- VAX/UNIX Operations and User Services
- Wide Area Networking
- C, FORTRAN, and Pascal Programming

Marc St.-Gil, UNIX Systems Programmer

Degrees:
- Bachelor of Science, Computer Sciences, University of North Texas, 1988

Areas of Expertise:
- UNIX Systems Administration
- UNIX Systems Programming
- UNIX Workstation Management
- X Window System Configuration
- C, LISP, and Pascal Programming

ACS General Access Lab

Eric Lipscomb, ACS General Access Lab Manager

Degrees:
- Bachelor of Science candidate, Computer Sciences, University of North Texas (133 hours of undergraduate credit completed with work done in Physics/Astronomy and Music Composition)

Related Experience:
- UNT Astronomy Lab Instructor
- UNT Mini-course Instructor (MS-DOS, batch file programming, and PC networking)

Areas of Expertise:
- General Access Lab Management
- Novell Network File Server Management
- Microcomputer Communications Software
- C and Pascal Programming

Academic Mainframe User Services

Cathy Hardy, Academic Database Administrator

Degrees:
- Master of Business Administration, Marketing, University of North Texas, 1990

- Bachelor of Business Administration, Business Computer Information Systems, North Texas State University, 1987

Areas of Expertise:
- VM/CMS, MVS/SP, and MUSIC/SP
- SQL/DS Database Administration
- ADABAS Database Administration
- COBOL and JCL Programming

George Morrow, Academic Mainframe Programmer/Analyst

Degrees:
- Master of Science, Mathematics, North Texas State University, 1975
- Bachelor of Arts, Mathematics, Texas Christian University, 1961

Areas of Expertise:
- VM/CMS, MVS/SP, and MUSIC/SP
- Academic MVS Disk Space Management
- NCS Scanner Consulting
- Academic MVS Tape Operations
- Statistical Consulting
- FORTRAN, JCL, and SPSS Programming

Academic Computing Services Organization Chart
Research and Statistical Programming Support Services

Pana Sittiwong, Research and Statistical Programming Support Services Manager

Degrees:
- Doctor of Philosophy candidate, Political Science, University of North Texas
- Master of Arts, Political Science, North Texas State University, 1985
- Bachelor of Arts, Political Science, Chiang Mai University, Chiang Mai, Thailand, 1978

Research/Publication Areas:
- Judicial Behavior and Politics
- Political Development and Institutionalization in Developing Countries
- Statistical Computing in Social Sciences.

Areas of Expertise:
- Research Design and Statistical Analysis
- VM/CMS, MVS/SP, and MUSIC/SP
- SAS-PC, SPSS-PC, SPSS-Macintosh
- RMDP, EQS, JCL, LISREL, EXX, SAS, and SPSS Programming

Phanit Laosirirat, Statistical Programming Consultant

Degrees:
- Doctor of Philosophy student, Political Science, University of North Texas
- Master of Arts, Political Science, Tarleton State University, 1984
- Bachelor of Arts, Political Science, Thammasat University, Bangkok, Thailand, 1982

Areas of Expertise:
- Research Design and Statistical Analysis
- VM/CMS, MVS/SP, and MUSIC/SP
- SAS-PC, SPSS-PC
- JCL, SAS, and SPSS Programming

James Yarbrough, Statistical Programming Consultant

Degrees:
- Doctor of Philosophy student, Sociology, University of North Texas
- Master of Business Administration, Finance, University of North Texas, 1989
- Bachelor of Science in Education, Mathematics and Physics, North Texas State University, 1983

Areas of Expertise:
- Research Design and Statistical Analysis
- VM/CMS, MVS/SP, and MUSIC/SP
- SAS-PC, SPSS-PC
- JCL, SAS, and SPSS Programming

Documentation Services

Claudia Lynch, Documentation Services Manager

Degrees:
- Master of Arts, Sociology, Texas Woman's University, 1979
- Bachelor of Arts, Psychology and Sociology, Texas A&M University, 1975

Research/Publication Areas:
- End-User Computing
- Statistical Computing in the Social Sciences
- Women's Studies

Areas of Expertise:
- Benchmarks Editor
- Desktop Publishing
- Xerox Ventura Publisher
- Research Design and Statistical Analysis
- JCL, SAS, and SPSS Programming

Administrative Services

Pam Summers, Administrative Assistant

Degrees:
- Bachelor of Science, Secretarial Administration, Texas Woman's University, 1978

Areas of Expertise:
- Office Management
- User-ID Generation

Other Academic Computing Staff include seven part-time General Access Lab monitors, four part-time VAX/UNIX system operators, two part-time receptionists, and three part-time documentation assistants (see the article below for more information).

ACS Staff Report

By Claudia Lynch, Benchmarks Editor
(BITNET: AS04@UNTYVM1)

Academic Computing Services has hired two part-time employees to help meet the growing demands in documentation production.

- Cynthia Koepf is the new Documentation Services Assistant and Assistant Editor of Benchmarks. She is a returning student, working on her B.S. degree in Library and Information Science. A native of Chicago, Cynthia worked as a Proofreader for Practitioners Publishing Company in Ft. Worth from May 1988 - August 1991.

- Paul Burgdorf is the new UNIX Documentation Assistant. A 1988 graduate of Lewisville High School, Paul has a Bachelor of Arts degree in English from NTSU (1987). He is currently working on an M.A. in Technical Writing with a minor in B.C.I.S.

Billy Barron, the VAX/UNIX System Manager, has been making quite a name for himself in library circles lately. We have just been informed that his widely distributed document “Accessing On-line Bibliographic Databases” has been made available at the Lenin State Library (Moscow) and the Library of the Academy of Sciences USSR (Leningrad). Billy says he has been getting some interesting Soviet Internet mail.
The Computing Center is offering the following short courses for the remainder of the fall 1991 semester. Please pre-register to attend (a registration form can be found at the end of this issue). A maximum of 10 people will be admitted to each of the courses held in ISB 110. A maximum of 8 people will be admitted to each of the courses held in ISB 123.

PLEASE NOTE: Faculty and students have first priority to register for these classes. All people registering for hands-on (ISB 110) HDS, VAX and/or UNIX courses should have current USER-IDs. Applications for USER-IDs are available in the Computing Center main office (ISB 119).

HDS, VAX, AND UNIX COURSES

1. Introduction to MUSIC/SP: Introductory sessions on MUSIC/SP will be held in the Science Library (ISB 110) on a monthly basis beginning the first part of September. NO PRE-REGISTRATION IS REQUIRED FOR THESE COURSES. Consult the ISB 110 Lab (365-3048) for a schedule of classes and/or to request a class on a specific day. All courses will be taught by ISB 110 Lab staff.

2. Introduction to IBM, Job Control Language (JCL) — A two-hour session to be held in the Academic Computing Conference Room (ISB 123):
   • Wednesday, November 20: 2:45 p.m. Instructor: George Morrow

3. Introduction to CMS — Two two-hour sessions to be held in the Science Library (ISB 110) Additional courses may be scheduled through the ISB 110 Lab, just as with the MUSIC/SP courses:
   • Wednesday, October 2: 10:00 a.m.-Noon Instructor: George Morrow
   • Tuesday, November 5: 3:00-5:00 p.m. Instructor: Cathy Hardy

4. Introduction to UNIX — A two-hour session to be held in the Science Library (ISB 110):
   • Tuesday, October 15: 3:00-5:00 p.m. Instructor: Marc St.-Gil

5. Introduction to vi — A one-hour session to be held in the Science Library (ISB 110):
   • Thursday, October 17: 4:00-5:00 p.m. Instructor: Marc St.-Gil

STATISTICAL PACKAGE COURSES

1. Introduction to SAS on UNIX — A one-hour session to be held in the Science Library (ISB 110):
   • Tuesday, November 19:
     4:00-5:00 p.m.
     Instructor: Punn Sitiwong

WIDE AREA NETWORK COURSES

1. Introduction to BITNET — Prior knowledge of at least one of the following interactive operating systems is required: CMS, MUSIC, VAX/VMS. A two-hour session to be held in the Computing Center Conference Room (ISB 123):
   • Thursday, October 24:
     3:00-5:00 p.m.
     Instructor: Philip Baczewski

2. Introduction to the Internet — Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, UNIX, MS-DOS, MAC. A one and a half-hour session to be held in the Computing Center Conference Room (ISB 123):
   • Tuesday, November 12:
     3:30-5:00 p.m.
     Instructor: Billy Barron

3. Introduction to USENET — Prior knowledge of at least one of the following interactive operating systems is required: VAX/VMS, UNIX, MS-DOS, MAC. A one-hour session to be held in the Computing Center Conference Room (ISB 123):
   • Monday, November 18:
     4:00-5:00 p.m.
     Instructor: Staff

4. Introduction to CUTCp/Telnet — Prior knowledge of DOS and the Internet is required. A two-hour session to be held in the Computing
Center Conference Room (ISB 123):
- Thursday, November 14:
  3:00-5:00 p.m.
  Instructor: Marc St.-Gil

MICROCOMPUTER COURSES

1. Introduction to Microcomputer Labs — Courses may be scheduled through the ISB 110 Lab just as with the MUSIC/SP and CMS courses.

2. Introduction to WordPerfect 5.1 for Students — Prior knowledge of basic DOS commands required. Bring one 5 1/4" low density formatted diskette. If you are comfortable with WP 5.0 do not take this class. A three-hour session to be held in the Science Library (ISB 110):
   - Tuesday, October 29:
     2:00-5:00 p.m.
   Instructor: Sandy Franklin

3. Introduction to Procomm Plus — A one-hour session to be held in the Academic Computing Conference Room (ISB 123):
   - Monday, November 4:
     2:00-3:00 p.m.
   Instructor: Eric Lipscomb

1. Introduction to DOS for Students — A two-hour session to be held in the Science Library (ISB 110):
   - Thursday, November 7: 9:30-11:30 a.m.
   Instructor: Eric Lipscomb

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**Information Resources Council News**

Minutes provided by Sue Harrison, IRC Recording Secretary

**Information Resources Council Members**

- Philip Baczewski, Computing Center (ex-officio)
- Cengiz Capan, College of Business
- Stephen Farish, College of Music
- Frank Forney, TCOM - Academic Computing
- Don Grose, UNT Libraries
- Ray Hoggard, Computing Center (ex-officio)
- Tom Newell (ex-officio), Telecommunications
- Sue Pierce, School of Community Services
- John Todd, Political Science
- Sue Harrison, Computing Center (Recording Secretary)
- Dave Barker, TCOM - Physiology
- Carolyn Cunningham, Financial Aid
- Paul Fisher, Computer Sciences
- Chuck Fuller, Business Services
- Richard Harris, Computing Center (ex-officio)
- Steve Miller, Personnel
- Don Palermo, Admissions
- Paul Schlieve, Computer Education & Cognitive Systems
- Ray Vondran, Library and Information Science

**The Information Resources Council** met on Tuesday, July 16, 1991 and conducted items of business which are briefly summarized here:

Sue Pierce reported that several changes had been made in the Computing and Data Communication Resource Acquisitions Policy to reflect changes in State Department of Information Resources (DIR) rules. A motion passed approving the recommended Computing and Data Communication Resource Acquisitions Policy with the recommended changes.

Richard Harris noted that he has been named Information Resources Manager for the University of North Texas and is to be responsible for reviewing all planned computer-related acquisitions and including them in the annual operating plans submitted to the Department of Information Resources. Each state agency, including all universities, must have such a designee.

There was discussion on the subject of the Supported Computing Items List (SCIL) and procedures for adding and deleting items during which concern was expressed over the lack of input from users before decisions were made for adding and deleting items. Chairman Vondran suggested that any items being suggested for inclusion or deletion from the SCIL be brought before the IRC on a monthly basis and if there are no objections voiced, the changes can be made immediately. Every six months a major review can be done in order to drop or add items officially.

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**Recycling Efforts Pay Off**

Since beginning our recycling program last year, we have saved more than:
- 1,292 trees from being cut down.
- 51,870 gallons of oil.
- 790,476 kilowatts of energy.
- 251 cubic yards of landfill space.

Keep up the good work!
Richard Harris recommended that a standing committee be named to deal with the review process as well as with establishment of other de facto standards for computing and networking; a motion was passed to establish a de facto standards committee. Members named to this committee are: Sue Pierce (Chair), Don Groce, Carolyn Cunningham, Philip Baczewski, Jim Curry and Bill Buntain.

Steve Miller stated that his committee had made one change to the draft of the Information Security Policy which had been previously submitted to the IRC, which is to allow Richard Harris to name multiple designees to handle the responsibilities of security coordination. Discussion followed during which concern was expressed as to how the security policy can be implemented. Consensus was that a full-time position is needed and that department heads will ultimately be responsible for making sure the policy is followed, and that departments will have to be educated regarding this policy and its proper implementation.

A motion was passed to accept the Security Policy with the noted changes.

Cengiz Capan presented the report of his committee on General Access Computing Lab Management stating that the goal of this effort was to standardize the general access laboratories across campus. He noted that several new staff positions have been created to support the labs and provide college level distributed computing support. In the discussion that followed, Stephen Farish announced that the College of Music is in the process of setting up a general access lab. It was noted that Capan's report did not include 24-hour access to the labs and it was agreed that the Willis Library lab should have 24-hour access beginning in the fall semester. It was agreed that since the lab fees have been increased, laser printing should be provided free of charge to students using the labs. Making this a reality will depend upon the allocation of funds made in the fall semester. Capan reported that there are approximately 340 computers available in labs which are ready to open up for operation at the beginning of the fall 1991 semester. A motion to accept this working report from the General Access Computing Lab Management committee was passed.

Paul Schlieve, as Chair of the Provost's Electronic Mail Task Force, distributed a report from that committee recommending a new staff position to provide analysis of electronic mail solutions, to maintain the current microcomputer mail system, expand the existing system, and coordinate efforts of host based mail systems to allow users transparent access to other electronic mail users. Schlieve asked for concurrence from the IRC prior to submitting the recommendation to the Provost. After some discussion, a motion passed to accept and endorse this report.

The IRC will continue to meet on the third Tuesday of every month during the next academic year. Dr. Vondran announced that he has been re-appointed as Chair.

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**1991 CRSP Datasets Replaced**

By Panu Sittiwong, Research and Statistical Programming Support Services Manager

The 1991 Daily Returns and NASDAQ data from CRSP are here and are now available on academic MVS disk storage. Included are data up to December 31, 1990.

Since the new data sets have the same format as the 1990 data, you don’t need to make any change to your program. The only change is the DD statements which are pointed to the Calendar file and the data file. The DD for the new data sets will be as follows.

**Daily Returns File**

```
//GO.FT19F001 DD DSN=USER.A000.DRET91.CALENDA,DISP=SHR
//GO.FT11F001 DD DSN=USER.A000.DRET91.DATA,DISP=SHR
```

**NASDAQ File**

```
//GO.FT19F001 DD DSN=USER.A000.NASDAQ91.CALENDA,DISP=SHR
//GO.FT11F001 DD DSN=USER.A000.NASDAQ91.DATA,DISP=SHR
```

If you have any problem accessing these data sets, please contact Panu Sittiwong at 565-2324.

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**Alternative NETLIB Access**

By Claudia Lynch, Benchmarks Editor (BITNET: AS04@UNIV1M1)

NETLIB, an electronic mail system for distributing a wide range of public domain mathematical software can now be accessed via FTP. To do this, FTP to research.att.com and use netlib as your User-ID rather than anonymous.

More information on using FTP can be obtained from the Academic Computing Services documents *The Internet* and *Using CUTCP Telnet/FTP* (available in ISB119).

More information on NETLIB can be obtained by typing HELP NETLIB on the VAX or man netlib on the Solbourne. An article, "NETLIB Public Domain Mathematical Software," appeared in the November/December 1990 issue of *Benchmarks* (pp. 17-19).
Archie: A New Way To Get Information About Anonymous FTP Sites

By Billy Barron, VAX/UNIX Systems Manager (Internet: bill@unt.edu)

Originally, information about the anonymous FTP sites on the Internet was spread by word of mouth. Obviously, this was inadequate. About two years ago, Jon Granrose from New Jersey started compiling a list of these sites. His list has been very useful and extremely popular. Finally, six months ago some people at McGill University decided what was needed was a frequently updated online database of this information that people across the Internet could access.

The original access to Archie was to use telnet, log in, and then use Archie. This was somewhat inconvenient. Over time, Archie has evolved into a clientserver relationship. At the current time, there are Archie servers exist: one each in Canada, Australia, and Finland. The Canada server supports all of North America. The plans are to bring up some Archie servers in the U.S. to offload users from the one in Canada. The Finland server supports Europe.

On the UNT campus, we have an Archie client program available on the Solbourne right now. To use the Solbourne’s client, just type archie search-string. For example, if you would like to see a list of FTP sites containing information on the world, then you would type archie world. The client program has many interesting features. See man archie for more information.

A VMS client program is not yet available, so VAX users will still need to use the TELNET method of using Archie. A VMS client program will be released in the near future. We plan to install it when it becomes available and the user interface will be similar to the Solbourne client.

Please see Archie on page 14.

The Network Connection

By Billy Barron, VAX/UNIX Systems Manager (Internet: bill@unt.edu)

This column is a continuing feature of Benchmarks intended to present news and information on various aspects of wide area networks.

Internet Library Catalogs

Over the last several years, library online catalog systems have started becoming available over the Internet. At the latest count, well over 200 libraries are accessible over the Internet. The growth rate lately has been more than 70 new systems a year.

What are the uses of these Catalogs for UNT users?

- You have the ability to search other libraries for books that you wish to acquire through InterLibrary Loan (ILL). Also, this access allows you to check the status of a book before submitting an ILL request.
- You have the ability to check the holdings of another library before going to research there. For example, you could check the UTD library to see if they have what you need before making the trip down there.
- The library systems allow researchers to work at almost any time of the day instead of just the times when the library is open.
- You can check the holdings of libraries at colleagues’ universities while working on collaborative projects.

Where can I access the Internet Libraries at UNT?

The options currently available are:
- VAX — Apply for an account in ISB 119. Some of the libraries are accessible through a program called LIBTEL. Just type libtel to run it.
- Solbourne — Apply for an account in ISB 119. Some of the libraries are accessible through a program called LIBTEL. Just type libtel to run it.
- CMS — Unfortunately, there is a problem with accessing some of the Internet Library Systems from CMS. Due to the block handling of terminals connected to the mainframe, CMS users can not access the library systems which require VT100 terminal emulation. The TELNET program on most machines is actually a TN3270 implementation and there is not a TELNET equivalent. Apply for an account in ISB 119.
- Departmental UNIX Machines — see the individual department for an account.
- IBM PCs — PCs running CUTCP on the campus IP backbone. General access sites include the ISB 110, Chilton 255, and GAB 550 labs.
- Macintoshes — Macintoshes with NCSA Telnet and an Ethernet card on the campus IP backbone can access Internet libraries. ISB 110 is a
general access site. Note: The campus IP backbone includes parts of the GAB, ISB, Matthews, Chilton, SRB, Music, and Physics at the time of this writing.

How can I find out more about the Internet Libraries?

A handout containing the libraries in the North Texas region is available in ISB 119 free of charge. A more detailed document “UNT’s Accessing On-line Bibliographic Databases” is available in the ISB 110, Willis, GAB 550, and will soon be in the other general access labs. The document is also available for anonymous FTP on vaxb.acs.unt.edu in the library directory.

The information is also available in hypertext format. The MS-DOS hypertext program is called HYTELNET. The MS-Windows program is CATALIST. Both are available for anonymous FTP on vaxb.acs.unt.edu in the library directory.

Archie continued from page 13.

Unfortunately, for our Mac and PC users, no client program is available and I have not heard of any work being done on one either. Mac and PC users will need to use the TELNET method or log into the Solbourne to use its client program.

To use the TELNET interface of Archie, type telnet quickbooks.mcgill.ca. Then login as archie. At the Archie prompt, type prog.search-string. Again to search for information on the world, type prog world. You can use <CTRL>>< to interrupt the search at any point and get the output up to that point.

LIST of the Month

Each month we will highlight one BITNET, Internet, or USENET Special Interest Group (SIG) mailing list. This month’s list...

PACS-L@UHUPVM1

Coordinator: Charles Bailey (LIB3@UHUPVM1)

The Public Access Computer Systems List covers all aspects of patron computer use in libraries. Common topics include Internet Library access, CD-ROM, and user interfaces for library systems.

To subscribe, send the following command to either LISTSERV@UHUPVM1 or LISTSERV@UHUPVM1.UHLEU:

SUB PACS-L your name

This group is also available on USENET in the newsgroup bit.listserv.pacs-l.

TCP/IP for VM

By Dr. Philip Baczewski, Acting Director of Academic Computing (BITNET: AC12@UNTVM1)

As mentioned in last month’s edition of Benchmarks, IBM’s TCP/IP networking package for VM/XA has been installed on the academic HDS 8083 mainframe. This software brings a number of networking and communications options to CMS users, including high-speed file-transfer and terminal-emulation capabilities. The following is a brief overview of some of the functions supported by this new software.

TCP/IP on VM will both accept high-speed terminal connections as well as allow you to establish communication with remote systems once you are logged onto your CMS User-ID. Likewise, you can establish a high-speed file transfer connection to your CMS User-ID from a remote system, or to a remote system once you are logged onto CMS. For those who are not already familiar with TCP/IP on other systems, the program used for terminal communications is called TELNET, and the one which supports file transfer is called FTP.

As a result of the installation of TCP/IP, CMS users now have an Internet address as well as a BITNET address. The Internet node name for the VM/CMS system is vm.acs.unt.edu. The equivalent numeric IP address is 129.120.1.3. If you wish to share your Internet address with others, use the format:<CMS User-ID>@vm.acs.unt.edu.
Using TELNET to Connect to CMS

Those using a computer system which supports the TN3270 program have the capability to establish high-speed terminal connections to VM in order to log onto CMS or MUSIC. This program is available to Faculty and Staff on campus who have PCs which are attached to the campus-wide ethernet network, as well as in some of the General Access microcomputer labs.1 TN3270 is also installed on the VAX and Solbourne systems, however, for performance reasons the Computing Center highly recommends that if you are using the Sytek command, CALL DEC, to access the VAX, that you continue to use CALL 3270 from the # prompt for extended access to the mainframe operating systems.

- To connect to the VM system, type:

  tn3270 vm.acs.unt.edu  
  or  
  tn3270 129.120.1.3

If a connection can be successfully made, the UNT VM login screen will appear. Different TN3270 programs will implement the special 3270 terminal keystrokes differently. On the PC, for example, <F1> through <F12> work as PF1 through PF12, however, on the VAX, PF1 through PF12 are accomplished by pressing <ESC><F1> through <ESC><F12>. The 3270 <Clear> key is often implemented as <CTRL><Z>, however, some TN3270 programs may support <CTRL><C> for <Clear>. Consult the documentation for whatever TN3270 program you are using for more information on how the 3270 keys are mapped for that program.

Using TELNET to Connect from CMS to Remote Systems

When you are logged onto CMS, a TELNET program is available to connect to remote systems accessible via the Internet. It is important to note, however, that the TELNET program on CMS uses the TN3270 protocol by default. This makes it very easy to connect to other IBM mainframes, however, it limits access to some other systems. For example, any systems which utilize VT100 terminal escape sequences to format screen output may not be usable via TELNET on CMS. To use the TELNET or FTP commands on CMS, you must first type TCPIP at the READY; prompt.

- To connect to a remote IBM software system that supports Internet access type: telnet <address> where <address> is the Internet address of the remote system.
- For non IBM systems you can TELNET using the LINEMODE (l) option. The command would be entered as follows: telnet <address> (l)

As mentioned above, this still may not yield satisfactory communication with some systems on the Internet.

Using FTP from a Remote System to Transfer CMS Files

Those using a system which supports an FTP program will be able to connect to their CMS user-ID and accomplish high-speed file transfers to and from CMS. The command to invoke FTP is:

ftp vm.acs.unt.edu or
ftp 129.120.1.3

Once a connection has been successfully made, you will be prompted with:

Username: <User-ID>

You should type your User-ID. The system will respond with:

331 Send password please.
Password: <password>
You should then type your CMS logon password. The next prompt is:

332-ID00 logged in; no working directory defined
332 to access ID00 191, send 'ACCOUNT minidisk-password'
Account: <mini-disk password>

At this point you need to type your appropriate CMS minidisk password. Each minidisk has a read password for read-only access and a write password for read/write access. For most people, both will be the same as the original six-digit password that was assigned when the User-ID was created.2 Note that if you logged off of CMS using the GONE or DISC commands, you will only be able to connect in read-only mode and will need to enter your read password. You must be totally logged off of your CMS user-ID to connect with FTP in read/write mode. If you have entered a correct password, the system will respond with a message similar to the following:

230 Working directory is ID00 191 (ReadOnly)

At this point you may perform a number of FTP commands. Some of the commands you may use are:

- dir — to see a directory of the CMS minidisk.
- get <filename.filetype> — to transfer a file from CMS.
- put <filename.filetype> — to transfer a file to CMS (read/write mode only).
- mget *,* — to transfer multiple files from CMS, where * acts as a wildcard character. It may also follow a string to allow you to transfer several files with similar names.

1 Faculty and Staff who wish to use TN3270 and FTP may contact Academic Computing Services staff members Marc St. Gil or Billy Barron (ISS 119, ext. 2324) to request that CUTCIP be installed on their PC or departmental file server.

2 If you are unsure of what your minidisk passwords are, log onto your CMS User-ID and enter the command, DIRM MDPW.
Changes in Employment Affect Your User-ID

By Don Swatoski, Database/Central Programming Support Team Leader

Over the past year, work has been done to tighten up the relationship between the University’s employment records and the User-ID system. As a result of the changes made, changes to an individual’s employment status will make a change to the person’s User-ID.

- **Terminations:** When the Personnel Office processes a termination request from a department, if that person has one or more User-IDs, then those User-IDs are “turned-off” as a result of the termination. If the office involved wants to reuse that User-ID, then an update form must be submitted to change the employee number related to the User-ID, i.e., reassign the User-ID to another employee of the department. If this action takes place prior to the personnel termination record, then the User-ID will not be affected. However, if the User-ID has been turned-off, then the office will need to submit a User-ID change request indicating a renewal of the User-ID at the same time as the change of employee number.

- **Transfers:** When an employee changes departments due to either a lateral transfer or a promotion, that person’s User-ID has its access levels reduced to ‘minimum level.’ This is primarily a concern on the administrative system. As part of the orientation for the new department, the user needs to have his/her access level requirements reviewed by the account authority, and submit a User-ID change request to get the necessary access levels established.

- **Promotions:** When an employee is promoted, or otherwise changes jobs within the same department, the User-ID access levels are left unchanged. However, the User-ID is set to expire within 10 days of the personnel notice. To avoid having the User-ID turned-off, the account authority for the department must review the individual’s access requirements and submit a User-ID change form with the correct access levels noted. Upon receipt of the change request, Computing Center personnel will update the affected User-ID as indicated on the form. If no update is received, then the User-ID will expire and access to all systems will be denied.

- **Non-pay:** Information is forwarded from the payroll system identifying all employees who have received pay during the preceding two pay periods (as of September 1991). This information is checked against the User-ID system. If there are any users on the User-ID system who did not receive pay during the previous two periods, then those persons User-IDs will be expired. Once the User-ID has been expired, a renewal request will need to be submitted to regain access to the affected systems. Faculty members who do not teach during either summer session, but who are returning in the next fall semester will not normally be affected by this audit.

- **Exceptions:** User-IDs that begin with the letters I through R will not be affected by these changes. These types of User-IDs are tied to semester and academic year processes. As such, they are already undergoing periodic review and re-authorization.

Timely submission of change requests should reduce the frustration of employees as they try to access the various computer systems controlled by the User-ID system.
New Electronic Journal Debuts on the Internet

This was taken from an announcement that was posted on the Campus-Wide Information Systems newsgroup (CWS-L@WUYMD) on Wed, 18 Sep 91.

MeckJournal was founded by Meckler Publishing Company to provide timely and accurate information about emerging technologies. As a book, journal and newsletter publisher, and conference organizer, Meckler Publishing Company is dedicated to serving librarians, information end-users and specialists, and the information industry as a whole on all aspects of computer-based technology. Toward this end, the company has committed its resources to becoming the leading provider of print and electronic information about electronic networking throughout the world.

An electronic publishing division has been established, and through Meckler's link with Princeton University's JvNCCNet it offers a service called MC(2). MeckJournal is the latest service to be offered to Internet/BITNET users. Issues will include an editorial, late breaking news, and either a forthcoming feature article from a Meckler journal, a chapter from a forthcoming technology book, or a contribution from a guest editor.

To subscribe to MeckJournal, send a message with the following information in the body of the text: Subscribe MeckJournal and your BITNET or Internet address. Send the message to Meckler@fitter.jvnc.net. You can also subscribe by telnetting to nisc.jvnc.net and typing nicol (lower-case at the login prompt). No password is needed. Select MC(2) from the menu.

BENCHMARKS FORUM

BENCHMARKS FORUM is intended to serve as a vehicle for answering questions that may be of general interest to the user community. If you have a question, please send electronic mail to the BENCHMARKS editor (BITNET: AS04@UNTVM) or write it down and drop it by the Computing Center. We will try to answer it in the next issue.

Question: I want to compose messages on the PC in my office (we are on a Novell network) and then transfer them to my VAX account and send them out on BITNET. What is the best way to do this?

Answer: The VAX is also a Netware file server and since you have a VAX account, you also have a Netware account on the VAX. Thus you can "map a drive" for this purpose. On the VAX, for example, you would need to type: MAP O:=NTVAXB/DUA2:FA00 where O is the name of the MS-DOS drive you wish to be your VAX account and FA00 is your User-ID. You will be prompted for a username at which time you should enter your User-ID. You will then be asked for a password, to which time you should enter your Netware VMS password.

Your Netware VMS password is independent of your "normal" VAX password. If you have never used your Netware VMS account, it should be the password on your original account slip, when you requested your account.

To download a BITNET message to your PC, when the message is on your screen, type EXTRACT filename, where filename is the name you decide to call your message file. When you return to MS-DOS, you can use the MAP command to access the files from DOS on the O drive (or whatever drive you selected).

To upload a WordPerfect document to send in a mail message, use <CTRL><F5> (Text In/Out) while you have the document in WordPerfect. Select the DOS TEXT, then SAVE options and give it a file name. Again, you need to MAP this drive. Then copy the file over to the O drive (or whatever drive you selected). Log into the VAX, run mail, and type SEND filename to send the document.
We have received the following "calls" and announcements from various organizations.

**Call for Papers**

- **1992 Conference on Computing for the Social Sciences — May 4-7, 1992. University of Michigan, Ann Arbor, MI.** The deadline for submitting abstracts to the third annual conference on Computing for the Social Sciences is December 1, 1991. This conference is sponsored by the Social Science Computing Association in cooperation with the Bureau of the Census and the Oak Ridge National Laboratory. The conference has "Gateways to the Future," with a focus on the revolutionary capabilities for the management and analysis of social, economic, political, and demographic data analysis of social, economic, political, and demographic data brought about by the technological changes of recent years. Five major tracks are planned for the program: Data acquisition, management, and distribution; Research strategies and analytic methods; Graphics and visualization; Infrastructure; and Networks. More information about the program can be obtained from Al Anderson, Program Chairman, University of Michigan. Phone: 313-998-7140. FAX: 313-998-7415. Internet: albert_f_anderson@um.cc.umich.edu

- **The Sixth International Workshop on Natural Language Generation — Castel Ivano, Trento, Italy April 5-7, 1992.** This workshop aims to bring together researchers in a rapidly consolidating field. Deadline for submissions of a 10 page paper is November 4, 1991. For more information, contact Robert Dale, Centre for Cognitive Science, University of Edinburgh, 2 Buccleuch Place, Edinburgh EH 8 9LW, Scotland. Phone: +44-31-650-4416. FAX: +44-31-662-4912. Internet: rds@cogsci.ed.ac.uk

- **The Journal of Aesthetics and Art Criticism** has sent out a call for papers for a special issue on "The Philosophy of Music." Deadline for submissions is September 1, 1992. For more information contact: Philip Alperson, Department of Philosophy, University of Louisville, Louisville, Kentucky 40292. BITNET: PAALP@ULKYVM

**Opportunity for Student Research**

- **The Department of Energy (DOE) Science and Engineering Research Semester (SERS) provides juniors and seniors with an opportunity to participate in research at one of six DOE laboratories during the academic year.** The laboratories include: Argonne, in Illinois; Brookhaven, in New York; Lawrence Berkeley, in California; Los Alamos, in New Mexico; Oak Ridge, in Tennessee, and Pacific Northwest, in Washington state. If you would like to find out more about SERS, call 202-488-2426 or write to Science and Engineering Research Semester, 901D Street, S.W., Suite 201A, Washington, D.C. 20024.

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**Project IDEALS**

**Promoting an International Dimension in Education via Active Learning and Simulation**

By David Crookall, Director, Project IDEALS (BITNET: CROOKALL@UA1VM)

This announcement was posted to the Humanist Discussion Group (HUMANIST@BROWNVM), Vol. 5, No. 0317, Thursday, 12 Sep 1991.

Project IDEALS is a computer-assisted learning environment based on multi-site, semester-long, socially-interactive simulations. Computer technologies allow distant teams to communicate, hold real-time teleconferences, and to obtain feedback on their performance and progress. Project IDEALS is firmly based on the principles of experiential learning; it encourages students to become fully involved, motivates them to work hard, and helps them take responsibility for their own learning.

**Objectives**

- To develop competence and confidence in communicating with people from other cultures, and so help create international friendships.
- To give students greater knowledge and understanding of international events and issues (e.g., global environmental problems) and to provide a context for interdisciplinary studies.
- To enhance professional skills in such areas as teamwork, decision making, problem solving, leadership and negotiation, and to develop computer literacy, clear writing and critical thinking.

**Structure**

The central component of Project IDEALS is a large-scale simulation assisted by computers and telecommunications.
Students take on the roles of high-level negotiators representing various countries at an international conference. The country teams are situated at different campuses (usually one team per campus) and communicate using computer networks and specialized simulation management software.

The ultimate goal of each simulation is for teams to negotiate an agreement related to some international situation—for example, to hammer out the text of a treaty governing the emissions of CFCs, the use of the ocean's resources, or the future of Antarctica. Scenarios may involve real or hypothetical countries.

In Project IDEALS, the experiential learning cycle is paramount, emphasizing the importance of regular and structured reflection on experience to convert it into learning, which in turn becomes the basis for further practical experience.

Computers and telecommunications

In order to participate, each site needs a minimum of one microcomputer (e.g., BBC, IBM compatible, Macintosh), a modem, a printer, a telecommunications package, and a simple word processor. Faculty and students do not need any special computer skills in order to participate. Each site will also need access to the Internet (NSFnet) telecommunications network.

The main simulation management software, called Polnet II, is situated at the University of Alabama. It allows messages to be sent to any number of other teams at other sites and for those teams to sign on at any time to retrieve those messages and to send their own. It also enables teams to participate in real-time teleconferences, in which several teams communicate in a synchronous, conversational mode. Finally, it collects feedback and research data.

Further information

For further information, please contact Catherine Schreiber-Jones, Assistant Director, or David Crookall, Director:

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Research Libraries Group Introduces Arabic-Script Cataloging

This was taken from an announcement that was posted to the Campus-Wide Information Systems newsgroup (CWIS-L@UWVM) on Mon, 23 Sep 91.

The Research Libraries (RLG) has added Arabic-script capability to RLIN (Research Libraries Information Network), thus enabling its users to enter, search, display, and retrieve records written in Arabic script.

Special RLIN Arabic enhancement features are:

- Ability to key in and read Arabic characters from right to left.
- Proper placement of vowel points and marks of pronunciation.
- Pan-Arabic character set.
- Cursive script and positional character forms.
- Lam-alif digraphs automatically provided.
- Use of conventional Arabic typography (naski).

More information about the Research Libraries Group and RLIN can be obtained from the RLIN Information Center (1-800-537-RLIN) BITNET: BL.RIC@RLG Internet: BL.RIC@RLG@STANFORD.EDU

New Options for the WordPerfect School Software Program

By Claudia Lynch, Benchmarks Editor

BITNET: AS94@UNTVM

WordPerfect Corporation has announced new options for the 1991 School Software Program. Beginning in August, schools, full-time teachers, and full-time college students may buy single packages of selected WPCorp Software at the discounted price of $315. Products qualifying for the discount are WordPerfect for DOS and Macintosh, and DrawPerfect for DOS.

The program is open to:

- Educational institutions (kindergarten through college).
- Full-time faculty and staff members (kindergarten through college).
- Full-time college students.

Only two places in the DFW area seem to be offering this type of discount. They are Micro Works in Fort Worth (817-921-9415) and Computerland in Arlington (817-353-7482).

More information about the School Software Program can be obtained by calling WordPerfect Corporation at 801-222-2300.

Computer Quote of the Month

You have to be careful not to get locked into Open Systems.

Attributed to a “Three Letter Company salescritter” on rec.humor. funny.
DOS 5.00: A First Look

By Eric Lipscomb, General Access Lab Manager (BITNET: LIPS@UNTVAX)

There has been quite a bit of media hype surrounding Microsoft's recent release of its well-known (but not necessarily well-liked) operating system. Some reviewers have nothing but good to say about it, some nothing but bad. This series of articles will look at the product DOS 5 itself, trying to avoid the hype and see what really works, what really doesn't, and why you may or may not want to use it.

DOS 5 is Microsoft's first major release of the operating system in two years. Most users agree that DOS 4.00 and 4.01 were a fiasco. DOS 4 offered some solutions that many DOS users were needing, but the fixes were buggy, half-baked, generally frowned upon. Some Microsoft employees have alluded that DOS 4 is something they would just like to put behind them and move forward, and move forward they did.

Microsoft spent almost a year beta-testing various releases of DOS 5 with around 7000 test sites. Programmers working on the development of the operating system contacted DOS users to get opinions on various features of the operating system. The release date was bumped back several times because Microsoft felt that the product was just not ready yet. All in all, it seemed that Microsoft was really serious about this release of DOS, with good reason.

New Features in DOS 5.00

The first unusual aspect of DOS 5 is that it hit the shelves. For the first time, DOS is available directly to the end-user from Microsoft. At first, users could purchase the "Upgrade Package" which allows the user to upgrade from their existing version of DOS to DOS 5. Very shortly afterwards, though, the full system release came out for those who wanted to put DOS 5 on a new computer (the "Upgrade Package" could not be installed on a system that was not already DOS bootable). Third parties are also licensing DOS 5 for their systems, as they have before, but people who want their own copy of MS DOS can now have it.

The installation part of DOS 5 is vastly improved over the quirky installation routine that was introduced with DOS 4. The new installation still differs a little from the DOS 3 installation (booting from the system diskette, formatting the boot disk, placing the system on the boot disk, copying the files to the boot disk, and booting), but is much more straightforward and understandable. There is no choice for how much of the OS you want to put on the disk; the installation routine just puts it there. It even goes to the trouble of moving the old DOS files to a special location and making a boot disk for the old version of DOS in case something goes wrong.

Where DOS 4 changed the hard disk partition table to allow for larger hard disk partitions, making a hard disk formatted under DOS 4 unreadable if booted under DOS 3, DOS 5 doesn't care which partition type is used. It will read and write both.

The immediate advantage of this is that a complete backup and restore of the hard disk is not necessary during installation. It is still a highly recommended precaution, but DOS 5 will put itself on whatever is already in your system.

One of the most noticeable differences in the DOS 5 command environment is the addition of a long-needed HELP facility. Finally, DOS users can type HELP at the ugly CA> prompt and actually get useful information. For help on a specific command, typing HELP command will give a brief description of the command, the syntax of the command, a complete description of each option, and other general information regarding the command. While this is a wonderful thing in itself, HELP is something Microsoft should have put into DOS several versions ago. Kudos for getting it in and working, curses for taking so long.

Finally, those who hated DOSSHELL that was introduced in DOS 4 (several associates commonly refer to it as "DOS Hell") may be pleasantly surprised with the revamped DOSSHELL. Microsoft has cleaned up the user interface and improved performance, all of which make it much easier to use.

In general, most of the commands and utilities have either been smoothed out or "fixed," and a few new ones have been added (for instance, the new MEM utility to look at the allocation of DOS memory). But, Microsoft stayed with the overall "look and feel" of old DOS, and, basically, from the command line, not much has changed.

2 MEM will be discussed in greater detail with the discussion of DOS in the next issue of Benchmarks.

WordPerfect Users Group Schedule

The WordPerfect Users Group continues to meet each month on Fridays in Marquis 105 from 2-3 p.m.

- October 18 — Topic: Equation graphics.
- November 15 — Topic: Math capabilities of WP 5.1.
- December 13 — Topic: The use of the Label function for more than just mailing labels.
We have received the following virus-related information.

- FPROMT 2.0 has been uploaded to the VAX BBS. It can be found stored as FPROMT200.zip in the files section.

  Changes and enhancements:
  - Fewer programs — the old version had around 20 programs, the new version has two.
  - Totally redesigned user interface.
  - Faster scanning.
  - Experimental heuristic analysis.
  - Simplified installation and more ...

Known bugs:
- FPROMT 2.0 does not currently work with Zenith DOS 3.30 Plus.
- F2.EXE does not work in interactive mode on machines with an XGA adapter. The same thing happens on some machines with color adapters.
- VIRSTOP.EXE seems to conflict with MIRROR from Central Point Software.

- The anti-viral archives, which attempt to contain the most recent news and programs for dealing with viruses, were updated on August 7, 1991. To get more information about the archives, send a message to the BITNET address BIT-FTPP@PUCC with the body of the message containing the single word HELP.

- A bill to amend Title 18 of the United States Code to clarify and expand legal prohibitions against computer abuse has been introduced to Congress. The bill, called the "Computer Abuse Amendments Act of 1991," is sponsored by Congress members Leahy, Brown and Kohl. It was introduced on June 18, 1991.

This column is intended to serve as a forum for sharing useful tips on making more productive use of microcomputers. If you have a tip that you feel may be of use to campus users, submit it to the Benchmarks Editor for possible inclusion in a future issue.

Variable Forms in Rbase for DOS

By Abraham John, LAN Manager for the Student Affairs Office

The variable forms feature of Rbase is a handy tool to have for interactive database applications. I have found this to be a very useful tool when the user has to select one record from a lot of records and the program has to perform some pre-defined action on that selected record.

By using a form defined for a particular table, it is possible for the user to move back and forth between the records, but the form cannot pass any information back to the program. Variable forms solve this problem by passing the keystroke of the user in a variable called #RETURN. The #RETURN variable can have four possible values, ENTER, PGUP, PGDN and ESC. The program that is driving the form can then act based on the contents of the #RETURN variable.

To create a variable form, access forms express by typing in FORMS from the R prompt and select the edit/create forms option from the forms express menu. Select the NEW option from the menu of forms that is displayed and give your variable form a name. Rhase will then ask if the form needs to be customized. Answer NO to the customization prompt. You will then be given a menu with all the tables in your database from which you would normally select one as the main table for your data entry/edit/view form. Press <ESC> at this menu. Rhase will then take you to the form creation screen. At this point you can draw your form using the single/double line feature of forms express. Type in any prompts that you feel are necessary e.g. if displaying the student’s name you would enter Student Name: as the prompt. When you are ready to position a field/variable press <F6>, Rhase will ask you for a column/variable name. Enter a variable name and press <ENTER>. Rhase will ask if you want to customize the variable. Answer NO to the customization prompt. You will then be asked if an expression will accompany the variable. Answer NO to the expression query also. Now position the variable using S to signify the start of the variable and E to signify the end of the variable. Remember to leave the required number of spaces between the S and E markers. After all the variables have been
positioned press Escape twice and save the form. Exit the forms express menu that will be displayed to get back to the R prompt.

All the variables used with the form must be loaded with the necessary values prior to accessing the variable form. Use the SET POINTER command to access the necessary table(s) in a dynamic/pre-defined order with dynamic/pre-defined conditions. Use a WHILE loop to keep accessing the table until certain conditions are met. In the WHILE loop use the SET VARIABLE command to define the variables that are used in the variable form. Within the loop use the SET VARIABLE TO variable_name in #n command to load the variable(s) with the necessary information. After all the variables are loaded use the DRAW form_name at row_number to display the form image at a particular location. Then use the EDIT VARIABLE USING form_name RETURN ESC PGUP PGDN to access the variable form. This will display the contents of the variables that were used in the form. The user can press any one of the four keys and the form will return control to the program and it will create a #RETURN variable with the user's keystroke. The program can then act based on the contents of the #RETURN variable. The association action with each key is up to the programmer and this powerful capability, if utilized properly, can provide the innovative programmer with the necessary tools to create friendly and informative user interfaces.

The following section of code is taken from an interview scheduling program used by the Career Planning & Placement office. This particular application of the variable forms feature lets the Placement staff scroll through multiple interview schedules with single keystrokes and it makes it possible to select/schedule schedules/interviews with the <ENTER> key. Areas within the code have been replaced with comments to avoid confusion on the part of the reader. This section of code demonstrates how the DRAW, EDIT VARI-

ABLE, SET (variable) and SET POINTER commands can be used.

```
DRAW VIEWSCH AT 6
SET POINTER #2 STATUS2 FOR SCHOOL ORDER BY SCHEDNO WHERE & COND
WHILE NOT EXISTS THEN
    SET V_TITLE TEXT `SPINS TEXT `SNO TEXT SET V_TITLE=":SPINS:" `SNO:";
    SET V_TITLE TO TELD IN #2; SET V SPINS TO SPINS IN #2
    SET V SNO TO SCHEDNO IN #2
    SET V COND1 TEXT SET V COND1="":SET V ISNO INT
    SET V SNO INT SET V ISNO TO `SNO; SET V SNO TEXT
    SET V COND1 TO (COND & "AND SCHEDNO =" & SNO & "AND SSN FAILS")
    IF STATUS3 = 0 THEN
        SET V_VSTATUS TEXT SET V_VSTATUS TO " AVAILABLE"
    ELSE
        SET V_VSTATUS TEXT SET V_VSTATUS TO " FULL"
    ENDIF
    CLEAR STATUS3; SET POINTER #3 OFF
    EDIT VARIABLE USING VIEWSCH RETURN ESC ENTER PGUP PGDN
    IF #RETURN = ENTER OR #RETURN = ESC THEN
        BREAK
    ENDIF
    IF #RETURN = PGUP THEN
        *( This section of code takes the user to the previous schedule. )
        IF the user tries to do a Page Up from the first schedule the program takes the user to the last schedule. )
    ENDIF
    IF #RETURN = PGDN THEN
        *( This section of code takes the user to the next schedule. If the user tries to do a Page Down from the last schedule the program takes the user to the first schedule. )
    ENDIF
    ENDWHILE
    CLEAR STATUS3; SET POINTER #2 OFF
```

In this example the variable forms feature is used to march through the interview schedules for a user selected school district and the program lets the user know if there are any interview time slots left on the schedule. This along with the qualifications and special instructions lets the students decide whether they want to interview with the school district. The available/full message enables a student to decide whether to get on the overflow list for the particular school district.

This application is only one example of variable forms in Rbase for DOS. This feature can be used in instances where many database records need to be accessed to mark them for printing/edit/delete/export or anything that has to be done on an interactive basis.

**Dbase File Structure**

By Abraham John, LAN Manager for the Student Affairs Office

Anyone who needs to change field names within a dbase file can do so without using the Dbase modify structure command or creating another database file. Using the modify structure command implies that you have access to Dbase and are comfortable with changing field names. If you use Clipper, then a new database file will have to be created every time a field name is changed or you will have to use the DBU program that Nantucket provides for database/index creation/edit. A solution is presented here, to change field names, that if properly modified can be used by the end-user with no trouble. The stand alone utility listed with this article is written in Microsoft C version 5.1 and will work on all dbaseIII+ DBF files. The technical source used to achieve this utility is in Chapter 12 of the *Clipper Program-
The structures that are used in the field change program (fldch.c) are presented here for your information. The structure definitions have been modified slightly in an attempt to make it clearer and to avoid any potential errors. The fldch.c program is a merged/modified/enhanced version of programs that can be found in Chapter 12 of the 
Clipper Programming Guide by Rick Spence. The fldch.c program referred to later in this article has been tested with databases created using Dbase IV, Natural Connection and Clipper 5.0. Please be aware that this program does not affect the index files in any way and a change in field names may affect index files on your system.

By now you may be wondering whether it is necessary to write the field change utility (fldch.c) in C. The answer is NO; it is possible to obtain structural information by using the Clipper 5.0 DBSTRUCT() command, modifying the resulting array and passing it along to the DBCREATE() function to create a new database with the field names changed; however the overhead associated with a Clipper program is considerably higher and a new database must be created. With regards to low level file access, Clipper does have its own implementation but I find the C implementation easier to understand. Although I have not tried it myself, I suppose that Clipper’s low level file access functions could be used to achieve the same goal. Using the information that is presented in this article you can create, as an independent exercise, a Dbase file creation/edit utility that is not tied to the Dbase interface and does not have the high overhead of Clipper’s DBU. The Clipper Programming Guide by Rick Spence also lists the structure for index files and this information could be used to create utilities that affect/analyze the Clipper/Dbase index files.

The first structure encountered when a dBase file is analyzed is the header record. This particular record can provide a lot of information regarding the database. The definition of the header structure is as follows.

```c
typedef struct
{
    unsigned char     database_id;
    unsigned char     last_update[3];
    unsigned int      last_record;
    unsigned int      data_offset;
    unsigned int      record_size;
    char              pad_spaces[20];
} DBASEHEADER;
```

The database id field can be examined to see if the database has any memo fields. If the contents of the database id field is a hex 83, then it does not have any memo fields. If it contains a hex 8e, then it contains memo fields. The next field in the structure has the last update date in YYMMDD format. The last record field can be used to see how many records exit in the database. This number includes any records that have been deleted since the last pack. The delete byte has no effect on this number until a pack operation. Data offset points to where the actual data starts and data offset is located after all the field definitions. The record size is calculated by adding up the lengths of all the fields and adding 1 to the result. The extra byte is used to mark deleted records.

The field definitions (i.e., individual database fields) begin immediately after the header record. All the fields are listed sequentially and the last field is followed by a hex 0D (decimal 13) as the first character in the field name array. The structure that defines a dBase field is as follows.

```c
Field structure:
typedef struct
{
    char     field_name[11];
    char     field_type;
    char     pad_spaces[4];
    union
    {
        unsigned char     char_len;
        struct
        {
            char         number_length;
            char         decimal_length;
        } length_info;
        char         pad_spaces[14];
    } FIELD_RECORD;
```

The field structure provides information about each field in the database. The field name contains the name of the database field, which can be up to 10 characters in length plus 1 null ('\0') character. The field type refers to the kind of data stored in that field. This can be Character (C), Date (D), Numeric (N) or Memo (M). If the field type contains anything other than a numeric item, its length can be found in the union field char_len. If the field type is numeric, the length can be found in the structure number size.

I have written a program (fldch.c) that takes a Dbase filename as a command line parameter and first displays the header information for the Dbase file. It then displays each field name and its corresponding information and asks the user if the name needs to be changed. If the answer is yes, it will prompt for the new name and will write the new name in the file. If you are interested in seeing this program, contact me at 565-3891. ■
VAX/UNIX NEWS

VAX News

- **WHOIS workaround** — The location of the WHOIS database moved on the network. Now to use WHOIS, type WHOIS -H NIC.DDN.MIL.Name.

- **Reduced Software Support on VAX** — Scheme has been moved from the VAX to the Solbourne. Also, the plans are that when Mathematica is installed on the Solbourne, support for Macsyma on the VAX will be dropped as it is hardly used at all, is an extremely old version, and will be redundant. Some other software packages like MINITAB have been moved from DUA0 to DUA1, but these

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Welcome to the Best of the BBS column. This column highlights some of the more interesting and useful discussions on the UNT BBS. For those of you not familiar with the BBS, here is how to log into the UNT BBS:

- Sign-on by typing CALL DEC at the LAN prompt and then entering BBS as your Username at the VAX prompt.
- If you are already logged-on to the VAX cluster, type BBS at the $ prompt.

The opinions expressed in this column do not necessarily reflect the views of Academic Computing Services or the Computing Center. Also, information in Best of the BBS has not been checked for accuracy.

**COMMUNICATIONS**

#3024 24-AUG-1991 12:52:13.63
Subject: file upload attempt

I just tried to upload a file and it aborted after two blocks of data. Or maybe after one and an attempt at the second. I did it twice and the same result. I have done this before using the same setup on this end with no problem, so I am guessing that something has changed at that end. Since I have a couple of fairly large files, maybe it might be easier to just bring a disk to you. Where and when would be good for you? Maybe I can get a Kermit that will work with your new setup at the same time. In the way of news from the other side of the world: The UNIX users in Thailand are now setting up an entry point for FIDIO BBSes to link with UUCP/USENET sites. DEC Thailand has contributed a micro VAX for this and they were in the process of experimenting with software when I left. If you know of any

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Please see NEWS on page 28.
software that would be helpful to them, let me know so I can try to get it to them.
The stuff I was trying to upload was a new version of the Thai word processor program from Chulalongkorn University, and a collection of ANSI and BAT tips and info from John Dehaven in Bangkok. The latter is a bit over 100K zipped, so it's a pretty good collection. I also brought back the latest release of VC, the virus detector, which is now 5.0. It is now a commercial product, so I won't upload it, but you might be interested in taking a look at it. I have permission to extract the DOC files from the distribution disk and circulate them on any BBS, so I'll try to get around to that soon. I'll be checking the BBS for a message.

---

Subject: RE: Kermit woes
I'm responding to this before reading the other messages, so I might be stating the now obvious. :) There were a couple of changes made to the transfer setup on the BBS, check the notices in the Bulletins and in the File Library message area to see what's new. That should take care of your problem, but if not, we can work something else out.

---

Subject: Kermit Transfers
Parity is an end-to-end thing. Devices such as UART just pass bits. They don't understand parity at all. Just change the Parity!!! It will start working. Maybe also pick up a book of data communications and read what parity is and is used for. The point of it is to detect end-to-end errors. Also, the VAX Kermit didn't need to be recompiled. The BBS calls the Kermit program and the BBS had to be recompiled to call it with different parameters.

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Subject: Kermit Transfers
In light of some of the recent discussion that's gone on dealing with unsuccessful file transfers with the BBS, I did some experimenting this afternoon. Here's what resulted.

1) Transferring a file using MS-Kermit connected to the system pulls a file down successfully, uncorrupted. Everything is bumpy-dorey.
2) Transferring a file using Telix and it's implementation of Kermit sends the file successfully, but the file is corrupt and fails any attempts to unpack it.

Basically, we now believe that most of the problems that have been occurring (and believe me, they are few and far between... we have a number of users who U/L almost constantly without difficulty or complaint) are based on incompatibilities internal to the communications package being used. We've proven now that Telix does not work. I don't have the time to test everything under the sun, though. So, if your file transfers are not going well, try another package, or better yet, just get MS-Kermit. I will make an attempt to get the UNT distribution ZIP of MS-Kermit uploaded to local BBSs sometime in the near future. Students at UNT can come to the lab in ISB 110 and make their own copy of the pro-
gram, SO can faculty and staff of the university.

I hope this clears most of the muddy water that's developed over this issue.

#3093  Reply to #3087  10-SEP-1991 16:28:09.16

Subject: RE: download troubles.

Not a pipe dream at all. I regularly get 150-175 cps transfer rate at home via 2400 baud, even on really bad days. That of course "does" come from using the advanced Kermit packet sizes that are (as far as I know) only available from MS-Kermit.

#3098  Reply to #3076  11-SEP-1991 04:14:06.64

Subject: RE: Kermit Transfers

Actually, just changing the parity did NOTHING to help me in my transfers with Telix... the files got here without error, but were totally useless upon arrival. When I used ProComm Plus to download the same files they were great.

The National Semiconductor family of UARTs TRIGGER AN INTERRUPT if they detect a parity error, so they can accomplish that without knowing parity exists is beyond me... (regarding Line Status Register of the NS8250/16545/16550...)

"Bit 2: This bit is the Parity Error (PE) indicator. Bit 2 indicates that the received data character does not have the correct even or odd parity, as selected by the even-parity-select bit. The PE bit is set to logic 1 upon detection of a parity error and is reset to a logic 0 whenever the CPU reads the contents of the Line Status Register."

(and later...) "Note: Bits 1 through 4 are the error conditions that produce a Receiver Line Status interrupt whenever any of the corresponding conditions are detected and the interrupt is enabled." (quoting from "Data Communications, Local Area Networks, UART's Handbook", National Semiconductor, 1990.)

To me, this implies that the UART_DOES in fact understand parity. As it is, we can connect and download without errors under no parity, under space parity—whatever. Telix does not complain. If the parity was truly the problem, do you think that we would be able to do that?

Changing the connection parameters to 7-S-1 DOES NOT solve the problem. It is NOT that simple.

#3102  Reply to #3098  11-SEP-1991 09:10:51.00

Subject: RE: Kermit Transfers

I guess those UARTs you described do have parity. The UARTs I've programmed on my Apple II and on a CPMA machine didn't.

Read later messages about Telix. It appears like Telix has a MAJOR problem in its Kermit implementation. The officially supported packages on campus are Procomm and MS-Kermit. Both of these DO work.

#3114  Reply to #3098  11-SEP-1991 16:54:31.82

Subject: RE: Kermit Transfers

(Only trying to test the R(eply) facility... being a new user.) My 2 cents worth - on Mac Kermit... most Kermit settings can be set! Anyone know how to ensure that a second line on your phone (call interrupt or whatever it's called) let you peacefully exit from kermit/term whatever? Will my practical peripherals 2400 modem do it? Thanks!

#3118  Reply to #3114  11-SEP-1991 21:05:37.29

Subject: Call Waiting

If you're wanting to disable call waiting, do the following:

In your dialing command prefix, add '70#,' after the 'ATDP.' This will dial the code used to disable call waiting and will pause for 2 seconds (due to the commas) and wait for the dial tone before dialing the number.

If you can't use touch-tone dialing and have a rotary line instead, use '70..,' after the 'ATDP.'

I've used this method before quite frequently. It adds a couple of seconds to your dialing time but it's worth it to avoid carrier loss when someone tries to call you! Hope it helps!

#3125  Reply to #3119  12-SEP-1991 13:20:14.73

Subject: RE: pipe dream

On the Sequent (a.k.a. Ponder) I used the statistics command in Kermit. On the bbs I just had to time it by hand. I confirmed that the files were all intact by uploading one of the files back to the Sequent and comparing it with the origional with diff. For the bbs I made sure that the file could be dearchived. If I wanted to be more exact I would have used longer files and transferred them more than 4 times. I just wanted a quick test to see what my throughput was. I was mainly curious about how much extended packets would improve throughput and if I was beating the 97 char/sec that John listed as the bound for micro-mainframe links through modems and phone lines.

#3132  Reply to #3131  13-SEP-1991 19:42:47.63

Subject: RE: pipe dream

To calculate the char/sec: Time the transfer, convert the time to seconds, divide the size of the file by the number of seconds that it took to transfer the file. Voila! char/sec transfer speed. Kermit on some systems has a statistics command that will give you the time so that you don't have to time it yourself.

#3135  Reply to #3134  14-SEP-1991 13:45:33.54

Subject: RE: pipe dream

I'd imagine that any modem communicating would be time bound so there would be little difference between the '286 and '386, I could see how a pc running windows might not be able to keep up with the modem, especially if you were doing multi-tasking. My modem manual warns that original 4.77 MHz pc's can't keep up with 4800 bps with some software packages so I guess that it is possible for a computer to be ecpu bound with a fast modem. I'd guess that any serial card that has a UART with a FIFO would easily keep up with the fastest modem.

FILELIBRARY

#3042  29-AUG-1991 14:32:10.36

Subject: Oberon Programming Language

I have uploaded a compiler for the language Oberon into the IBM.LANGUAGE area of the file transfers. If I remember correctly, Oberon is the successor to Modula-2 which is the successor to Pascal. All three designed by Wirth. Have fun downloading.


Subject: RE: Oberon Programming Language

Everything you say is correct. Two additional points about Oberon, in its original form is an operating system as well as a programming language. Oberon was created to run and program multi-tasking
graphical workstations much the way that UNIX/C presently does. Oberon is smaller than either Pascal or Modula 2 because Wirth eliminated all unnecessary features, there are no for loops since you can use a while loop to provide the same functionality, there are no variant records since this functionality can be provided by the type extension. I think that there are no sets in Oberon either but I'm not sure. I'm intrigued by what I've read about Oberon but unfortunately I do not have the time to learn another language now with my classes and job and personal responsibilities. Hopefully, by the time I want to learn Oberon there will be a few gurus to make the learning curve less steep.

#3056 2-SEP-1991 12:00:48.11
Subject: FPROT 2.00 release (yipee!!)
I just uploaded F-Prot 2.00 to the IBM.IMMUNE directory. This is a wonderful little virus-protection package whose initial interest is cost, but is really a very powerful system. This new release makes the whole system much easier to use, and has a built-in installation (finally!).
Kudos to Fridrick Skullason, and happy virus-hunting to you...

#3074 7-SEP-1991 15:32:08.61
Subject: Modula-2 Compiler
I have uploaded an updated version of the Modula-2 compiler from Fitted Software. It is located in the IBM.LANGUAGE file subarea. There are 5 files in all. They are:
** FM2CMP20.ARC - 1/5 - Compiler
** FM2EXA20.ARC - 2/5 - Example programs
** FM2DOC20.ARC - 3/5 - Documentation
** FM2LIB20.ARC - 4/5 - Runtime libraries
** FM2UTL20.ARC - 5/5 - Utilities (XREF, DBG, LINK, etc).
The file marked with "**" are not required, the others are. There isn't any documentation on how to program in Modula-2 supplied, but there are books in the library in the ISB on Modula-2 programming.

#3091 10-SEP-1991 14:26:45.39
Subject: New files uploaded
IFIP147.ZIP - subarea IBM.UTILITY - This program gives you the details of your PC hardware without you having to open the case. I need to test it out as many PC has a lot of stuff in it.

CC4.ZIP - subarea IBM.LANGUAGE - Hmm... I have to admit that I sorta forgot what this one was. I saw the CC and uploaded into language thinking it was a C compiler. Now my memory is saying it is a Calculator program.

#3096 Reply to #3091 10-SEP-1991 23:18:01.89
Subject: RE: New files uploaded
Thanks for transferring my files. cc4.zip is a calculus calculator. It does 2d and 3d graphs, integration, solves polynomials, and does matrix operations. It is a free form calculator, sort of like a really scaled down version of mathematica. Its predecessor cc3 is a commercial product available from Prentice-Hall with a 200 page manual for just $30. cc4 has many more features than the commercial product cc3 but is still considered experimental (read buggy) When the final robust version of cc4 is finished it will also be a commercial product. Until then we can play with it for free. I printed some of the 3d graphs on a HP laserjet III and they looked pretty snazzy. It does have a programming language in it for doing subroutines as well. Enjoy!

#3061 Reply to #3048 30-AUG-1991 17:42:42.36
Subject: RE: UPGRADES
I am now using DR DOS 5.0, and I think you would be pleased with it if you changed from MS DOS x.x. The thing just seems so much cleaner and more logical. For the most part, it is pretty hard to tell the difference in the actual way the command line works. But, there are some nice features and some fixes for certain aggravating things in MS DOS. If you run right down to COMPUSA (Ex-Soft Warehouse) they have a special on this for $30. Get it and install it. You'll be glad you did. The specific problem you are having with the DRIVER.SYS will go away, I think. The manual is much easier to deal with than MS's manual too. It has a SETUP program which deals with most of the AUTOEXEC.BAT and CONFIG.SYS stuff for you too.

MAC

#2987 11-AUG-1991 22:43:25.08
Subject: Warp One BBS
Warp One BBS is a new Mac BBS here in Denton. It is a "closed" board and you must have the new user password for first time access.
If you would like to call and give it a try, feel free to call me on the Denton Area Mac User BBS at 383-3268 and leave me an EMail message requesting the number and new user password for first time callers.
Walter Bowen
sysop, Warp One BBS
NEWS continued from page 24.

changes should be transparent for users. Any questions regarding these policy changes should be directed to BILLY by mail.

- **WAISSEARCH Installed** — WAISSEARCH, a client program for Wide Area Information Servers, has been installed on the VAX. See page 5 for more information about the WAIS system. Type HELP WAISSEARCH for the syntax and some examples of use.

- **MAIL/Disk quota changes** — Due to continual problems with users not cleaning up their MAIL and therefore being over quota, the way MAIL is handled was changed. If you are over quota, any incoming MAIL will be automatically returned to sender. Many mailing lists such as PACS-L are available on ANUnews. Any questions should be directed to the OPERATOR account.

UNIX News

- **learn installed** — The BSD4.3 learn program has now been installed on sol. If you experience any problems while using it, please send a description of the problem to operator or call 565-4161.

- **HP LaserJet IIIsi printer available** — You can now print to the Computing Center's HP IIIsi. All printouts cost 10 cents per page using the Laser Print Cards. The Laser Print Cards may be purchased in the Student Union at the Check Cashing booth on the third floor. Printouts may be picked up at the I/O area in the ISB (north entrance). To send ASCII or HP PCL documents, use the -Php flag on your lpr command. If you wish to send PostScript files, use the -Phpps flag. However, to check on the status of a job to -Phpps, you will need to do a “lprq -Php”.

- **Mail to BITNET sites** (user@host.bitnet or user@host.BITNET) these addresses should be used as follows from the To: prompt in elm/mail user%host.bitnet@ricevm1.rice.edu.

- **Mail to DECENT or THENET sites** (user@host.DECNET or user@host.THENET) these addresses should be used as follows from the To: prompt in elm/mail user%host.dccnet@relay.the.net or user%host.thenet@relay.the.net.

- **Mail to HEPNET or SPAN sites** (user@host.HEPNET or user@host.SPAN) these addresses should be used as follows from the To: prompt in elm/mail user@host.span.nasa.gov or user@host.hepnet.nasa.gov.

- **Mail to MFENET sites** (user@host.MFENET) these addresses should be used as follows from the To: prompt in elm/mail user%host.mfenet@ecn.mfeder.gov.

- **Mail to UUCP sites** (user@host.uucp, user@host.UUCP, or host user) these addresses should be used as follows from the To: prompt in elm/mail hostuser@solos.csi.unt.edu.

Keep an eye on system news, accessed with the news command, for an announcement of improvements to the mail system which will allow it to handle these types of addresses automatically. These enhancements are expected prior to the end of the semester. Since I just mentioned it, and you may not know about it, I'll talk a bit about Sol's system news. Every time you log in, you are presented with a list of the latest five or six announcements in a very terse format as part of the login message. If you decide you want to know more about one of the topics listed or want to look for some other announcement, simply enter the command news at your shell prompt to scan the system news file starting with the most recent to the oldest. To scroll through this, simply press the space bar. To exit the program, press <q>. If you haven't already guessed, you are simply paging through a text file. The pager program in use is less with some special arguments. At the bottom of the screen is a line that indicates how far you have come through the file, in percent, how to continue scanning and how to get help.
Mainframe Performance Statistics

Operating Systems Performance Statistics for August

<table>
<thead>
<tr>
<th>CPU</th>
<th>SYSTEM</th>
<th>Planned Production Hours</th>
<th>Production Hours Achieved</th>
<th>System Uptime</th>
</tr>
</thead>
<tbody>
<tr>
<td>ACAD</td>
<td>VM/XA</td>
<td>744.00</td>
<td>736.74</td>
<td>99.0%</td>
</tr>
<tr>
<td>ACAD</td>
<td>MUSICO/SP</td>
<td>726.29</td>
<td>718.48</td>
<td>98.9%</td>
</tr>
<tr>
<td>ACAD</td>
<td>MVS/IES2</td>
<td>744.00</td>
<td>734.39</td>
<td>98.7%</td>
</tr>
<tr>
<td>ACAD</td>
<td>COMPLETA</td>
<td>734.55</td>
<td>724.62</td>
<td>98.6%</td>
</tr>
<tr>
<td>ADMN</td>
<td>MVS/IES2</td>
<td>744.00</td>
<td>731.99</td>
<td>98.4%</td>
</tr>
<tr>
<td>ADMN</td>
<td>COMPLETA</td>
<td>348.00</td>
<td>347.63</td>
<td>99.5%</td>
</tr>
<tr>
<td>ADMN</td>
<td>ADABASA</td>
<td>718.02</td>
<td>692.56</td>
<td>98.5%</td>
</tr>
</tbody>
</table>

- The ACAD CPU achieved 100% uptime in August; The HDS/7360 DASD achieved 100% uptime in August; The HDS/7380 DASD achieved 100% uptime in August.
- The ADMN CPU achieved 100% uptime in August; The HDS/7360 DASD achieved 100% uptime in August; The HDS/7380 DASD achieved 100% uptime in August; The EMC Solid State Disk achieved 100% uptime in August.

Key Causes Of Lost Productivity In August: ACAD CPU

Miscellaneous
1. Shutdown of ACAD system for replacement of faulty bearing in 5th floor air handler. 5.81 HOURS
2. VM/XA systems software development. 4.12 TOTAL 9.93 HOURS

Key Causes Of Lost Productivity In August: ADMN CPU

Miscellaneous
1. ADABASA DASD file maintenance. 16.02 HOURS
2. ADABASA system conversion to Release 5. 13.57
3. ADABASA system failures. 1.35
4. MVS/SP software development. 0.67 TOTAL 31.61 HOURS

ACADemic (HDS) Program Hit Parade

August Top Ten Programs: Frequency Of Runs

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>#of Runs</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. PGM=*..DD</td>
<td>Compiled Program</td>
<td>8471</td>
<td>15.9</td>
</tr>
<tr>
<td>2. IEW</td>
<td>Linkage Editor</td>
<td>8115</td>
<td>15.3</td>
</tr>
<tr>
<td>3. IDCAMS</td>
<td>VSAM Utility</td>
<td>8115</td>
<td>15.2</td>
</tr>
<tr>
<td>4. IGYCRCTL</td>
<td>VS COBOL2 Compiler</td>
<td>7905</td>
<td>14.3</td>
</tr>
<tr>
<td>5. IEBPITCH</td>
<td>IBM List Utility</td>
<td>5030</td>
<td>9.4</td>
</tr>
<tr>
<td>6. JEBGENER</td>
<td>IBM Utility</td>
<td>4064</td>
<td>7.6</td>
</tr>
<tr>
<td>7. IEFBR14</td>
<td>IBM Null Utility</td>
<td>2639</td>
<td>5.0</td>
</tr>
<tr>
<td>8. IKJEFT01</td>
<td>Password Change</td>
<td>1560</td>
<td>2.9</td>
</tr>
<tr>
<td>9. SASLPA</td>
<td>SAS Version 5.18</td>
<td>1406</td>
<td>2.6</td>
</tr>
<tr>
<td>10. SPSS</td>
<td>SPSS Version 4.0</td>
<td>683</td>
<td>1.3</td>
</tr>
</tbody>
</table>

August Top Ten Programs: CPU Seconds Used

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
<th>CPU Seconds</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. SASLPA</td>
<td>SAS Version 5.18</td>
<td>68372</td>
<td>49.4</td>
</tr>
<tr>
<td>2. PGM=*..DD</td>
<td>Compiled Program</td>
<td>16288</td>
<td>11.8</td>
</tr>
<tr>
<td>3. COMPLET4</td>
<td>Academic COM-PILETE</td>
<td>9367</td>
<td>6.8</td>
</tr>
<tr>
<td>4. IGYCRCTL</td>
<td>VS COBOL2 Compiler</td>
<td>8085</td>
<td>5.8</td>
</tr>
<tr>
<td>5. SPSS</td>
<td>SPSS Version 4.0</td>
<td>7537</td>
<td>5.5</td>
</tr>
<tr>
<td>6. SS4001</td>
<td>Operations Automation</td>
<td>5603</td>
<td>4.1</td>
</tr>
<tr>
<td>7. ADARUN</td>
<td>ADABASA Utility Module</td>
<td>4070</td>
<td>2.9</td>
</tr>
<tr>
<td>8. IDCAMS</td>
<td>VSAM Utility</td>
<td>2730</td>
<td>2.0</td>
</tr>
<tr>
<td>9. IEW</td>
<td>Linkage Editor</td>
<td>2371</td>
<td>1.7</td>
</tr>
<tr>
<td>10. SPCHLCOB</td>
<td>COBOL2 Report Writer</td>
<td>2303</td>
<td>1.7</td>
</tr>
</tbody>
</table>
## Disk Backup Schedules

<table>
<thead>
<tr>
<th>SYSTEM</th>
<th>BACKUP</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative MVS/SP</td>
<td>Daily</td>
<td>Monday - Friday around 7 p.m. (after COM-PLETE is shut down) &amp; on Saturday &amp; Sunday if COM-PLETE has been up that day.</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>Full pack dumps taken each Sunday morning.</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>Full pack dumps taken on the first day of each month.</td>
</tr>
<tr>
<td>Academic MVS/SP</td>
<td>Daily</td>
<td>Monday - Sunday during the early hours of the morning.</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>Full pack dumps taken each Sunday.</td>
</tr>
<tr>
<td></td>
<td>Monthly</td>
<td>Full volume dumps taken on the first day of each month.</td>
</tr>
<tr>
<td>MUSIC/SP</td>
<td>Daily</td>
<td>Wednesday - Monday starting at 4 a.m. and lasting about 30 minutes.</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>Tuesday mornings at 3 a.m., these last about 2 hours.</td>
</tr>
<tr>
<td></td>
<td>Semester</td>
<td>Once a semester, a permanent backup is taken.</td>
</tr>
<tr>
<td>VM/XA</td>
<td>VM Weekly</td>
<td>Early every Wednesday morning.</td>
</tr>
<tr>
<td></td>
<td>CMS mini-disks</td>
<td>Daily backup performed early every morning. Weekly backup every Tuesday starting after Midnight.</td>
</tr>
<tr>
<td></td>
<td>Semester</td>
<td>Once a semester, a permanent backup is taken.</td>
</tr>
<tr>
<td>VAXcluster</td>
<td>Daily</td>
<td>Incremental backups are performed Monday - Thursday at 6 p.m. Saturday &amp; Sunday at 5 p.m. Full backups are performed every Friday beginning at 8 a.m. Generally last all day. A &quot;stand alone&quot; backup is performed monthly. Dates and times are given in the system log-on message. Once a semester, a permanent backup is taken.</td>
</tr>
<tr>
<td></td>
<td>Weekly</td>
<td>Incremental backups are performed Sunday - Friday at 2 a.m. Full backups are performed every Saturday at 8 a.m. Once a semester, a permanent backup is taken.</td>
</tr>
<tr>
<td>Solbourne</td>
<td>Daily</td>
<td>Incremental backups are performed Sunday - Friday at 2 a.m. Full backups are performed every Saturday at 8 a.m. Once a semester, a permanent backup is taken.</td>
</tr>
</tbody>
</table>

A full description of the system backup procedures can be found by typing HELP BACKUP on MUSIC or the VAXcluster.
Computing Center Short Course Registration Form

Please complete this form and return it AS SOON AS POSSIBLE if you wish to attend any of the short courses listed below. You may also register over the phone by calling (817) 565-2324. FACULTY AND STUDENTS HAVE FIRST PRIORITY TO REGISTER FOR THESE CLASSES. A VALID USER-ID IS REQUIRED FOR CLASSES MARKED WITH AN ASTERISK (*).

NAME: ____________________________
DEPT: ____________________________
PHONE: ____________________________
SSN: ____________________________
Staff: SUPERVISOR SIGNATURE: ____________________________

FACULTY ___ STAFF ___ STUDENT ___
UNDERGRADUATE ___ GRADUATE ___
MAILING ADDRESS: ____________________________
USER-ID: ____________________________

I wish to attend:

- Introduction to IBM JCL (ISB 123):
  ___ Wednesday, November 20: 2:00-4:00 p.m.
- Intro. to the Internet (ISB 123):
  ___ Tuesday, November 12: 3:30-5:00 p.m.
- Introduction to UNIX (ISB 110)*:
  ___ Tuesday, October 15: 3:00-5:00 p.m.
- Intro. to SAS on UNIX (ISB 110)*:
  ___ Tuesday, November 16: 4:00-5:00 p.m.
- Introduction to CMS (ISB 110)*:
  ___ Tuesday, November 5: 3:00-5:00 p.m.
- Intro. to WP 5.1 for Students (ISB 110):
  ___ Tuesday, October 29: 2:00-5:00 p.m.
- Intro. to Procomm+ (ISB 123):
  ___ Monday, November 4: 2:00-3:00 p.m.
- Introduction to BITNET (ISB 123):
  ___ Thursday, October 24: 3:00-5:00 p.m.
- Introduction to vi (ISB 110)*:
  ___ Thursday, October 17: 4:00-5:00 p.m.
- Introduction to USENET (ISB 123):
  ___ Monday, November 18: 4:00-5:00 p.m.
- Intro. to DOS: Students (ISB 110):
  ___ Thursday, November 7: 9:30-11:30 a.m.
- Intro. to CUTCP/Telnet (ISB 123):
  ___ Thursday, November 14: 3:00-5:00 p.m.
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