BOISE STATE UNIVERSITY

"Splendor Sine Occasu"

1932

COMPUTING AT BSU
User Guide

MEMO

To: Faculty and Staff
From: Shaun Loughney
Subject: Computing at BSU User Guide
Date: September 28, 1995

The following is the 1995-1996 updated inserts for your Computing at BSU User Guide.

NOTE: CHAPTER 6 AND APPENDIXES B THRU E, G AND I, HAVE NO CHANGES. PLEASE RETAIN YOUR CURRENT REFERENCES.

Take a look at what is new:

The Center for Data Processing has added several new faces in the past year. See **Chapter 1** for listing of current and new members of the Data Center.

The not so new Student E-mail Server VARNEY is growing like wild fire. We have over 5000 users and are adding daily. See the **Help Desk Documents BSU-01 and 02** for information on how to use the system.

Several individuals on campus have pulled together and are designing a BSU Home Page for Internet access. The home page will eventually replace the Campus Wide Information System. See **Chapters 2 and 5** for insight on what you will find at **http://www.idbsu.edu**.

The Center for Data Processing has also started our own listserv, COMP-BSU. This is used to discuss campus computing issues, troubleshooting questions, and general topics of interest. See **Help Desk Document Internet-05** to subscribe to listserv **COMP-BSU**.

A couple of the Data Center's services have been improved to meet the campus needs:

The dial-in access has received 16 new modems and authentication. To set up remote terminal access, see **Help Desk Document COMM-05.**

The Faculty Computer Lab has upgraded their equipment. Several workstations are multi-media machines and have scanning ability. See **Appendix F** for a complete listing of the hardware and software available to faculty.

We have added Microsoft Excel, Word and PowerPoint to our Partially Supported Software. **Chapter 4** explains what is Fully and Partially Supported Software.

A list of your local Network Administrators is available in **Appendix H**.

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CHAPTER 1
The Center for
Data Processing

Mission

Boise State's Center for Data Processing (Data Center) is a university-wide service unit. Its primary mission is to provide computer services that support the academic objectives of Boise State University, and to stimulate the innovative use of computers by students and faculty in their instruction and research. The Data Center also provides data processing services to support the university's administration.

Fee Philosophy

The many services of Boise State's Data Center are offered to staff and faculty on a cost-free basis. There are no inter-departmental transfer charges for systems analysis, programming hours, CPU usage, etc. This means, for example, that any instructor who is working on a class project or on personal research not funded in any manner by a grant or non-BSU agency may have free access to computing resources. Likewise, a department wishing to collect and analyze data pertaining to some facet of departmental administration will have similar access.

However, anyone who receives remuneration of any kind (consulting fees, donations, grants, etc.) on projects for which they use BSU computing resources will be required to reimburse the Center, at cost, for services that were used. The current rates charged by the Center are listed in Appendix C. If you wish to use computer resources and are not certain whether or not your use qualifies you as a free-access user or a paying customer, contact the Director of Computer Services at x1295.

Offices

Offices of the Center for Data Processing are located in the:

First floor of the College of Business (B-116)
Simplot/Micron Instructional Technology Center (SMITC-209)
Annex across the street from the Student Union Building
Student Lab in the Education Building (E-417)
Repair Facility in the Simplot/Micron Instructional Technology Center

These offices are open from 8:00 a.m. to 5:00 p.m. during normal working days.

Data Center Personnel

General Administration

General Calls			1433
Help Desk Calls			4357
Melissa Pendleton	General Typist	B-116	1433
Peggy Medley	Admin. Secretary	B-116	1398
Barbara Schenk	Admin. Secretary	B-116	1398

Administrative Data Processing

	Manager	Annex	1323

Systems Development & Maintenance

Gene Badesheim	Systems Analyst	Annex	1149
Larry Case	Programmer Analyst	Annex	4124
Dee Dee Forwood	Systems Analyst	Annex	4126
Janis Hewitt	Systems Analyst	Annex	1150
Bill Houston	Systems Analyst	Annex	1324
Keith Kline	Systems Analyst	Annex	4125
Linda Leahy	Systems Analyst	Annex	3046
Gary Nease	Systems Analyst	Annex	3152
John Plowman	Supv. Systems Analyst	Annex	3824
Linda Rose	Systems Analyst	Annex	1495
Edwin Tator	Programmer Analyst	Annex	1688
Lee Turner	Programmer Analyst	Annex	3604

Computer Services

Chris Hurst	Director	B-116	1295

Scanning/Data Control/Data Entry

Eleanor Fisk	DP Scan & Format Specialist	B-116	1690

Computer Lab (E-417)

Frank Powell	Lab Supervisor	E-417	1435
Joe Jahn	Lab Shift Lead	E-417	1435

Operations

John Burgess	Computer Operator	B-116	3460
Jim Pass	Computer Operator	B-116	3460
Marc Smith	Computer Operator	B-116	3460

User Services

RuthAnn Benjamin	Data Center Associate	B-116	4127

Help Desk

Shirley Thompson	DP PC Coordinator	B-116	4357
Student Employees		B-116	4357

Laura Bond	Data Center Associate	SMITC-209	1438
Rick Dorey	Data Center Associate	SMITC-209	3268
Ellis "Skip" Knox	Data Center Associate	SMITC-209	1315

Faculty Lab

Student Lab Assistants		SMITC-209	1859

Shaun Loughney	Data Center Associate	B-116	1163
Stan Smith	Data Center Associate	SMITC-209	1250

Network and Technical Services

	Manager	B-116	1151

Systems Administration

Allan Ebel	Systems Programmer	B-116	3818

UNIX Systems

Frank Ferryman	Data Center Associate	B-116	1159

Network Systems

Diane Dragone	DPPC Network Specialist	B-116	1146
Student Assistant		B-116	3891
Ben Eichelberger	DPPC Network Specialist	B-116	3093

Computer Repair

Lee Ploeg	Repair Technician		4357
Craig Swafford	Repair Technician		4357

CHAPTER 2
Computer Services

The following is a list of the services the Center for Data Processing provides to faculty and staff.

Help Desk Services

The Help Desk, at x4357, is a telephone service to answer customer questions and/or refer problems to product specialists within the Center for Data Processing.

The Help Desk provides one telephone number for you to call for operational questions as well as software and hardware questions and problems. The Help Desk staff (two full-time employees and several part-time students) will document your call and if they can't provide an answer, will forward your call to the appropriate personnel.

Availability: Monday through Friday, 8:00 a.m. - 5:00 p.m. Voicemail messages can be left after hours and will be responded to the following business day.

Contact: Contact the Help Desk at x4357 for support.

Hardware Service and Repair

The Center for Data Processing computer repair technicians service and repair IBM and IBM clone computers, HP LaserJet and various printers. Training is under way at the time of publication to allow the technicians to repair Macintosh computers. Warranty work, with the exception of Macintosh, will not be performed.

Following are the procedures for placing a service call for repair of terminals or personal computer equipment. This only applies to equipment that the University services and repairs and is not applicable if you have a service agreement for specific equipment.

Before making a service call, record the make, model, and BSU tag number of the device. Be able to describe the problem. Call the Help Desk at x4357 and state that you need to place a service call. The person taking your call will ask for the information listed above, a telephone number, an account number for billing, the building and room number where the device is located and the name of a contact person.

The Data Center will dispatch a service person to fix the broken device, or pick up the equipment if it cannot be serviced in your area.

Service Fees: For any service calls requiring a repair, there is a minimum service fee of $20.00 plus any charges for parts.

Laser Printers: The Data Center repair rechnicians are currently repairing laser printers. The technicians **cannot** perform warranty work. It is the responsibility of the department to transport printers under warranty to the place of purchase for service.

Apple Equipment: Apple equipment can be repaired by the Data Center staff, with the exception of powerbooks. Please call the Help Desk at x4357 to schedule a service call.

Availability: Repair technicians are available during normal BSU working hours of Monday through Friday, 8:00 a.m. to 5:00 p.m.

Contact: Contact the Help Desk at x4357 to schedule a service call.

Faculty and Student Computer Labs

The Center for Data Processing maintains and operates faculty and student computer labs to assist faculty and students with computing, printing, scanning and graphics. These labs are located in the following areas:

> Student - Teacher Education Building - Room 417
> Faculty - Simplot/Micron Instructional Technology Building - Room 209

Each lab has different hours of availability. The student lab hours for the current semester are published each semester and posted on BSU home page http://www.idbsu.edu. Hours are shorter during vacation periods and summer sessions.

Student lab assistants staff the labs for the hours they are open. These assistants are responsible for keeping the lab neat and for helping users with problems that may arise concerning logon procedures, locating printouts and the like. Lab assistants **will not** perform student class assignments.

Faculty Lab

The faculty lab in the Simplot/Micron Instructional Technology Center, Room 209, is available for faculty, secretaries from academic departments and graduate assistants working on faculty research. It is equipped with a variety of equipment including both PC and Macintosh workstations, an optical scanner and several printers. See Appendix F for a listing of the equipment in the Faculty lab. Hours for the Faculty lab are posted on the BSU Home Page http://www.idbsu.edu.

Lab assistants are available to show faculty/staff what equipment/software is available, and to help them get started with specific work. Lab assistants will also help with scanning of documentation. The first 150,000 characters are free. See Appendix C for detailed information on the charges for additional text.

Availability: Current hours are listed on the BSU Home Page http://www.idbsu.edu.

Contact: Contact the Faculty Lab at x1859 for questions.

Student Labs

In addition to the above mentioned labs, there are 21 computer labs across the campus which are available to students, faculty and staff. The following labs are maintained by a sponsoring department or college:

Room	Building	Department
Petersen-Preco Learning Center	Pavilion	Intercollegiate Athletics
AT-203	Applied Technology	College of Technology
AT-204	Applied Technology	College of Technology
AT-213	Applied Technology	College of Technology
AT-214	Applied Technology	College of Technology
B-209	Business	College of Business
C-114	Communications	Communications Department
E-223	Education	Teacher Education
E-224	Education	Teacher Education
E-419	Education	Teacher Education
E-421	Education	Teacher Education
ET-238	Engineering Technology	College of Technology
ET-239	Engineering Technology	College of Technology
LA-204	Liberal Arts	English
LA-206	Liberal Arts	English
MG-110	Math/Geology	Math
MG-122	Math/Geology	Math
PAAW-125	Arts West	Public Affairs
SMITC-106	Simplot/Micron Technology	Computer Based Instruction & Testing Center
SN-149	Science-Nursing	Health Science Department
TS-219	Technical Services	College of Technology

Availability: See the latest Data Center newsletter for current hours or the BSU Home Page http://www.idbsu.edu. Listings are also available in the various labs across the campus.

Contact: Contact lab assistants in each lab for questions regarding available hardware and software.

Consulting and Evaluation Services

The Center for Data Processing staff will do the following:

Evaluate new hardware and software programs to determine what benefits they offer and if they will work in your environment.

Determine hardware needs in relationship to new software developments.

Advise customers regarding hardware and software purchases.

Solve problems regarding software application issues and use.

Consult on requirements for and availability of anti-virus software and other utilities.

Software Site Licenses

There are a number of site licenses for software at Boise State. Departments need to pay for manuals. As noted, some have a minimal cost associated with them which is charged to the departments.

The Data Center will act as a coordinator and negotiate software agreements for software that is used across the campus. Some of the licenses cover student usage and some are only available for University owned equipment. Please call x1398 if you have any questions regarding site licenses.

Asymetrix Products	Fee Involved
Multimedia Toolbook	Limited Site License
MediaBlitz	Limited Site License
Borland Products	
Borland C++	
dBASE for DOS/Windows	
Paradox for DOS/Windows	
CADKEY Light	
GRAPHTEK	
Novell Products	
Netware	Fee Involved
LAN WorkPlace	Fee Involved
MACTCP	
McAfee Anti-Virus	
PC/SAS	Limited Site License
*PC Solve/MAC Solve	
SIMSCRIPT II.5	
SIMFACATORY II.5	
SPSS-PC	Limited Site License
*Trumpet for Windows	
*YTERM	

WATFILE
WATFOR
WordPerfect Products**   Fee Involved
     ClipArt
     DataPerfect
     Envoy
     Informs Designer/Filler
     GroupWise (WP Office)
     Perfect Office Standard/Professional
     Presentations for DOS/Windows
     Quattro Pro for DOS/Windows
     WordPerfect for DOS/Windows/MAC
     WordPerfect Works

*Can be used by students, faculty and staff on other than University owned equipment.
**The current WordPerfect Site License expires in November of 1995, some of the above products may not be available under the agreement.

Product Documentation

Documentation for the Borland site license products are available. To order hard bound copies, call the Data Center at x1398.

Documentation for the WordPerfect site license products are available in electronic or hard bound copies from WordPerfect directly. Contact the Data Center at x4357 for WordPerfect's phone number.

Training Services

Classes and workshops are scheduled on selected/requested software products and special topics. Each semester a flyer will be distributed with the current class offerings. This information is also available on the BSU Home Page.

Availability: See the latest Data Center flyer for the current training and workshop schedule, the BSU Home Page http://www.idbsu.edu, or check with the Training and Development for information about training classes.

Contact: Contact the Help Desk at x4357 for questions about scheduled classes and workshops or call the Training and Development office at x4419 for information on all campus training.

Computer Checkout Services

Several PC portable/convertible terminals are available for checkout by faculty and staff members on a 24-hour basis. Longer than 24 hour or weekend checkout requires authorization. Faculty have priority in scheduling the Compaq portables and the

Apple Powerbooks. If they are not being used, staff members can request them. The PC's are distributed on a first come first serve basis, and reservations are not taken, although special circumstances are considered such as out of town seminars and conferences.

These portables have modems and YTERM software to emulate a terminal. This allows you to dial up the mainframe as well as to use the PC on a stand-alone basis. The Compaqs have DOS, YTerm, WordPerfect for DOS or Windows, and Quattro Pro. The Powerbook has Microsoft Works, Free Term, Hypercard, and MS Word.

Contact: Contact the Center for Data Processing secretary at x1433 for questions about equipment availability.

Documentation Provided

Help Desk Documents are available for several different tasks and/or software. Appendix A contains a complete list of currently available Help Desk Documents.

Written procedures and guides for using selected software.

Informational newsletters to keep faculty and staff updated.

Guidance in selected software manual prices and ordering procedures.

Maintenance of "INFO" — a mainframe based on-line help facility for selected software products/applications.

Development and maintenance of the Data Center helpful information facilities are available on the BSU home page http://www.idbsu.edu..

Availability: Documentation can be picked up in the Data Center main office (B-116), the Faculty Lab (SMITC-209) or by calling the Help Desk at x4357. All current Help Desk Documents are located in Appendix A of this guide.

Contact: Contact the Help Desk at x4357 if you would like documentation sent to you through the campus mail.

Statistical Consulting Services

Research design including define the hypothesis, establish sampling procedures and anticipate appropriate statistical analysis.

Development of data-collection techniques.

Data analysis and interpretation

Article review

Contact: Contact the User Services statistician at x1438 for support.

Scanning Services

The scanning system located in the faculty lab can "read" printed text and store it in electronic format which can then be used with mainframe or micro computer programs or applications. Each faculty/staff member can scan 150,000 characters per semester at no charge. Depending on type style and format, each page is different. Using a 12 pitch type style, an estimate of 3,000 characters per page is average. After 150,000 characters there is a fee of $ .30 per thousand characters, or using the above averages, about $ .90 per page charge. The above information is for straight text and does not include graphics.

Availability: The current hours are listed on the BSU home page http://www.idbsu.edu.

Contact: Contact the Faculty Lab at x1859 for questions.

Automated Test Scoring

The Data Center uses an optical mark reading system for scoring testing. Instructors may use this system for quizzes, examinations and questionnaire responses. Standard five and ten answer tests are scored, analyzed and reports printed at no charge. Customized tests and reports can be developed for a fee. For additional information on "bubble sheet" scoring or "bubble publishing" see Automated Test Scoring System in Appendix B.

Availability: Test scoring is available Monday through Friday from 8:00 a.m. to 5:00 p.m. The Data Center's goal is two hour turn-around time. Tests in before 3:00 p.m. will be scanned that day. Tests delivered after 3:00 p.m. will be available early the next morning. During finals, the turn-around time may be longer than two hours.

Contact: Contact the Data Center Scanning Specialist at x1690 for questions and additional information.

Miscellaneous Services

The Center for Data Processing is responsible for maintaining the campus wide area network which consists of fiber optic feeds to each building and connection to local area networks.

The Center for Data Processing provides access to selected off campus networks. For example, CREN and Internet from the campus network.

The Center for Data Processing provides a listserv **comp-bsu** for faculty, staff and students to discuss computing ideas and concerns for Boise State University. See Help Desk Document Internet-05 for subscribing to **comp-bsu**.

The Center for Data Processing also maintains an Internet Homepage at **http://www.idbsu.edu/cdp/**. This guide, Computing at BSU, and the BSU Network Computing guide (**VARNEY**) are available at the site.

The Center for Data Processing will assist with data transfer and data conversion from either one system to another or one program to another.

Contact: Contact the Help Desk at x4357 to schedule assistance or for questions.

Tours of Data Center Facilities

Tours of the Data Center (including the Faculty Lab) are offered on request, and can be general in nature or tailored to the specific interests of the group. Tours should be scheduled for regular working hours, except for groups (such as evening classes) which cannot meet during the work day. For tour requests, contact the Director of Computer Services, at x1295, several days in advance of the desired date.

Please note:
Boise State's mainframe computers and related equipment are in secure areas. This means that no one except authorized personnel can enter those areas, unless under the direct supervision of someone from the Data Center. Please do not ask for exceptions to this rule.

CHAPTER 3
Procedures for Using Data Center Services
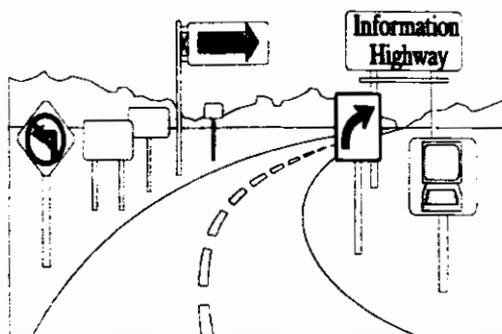
Acquiring Access to the IBM mainframe

To use the IBM mainframe computers, you will need a user identification name (UserID) and password. User identification names are assigned by the Data Center after you complete a User Request Form (found in B-116). A sample of this form can be found in Appendix D. The form asks for the following information:

Please print your name, telephone number, department and room number. Indicate if you are a new faculty member or new to the staff of BSU.

UserID's are created using naming standards for the first three characters of the UserID. For this reason, we need to know if you are a faculty member, an administrative user, a student, graduate student or want a billable account. If this is a request for a student UserID, a student number is required.

Exceptions are student employees that are working with information as though they are administrative employees. Most departments use the first three characters for administrative users with their department abbreviation and a five character ending of a generic term, for example; argtemp2 or agrdean. When that employee leaves, the UserID can be maintained for the next employee and only the password needs to be changed.

Once you have your UserID and password, Help Desk Documents Mainframe-01 can help you get to the system. The rest of the documents in the Mainframe group will also help with specific applications on the Mainframe, such as CICS, MultiTerm and CMS commands. The complete library of Help Desk Documents can be found in Appendix A.

CICS Applications (For administrative users and faculty only)

Indicate which CICS applications you need to access. These systems each have a system administrator who authorizes clearance and security access. Requesting a UserID and access to these systems, is a multi-step process. The Data Center will enable the system access, but you must contact the system administrator for security clearance to each of these applications.

The applications and the system administrators are:

Student System	Debbie Afoa
LMS	Ron Moran
Payroll/Personnel	Pam Durnil
FAMS	Lois Kelly
Prospective Students	Gertrude Arnold

For a description of each of these applications, please see chapter 6, Administrative Data Processing.

CMS Applications

Indicate if you want to use CMS as an individual user (often referred to as the VM system) and check the appropriate boxes for application access. The Financial System is the only CMS application that requires system administrator approval. Contact William Hart in Accounting after requesting a UserID for access to the Financial System.

Indicate the other CMS applications you want.

* PROFS is a menu driven mail and calendering system
* MailBook (formerly RiceMail) is an e-mail system that can be accessed from Menu 3 of PROFS or can be used without going to the PROFS menu.
* Watfile

If you want to use the CMS system for a class/lab application, fill in the bottom part of the Mainframe UserID Request Form. This requires a short course description, the course number and section number. Also needed are the number of students and your (the teacher's) CMS UserID. Remember that all student UserID's including class UserID's are automatically deleted one week after the semester's end. To retain these UserIDs please notify the Data Center several weeks before the end of each semester.

On the reverse side of the Mainframe UserID Request form is a section to be filled out if a non-BSU funding source will reimburse any use of BSU facilities. Include the name and address of a person or organization to be billed. See Appendix C for a breakdown of charges.

Following that section, indicate what logon password you want. A password must consist of letters and numbers with the first character being a letter. They must have at least four characters, but are limited to eight characters. For example, the following are acceptable passwords:

TEST   ECONOMIC   R568   EZ32

This password will be your initial password and can be kept for up to 180 days. You must change your passwords at least every 180 days. Failure to change the password will prevent you from logging on the system after the 180 days have expired.

Your signature and that of one other person -- generally the department chairman if you are faculty, or supervisor if you are a staff/administrative user. Student applications will be verified for current status in the student system, so approval signatures are not required.

Send the completed form to the Center for Data Processing, B-116. If you need help filling out any portion of the form, call the Help Desk at x4357.

After receiving your UserID and password, Help Desk Document Mainframe-05 has a listing of common CMS commands which may be useful.

UNIX Based Applications

The UNIX based computer GOZER can be used to provide dial-in access to other computer systems on the campus network using software called Multiple Protocol Gateway (MPG).

To a use the Data Center IBM RS6000 UNIX system, VIPER, as a primary account, you will need a user identification name (UserID) and password. User identification names are assigned by the Data Center after you complete a UserID Request form. In order to acquire an account the user must be either faculty or staff. Call the Data Center at x1433 for additional information.

Some of the uses of GOZER are C-Complier, and Scedule25. For a description of the applications which can be accessed, please see Chapters 4, Software Applications and 5, Academic Computer Networks.

Network File Servers

Boise State University has thirty-four file servers networked on campus. The Data Center is responsible for fiber optic connections and technical assistance of networked hardware. Each College/Department has a System Administrator who is responsible for UserIDs, application access and software maintenance on their individual machines. See Appendix H for a listing of file servers and their respective System Administrator. Some file servers have guest accounts for faculty and staff for temporary access needs. Contact the appropriate System Administrator for access needs to a specific server.

Varney - Student Mail System

Varney is a Novell network server set up exclusively to provide all students on campus an e-mail account allowing them to send and receive e-mail on the internet and on campus.

To acquire an account the user must be currently enrolled as a student. Faculty and staff can also receive an account on Varney. Forms are available from the Center for Data Processing in B-116.

Your account name will be the first four characters of your last name followed by the last four digits of your student number. For example, student **Bob Jones 123-45-6789** would have the account name **JONE6789**.

Once you have your UserID and password, Help Desk Document BSU-01 has instructions on how to get to Varney. Help Desk Document BSU-02 is specific for Faculty and will assist in setting up e-mail groups. The Help Desk Documents Internet-02, -03, -04 will also be of interest if you would like to use FTP, Telnet and USENET. For information on using Trumpet to read USENET, see Help Desk Document Internet-08. The complete library of Help Desk Documents can be found in Appendix A.

CHAPTER 4
Computer Software
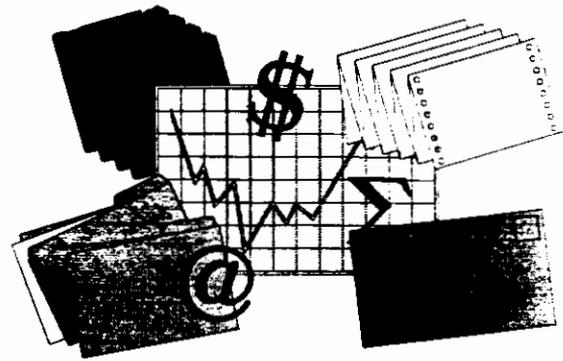
This chapter lists all of the software supported by the Center for Data Processing. Each description lists the platform that the software runs on, and the training and documentation available. The support level is divided into two categories, **supported** and **partially supported**.

> **Supported** means that the Data Center will do everything it can to support the product including: training, installation assistance, technical support, access to vendor help, updates and software patches.

> **Partially supported** products are those packages that are not used by the campus at large or other software that the Data Center does not specifically promote.

Training

Training provided is divided into three categories, **classes, workshops/brownbags**, and **Departmental training**. These services are free to BSU faculty and staff.

> **Classes** usually take several hours to complete and cover multiple topics.

> **Workshops/brownbags** are short 1 to 2 hour seminars which are very specific about their topics.

> **Departmental training** is special training that is tailored for a specific department or group of users. The time needed is dependent upon the type of skills which will be covered.

Take Home Licenses

The Data Center has Home or Portable Computer Provisions for the following software: McAfee Anti-Virus, Yterm, Trumpet for Windows, and TCPMan. The agreements allow BSU faculty and staff to have the software on multiple machines.

The Home or Portable Computer Provisions for the Software License Agreement for Novell/WordPerfect applications DO NOT APPLY for BSU site licenses. A license must be purchased for each machine which will be running Novel/WordPerfect applications.

Shareware Licenses

When downloading shareware, you must comply with the licensing agreements within the software application. Shareware is not free software. After the evaluation period is over, you must pay the registration fee stated in the documentation. Unregistered use of shareware is in violation of U.S. and international copyright laws.

Copying Software

Any software which is under BSU site license agreements are to be used only on registered machines. No copying or distributing of software is to be done without the prior consent of the Data Center. To register workstations, file server or other equipment for use of Site licenses please call the Data Center at x1398.

Supported Software

Application	Page	DOS	Windows	Macintosh	Unix	Mainframe
Aldus PageMaker	15		X	X		
AppleShare Server	25			X		
AppleTalk	25			X		
ClarisWorks (v4.0)	10			X		
Endora Light	19			X		
FileMaker Pro	12		X	X		
FTP	22	X	X	X	X	X
Gopher	23	X	X	X	X	X
GroupWise	16	X	X	X		
InterNetNews	26		X	X	X	
LAN WorkPlace	21	X	X			
Macintosh System 7	7			X		
Macintosh PC File Exchange	28			X		
MailBook (formely RiceMail)	17					X
McAfee Anti-Virus	27	X	X			
Microsoft DOS (v5.0 or later)	6	X				
Microsoft Windows (v3.1 or later)	6		X			
NCSA Mosaic	24		X	X		
Netscape	24		X	X		
NetWare (V4.0 or later)	26	X		X		
Norton Utilities	28	X	X	X		
Paradox (v4.5 or later)	12	X	X			
PopMail	18			X		
ProComm Plus	20	X	X			
PROFS/OfficeVision	16					X
Query Mangement Facility	13					X
Quattro Pro (v5.0 or later)	11	X	X			
SAS	14	X	X			X

Supported Software

Application	Page	DOS	Windows	Macintosh	UNIX	Mainframe
SEV (Schedule 25)	8		X		X	
SPSS	14		X			X
Telnet	21	X	X	X	X	X
UNIX	17				X	
USENET News	23	X	X	X	X	X
Virex	28			X		
VMBACKUP	27					X
WordPerfect (Current Version)	9	X	X	X		
WordPerfect Informs	17	X	X	X		
WordPerfect PerfectOffice	18		X			
WordPerfect Presentations	15	X	X			
Yterm (v2.1 or later)	20	X				

Partially Supported Software

Application	Page	DOS	Windows	Macintosh	Mainframe
dBASE	29	X	X		
LISREL	29				X
Mainframe Programming	29				X
Micro Computer Programming	29	X	X		
Microsoft Excel (Current Version)	29		X	X	
Microsoft PowerPoint (Current Version)	29		X	X	
Microsoft Word (Current Version)	30		X	X	
ObjectVision	30		X		
Pegasus Mail	30	X	X	X	
Script	30				X
Trumpet	30		X		
Watfile	31	X			X

Supported Operating System Software

Microsoft DOS (v5.0, v6.0 or later)

Platform: IBM PCs & Compatibles

MS DOS is the most widely used operating system software for personal computers. MS DOS versions 5.0 and 6.0 have many new powerful features that enhance the ability of your PC. These include the ability to run DOS in high memory, the ability to load programs in upper memory, a new DOS editor, and the DOS Shell, an improved graphical interface.

Availability: MS DOS is available from a variety of local vendors and is purchased on a departmental basis. There is currently no site license.

Training: Departmental training available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with purchase of DOS. In Appendix A is Help Desk Document PC-01 which will explain how to use Memory Management in DOS 5.0 and 6.0.

Microsoft Windows (v3.1 or later)

Platform: IBM PCs & Compatibles

Microsoft Windows is an operating system extension for MS DOS that provides the user with a rich graphical interface. The Windows graphical interface combines the use of a keyboard and a mouse to provide a more intuitive and efficient work environment. Windows also gives you the ability to use more than one application at a time. Switching between programs is accomplished by a set of simple hot-keys.

Availability: Windows is available from a variety of local vendors and is purchased on a departmental basis. There is currently no site license.

Training: Departmental training available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with purchase of Windows. In Appendix A is Help Desk Document PC-02 which will help with multitasking network applications.

Macintosh System (version 7.5)

Platform: Macintosh

Macintosh operating system. Provides capabilities for general productivity, printing, collaboration, document appearance and multimedia. The Finder facilitates the process of accessing menus, copying giles, opening windows, and launching applications.

Availability: Comes bundled with purchase of a Macintosh (with no documentation). Upgrades are available through the Bookstore. Macintosh System Software is also available at the Faculty Lab.

Training: Departmental training available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Must be purchased through the Bookstore.

UNIX

Platform: IBM PCs & Compatibles

UNIX is a powerful 32-bit operating system and is used to provide dial-in access to other computer systems on the campus INTERNET. Although one of the goals of UNIX is compatibility across various vendor platforms, many different flavors (dialects) of the UNIX operating system have evolved. At BSU the following types of UNIX systems are used: HP-UX, IBM-AIX, DEC-ULTRIX, ATT System V, and SUN OS.

Availability:

Training: No training available.

Documentation: Available with software purchase.

Supported Administration Software

SEV (Schedule 25)

Platform: UNIX & Windows

WARNING: This software application is in the process of being impllemented and tested. The version available is aprototype and has very limited featrues. The full implementaiton is expected to be completed by Fall, 1996.

SEV is the view-only module of Schedule 25 and 25E classroom and events scheduling software. This software is utilized to schedule most classes into specific classrooms at BSU. The view module allows the SEV user to look at reserved as well as unreserved classrooms in a variety of ways. It supports searches by room, time, dates, and several other types of structured queries.

Availability: The SEV viewing module is available for users that have a SEV account on GOZER. Contact x1159 for information.

Training: Workshops and instruction is available on request and will be scheduled as early as resources become available. Contact x1159 for information.

Documentation: In process of being developed at this printing.

Supported Word Processing/Editor Software

WordPerfect for DOS (Current Version)

Platform: DOS

WordPerfect for DOS is a complete word processing package for PCs. It includes many features that are usually found only in complex desktop publishing software. It includes merge, sort, macros, spell checking, thesaurus and much more. It also contains a powerful graphic image import feature that allows you to bring PC Paintbrush, AutoCAD, Microsoft Windows Paint and TIFF graphics files into your word processing document.

Availability: WordPerfect is available through the Data Center under a site license agreement. Contact x1398 for details.

Training: Beginning classes, workshops/brownbag and Departmental training are available from the Data Center.   Call x1433 for details.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

WordPerfect for Macintosh (Current Verison)

Platform: Macintosh

WordPerfect has a simple interface, incredible graphics handling, and powerful editing and drawing tools. WordPerfect can take full advantage of the latest Macintosh technology such as QuickTime, TrueType, 32-bit compatibility, and Publish and Subscribe. WordPerfect makes complex and repetitive tasks simple by using macros and the Macro Editor.

Availability: WordPerfect is available through the Data Center under a site license agreement. Contact x1398 for details.

Training: Departmental training is available from the Data Center.   Call x4357 for details.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

WordPerfect for Windows (Current Version)

Platform: Windows

WordPerfect for Windows is a complete word processing package for Windows based computers. WordPerfect for Windows incorporates all of the features of the DOS version of WordPerfect into its graphical interface. It is also fully compatible and allows file exchange with the DOS version. WordPerfect for Windows provides the user with easy-to-use pull-down menus and point-and-click editing features that are only found in Windows based software.

Availability: WordPerfect is available through the Data Center under a site license agreement. Contact x1398 for details.

Training: Beginning classes, workshops/brownbag and Departmental training are available from the Data Center. Call x1433 for details.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

ClarisWorks (v4.0)

Platform: Macintosh

ClarisWorks is an integrated package for Macintosh computers that includes a word processor, graphics, spreadsheet, database and communications module at an affordable price. ClarisWorks requires very little memory to operate unlike many of the full-featured word processing packages that can require several megabytes of memory to operate. Even though it is inexpensive and requires little memory, ClarisWorks has most of the features that the average person would use.

Availability: Available from BSU Bookstore. No site license available.

Training: Departmental training available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with purchase of software.

Supported Spreadsheet Software

WordPerfect Quattro Pro (5.0 or later)

Platform: DOS & Windows

Quattro Pro for DOS or Windows is a state-of-the-art spreadsheet program that makes data entry and statistical/graphical analysis easier than ever. Quattro Pro includes many powerful features including: multiple windows, mouse support, sorting, searching, translating files, analytical graphing, auditing, file management and macros.

Availability: Quattro Pro is available through the Data Center under a site license agreement. Contact x1398 for details.

Training: Beginning classes, workshops/brownbag and departmental training are available from the Data Center. Call x1433 for details.

Documentation: Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

Supported Database Software

Borland Paradox (Current Version)

Platform: DOS & Windows

Paradox is a full-featured relational database management system that can be used as a stand-alone system or as a multi-user system on a network. The ultimate power Paradox gives you is the ability to create your own database applications. Paradox's rich set of design features gives you the exact look you want for your forms and reports.

Availability: Site license available to all users at BSU. Contact x1398 for details.

Training: Beginning classes, and Departmental training are available for Paradox for Windows from the Data Center. Call x1433 for details.

Documentation: Hard copy of reference materials can be ordered from Borland . Call the Data Center at x1398 for a current price list and instructions on how to order.

Claris FileMaker Pro

Platform: Windows & Macintosh

FileMaker Pro for Macintosh is a sophisticated database manager that utilizes point and click simplicity. With FileMaker anyone can create a database and generate professional looking reports in minutes. The advanced layout manager lets the user generate a columnar report or labels with just a click of the mouse. Although File-Maker is basically a flat-file database, it incorporates many relational type functions. Records can be linked and looked up between database files.

Availability: FileMaker is available from local vendors. No site license available.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with software purchase.

IBM Query Management Facility

Platform: IBM Mainframe

QMF is an interactive query product that works with Structured Query Language/Data System (SQL/DS), IBM's relational database. QMF allows you to extract data from tables in SQL/DS in order to create reports or charts. With QMF you can access data kept in tables, perform calculations, insert or remove data in your tables, and print reports in many different formats.

Availability: On-line and available to users who have a mainframe account. Call x4357 for additional information.

Training: No training is available.

Documentation: Available for purchase from IBM. CMS Primer and beginning information available at the bookstore.

Supported Statistical Software

SAS

Platform: Mainframe, DOS & Windows

SAS is a powerful software system for statistical analysis and data management. Features common to all three platforms include descriptive statistics, categorical data modeling, linear and non-linear models, and multivariate methods. We also have additional modules for time series analysis and operations research procedures, such as linear programming and network analyses. Low and high solution graphics are also available. These features are available on all platforms.

Windows and PC (non-windows) versions include the entire suite of SAS products, with some not available through the mainframe. These features include SAS/ASSIST, a menuing system that eliminates the need to write any program code, applications development features and IML, Interactive Matrix Language.

Availability: All mainframe modules are available to users that have a CMS main-frame account. PC and Windows versions are available under the BSU site license. Call x1438 for information.

Training: Workshops, classes and Departmental training are available as necessary. Call x4357 for information.

Documentation: Available for purchase at the bookstore or through the SAS Institute.

SPSS

Platform: Mainframe and Windows

SPSS is a powerful statistical analysis package. Features of mainframe SPSS (SPSS-X) include descriptive statistics, categorical data modelling, linear and non-linear models, and multivariate methods. This program also provides a front end to LISREL , software used for linear structural relation models.

SPSS for Windows provides the same capabilities as the mainframe version, and as a Windows application eliminates the need to generate program code (coding is still an option). Higher resolution graphics are also available with this platform.

Availability: All mainframe modules are available to users that have a CMS main-frame account. SPSS for Windows is available under a limited site license. Call x1438 for information.

Training: Workshops, classes and departmental training are available as necessary. Call x4357 for details.

Documentation: Available for purchase from SPSS.

Supported Presentation, Graphic & Publishing Software

WordPerfect Presentations

Platform: DOS & Windows

Availability: Presentations is available through the Data Center under a site license agreement. Contact x1398 for details.

Training: Beginning classes, workshops/brownbag and Departmental training are available from the Data Center. Call x1433 for details.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

Aldus PageMaker

Platform: Windows & Macintosh

PageMaker is a sophisticated desktop publishing package that works like a computerized paste-up board. The ease of use, and power of PageMaker, make it a very popular package for both novices and expert desktop publishers. PageMaker takes raw text from a word processor, graphics from other applications, and combines them into a finished document. PageMaker is perfect for creating flyers, newsletters, documentation and even books.

Availability: PageMaker is available from local vendors. No site license available.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with software purchase.

Supported Office Automation/E-mail Software

PROFS/OfficeVision

Platform: IBM Mainframe

PROFS is an office automation package that allows users to exchange information quickly and effectively. PROFS allows you to send and receive electronic mail, maintain your calendar, and store and retrieve notes and documents. When used by a group, PROFS allows individuals to check other calendars in order to save time when scheduling meetings, reduce paperwork and eliminate telephone tag.

Availability: On-line and available to all users who have a mainframe account.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: See Appendix A, Help Desk Documents Mainframe-09 and Mainframe-10 for information on how to use PROFS Mail and Calendar features.

GroupWise

Platform: DOS, Windows & Macintosh

GroupWise (formerly WordPerfect Office) is an office automation package that can run on a stand-alone PC or a workgroup of networked computers. GroupWise includes a powerful electronic mail system, an office scheduler, calendar, calculator and file manager. The DOS, Windows and Macintosh versions all interoperate so that users have the freedom to choose the computer platform that best suits their needs.

Availability: Available through the Data Center under a site license agreement. Contact x1398 for details.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

MailBook

Platform: IBM Mainframe

MailBook (formerly RiceMail) is an electronic mail package that allows a VM user to communicate with other VM users at BSU. MailBook is also an SMTP mail package that allows you to communicate with PROFS, MACPost and Pegasus mail users and any other users across the internet that use an SMTP mail package. MailBook is simple to use and learn because it is based on XEDIT, the VM/CMS text editor.

Availability: On-line and available to all users who have a mainframe account.

Training: No training available.

Documentation: See Appendix A, Help Desk Document Mainframe-11 for MailBook Tips.

WordPerfect InForms

Platform: DOS, Windows & Macintosh (Filler Only)

WordPerfect InForms is made up of two applications - Designer, and Filler. The WP InForms Designer is used to create both electronic and printed forms. You can create and customize forms with drawing tools that let you make circles, boxes, arcs, and lines. The Tool Palette lets you create entry fields, radio buttons, action buttons, check boxes, tables, bar codes, and drop-down list boxes to make your form functional. The WP InForms Filler is for those who need to fill in the forms created with the InForms Designer. Users can look up and edit database information from within the filler.

Availability: Available through the Data Center under a site license agreement. Call x1398 for details.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

PerfectOffice

Platform: Windows

PerfectOffice is a desktop applications suite. PerfectOffice is the only applications suite to contain PerfectFit technology, a common code base shared by all the suite components. PerfectOffice also offers an extensive set of common suite tools. The speller, thesaurus, drawing module, grammar checker, file manager, Coaches and Experts are shared among applications. Desktop Application Director (DAD) is a customizable toolbar that allows users to switch easily among all the suite applications.

PerfectOffice Standard includes WordPerfect, Quattro Pro, WordPerfect Presentations, InfoCentral, Envoy and Symmetry client. *PerfectOffice Professional* includes all of the above products as well as Paradox and Visual AppBuilder. *PerfectOffice Select* is a "create your own" suite solution. You can select from any of the applications in the Standard and Professional version, as well as WordPerfect workgroup applications, WordPerfect Main Street and a variety of third-party applications.

Availability: PerfectOffice is available through the Data Center under a site license agreement. Contact x1398 for details.

Training: No training available.

Documentation: Available electronically from the Data Center. Hard copy of reference materials can be ordered from WordPerfect Corporation. Call the Data Center at x1398 for a current price list and instructions on how to order.

POPMail

Platform: Macintosh

POPMail is an electronic e-mail system for personal computers. With POPMail you can send and receive e-mail messages to anyone on your local-area network or to anyone on the Internet.

Availability: Available through the Data Center. Contact x1398 for details. Also available at FTP site ftp://boombox.micro.umn.edu/pub/pc/popmial/popmail-3.2.2.

Training: No training available.

Documentation: Available at FTP site ftp://boombox.micro.umn.edu/pub/pc/popmail/popmail-3.2.2.

Eudora Light

Platform: Macintosh

The Eudora by QUALCOMM electronic mail package gives you an easy, affordable and reliable way to communicate and collaborate across town or around the world. Eudora's exciting feature set saves you time in composing, managing and replying to your electronic mail. And, because it's Internet 'native,' Eudora provides you with easy-on, easy-off access to the Information Superhighway.

Availability: Available through the Data Center. Contact x1398 for details. Also available for downloading from Qualcomm Home Page http://www2.pcy.mci.net/ marketplace/qualcomm/.

Training: No training available.

Documentation: Available electronically from Qualcomm Home Page http:// www2.pcy.mci.net/marketplace/qualcomm/

Supported Communications/Emulation Software

Yterm (v2.1 or later)

Platform: DOS

Yterm is a telecommunications application primarily used for IBM 3270 mainframe terminal emulation. The main advantage of Yterm is that the keyboard is already properly mapped for 3270 operation. It also allows for transfer of files to your remote PC using a menu driven program called PCTRANS.

Availability: Site license available to all users at BSU. Contact x4357 for details.

Training: No training available.

Documentation: See Appendix A, Help Desk Document COMM-02 for instructions on dialing into the IBM Mainframe. Help Desk Document COMM-03 explains transferring files with Yterm's PCTRANS.

ProComm Plus

Platform: DOS & Windows

ProComm is a general purpose program designed to provide easy and convenient access to a broad variety of telecommunications tasks. It can emulate a number of popular terminals and has several file transfer protocols including XMODEM, Kermit, Telink.

Availability: Can be ordered through the BSU Bookstore or from local vendors.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with software purchase.

Supported Internet Tools

LAN WorkPlace

Platform: DOS & Windows

LAN WorkPlace is a complete TCP/IP connectivity package for DOS and Windows workstations which utilizes the ODI network platform. It enables concurrent connection to NetWare servers and TCP/IP inter-network services. It includes the following TCP/IP programs and utilities: FTP, TFTP, TELNET, TN3270, PING, FINGER, Finger Daemon, RCP, FTP server daemon (FTPD), TELNET server (XPC), LPR, LPRM, LPQ, RPD, RPR, RPS, REXEC, RSH, IP Resolver, and TALK.

Availability: Site license available to all users at BSU. Contact x4357 for details.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: See Appendix A for Help Desk Document PC-05 to use TN3270 to access the IBM Mainframe; Help Desk Document PC-06 has instructions on how to FTP; and Help Desk Document PC-07 explains how to use TNVT220 to connect to remote Telnet hosts.

Telnet

Platform: Mainframe, DOS, Windows, Mac, UNIX

Telnet is used for logging into other computers on the Internet. It can be used to access mainframe programs, library card catalogs and other public information and database services. Telnet lets you sit at your computer and log into a remote computer that is located somewhere else on the Internet. When you are connected, it is as if your keyboard is directly connected to the other remote computer.

There are several different kinds of Telnet programs. Some remote computers, like our IBM mainframe, require that you log in using a 3270 style Telnet called TN3270 (Telnet + 3270). Other remote computers, like the BSU library's card catalog system called Catalyst, require that you log in via a VT100/VT220 style Telnet. A VT100/VT220 style Telnet program might be called Telnet, TNVT100 (Telnet + VT100), or TNVT220 (Telnet + VT220) depending upon what computer platform you are currently using. To determine which Telnet program is required for your platform, please see Help Desk Document Internet-01 in Appendix A.

Availability: A Telnet program is available for all computer platforms at BSU. See Appendix A, Help Desk Document Internet-01, Internet Services Guide.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: See Appendix A, Help Desk Document Internet-03 Using Telnet to Login to Remote Computers, Mainframe-13 VT100 Telnet, PC-03 Saving Telnet Session Data to Disk, and PC-07 TNVT220 to remote Telnet hosts.

FTP

Platform: Mainframe, DOS, Windows, Mac, UNIX

FTP is a program that allows you to move files from one computer to another across the Internet. By using FTP you can find anything from legal opinions to recipes to free software. FTP is named after the protocol or language that it uses called **File Transfer Protocol.** It doesn't matter where the two computers are on the Internet, and it doesn't even matter if the two computers are the same kind of computer. A PC can use FTP to transfer files to and from a UNIX-based computer or a Macintosh can transfer files to and from an IBM mainframe computer. As long as both computers talk the FTP protocol, files can be transferred back and forth between them.

As with Telnet, each computer platform has its own version of FTP that it can run. On the mainframe and DOS computers you would use FTP, on a Macintosh you would use XferIt, and on a Windows-based machine you would use RapidFiler. To determine what FTP program is required on your platform, please see Help Desk Document Internet-01 in Appendix A.

Availability: An FTP program is available for all computer platforms at BSU. See Appendix A, Help Desk Document Internet-01, Internet Services Guide.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: See Appendix A, Help Desk Document Internet-02: Transferring Files with FTP, Mainframe-07: How to FTP directly to Your Mainframe Minidisk and PC-06: LAN WorkPlace for DOS - FTP.

USENET News

Platform: Mainframe, DOS, Windows, Mac, UNIX

USENET News is similar to an electronic bulletin board system. News articles and discussions are posted electronically to special computers on the Internet called **news servers** that organize the messages into **news groups**. News items can then be read on your computer by means of a news reading program. A news reading program communicates with a news server and allows you to read the messages posted in the different news groups. Items can be browsed and read at the leisure of the user. You can read them every day, once a month, or once a year without having all the messages sent to you.

Availability: A news reader program is available for all computer platforms at BSU. See Appendix A, Help Desk Document Internet-01, Internet Services Guide.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: See Appendix A, Help Desk Document Internet-04: Accessing USENET Network News, and Internet-08: Reading USENET with Trumpet.

Gopher

Platform: Mainframe, DOS, Windows, Mac, UNIX

Gopher is an Internet lookup tool that lets you browse through the Internet by selecting items from menus. When you find something you like, you can read or access it without having to worry about what Internet tool to use, or what the address or IP number is.

Availability: A Gopher client is available for several computer platforms at BSU. See Appendix A, Help Desk Document Internet-01, Internet Services Guide.

Training: Departmental training is available from the Data Center. Call x1433 for details.

Documentation: See Appendix A for Help Desk Document Internet-06: Browsing the Internet with Gopher.

NCSA Mosaic

Platform: Windows & Macintosh

With hyperlinks, NCSA Mosaic provides an easy point-and-click interface to the World-Wide Web. A single click of the mouse on a hyperlink will cause Mosaic to retrieve and display a document, move to another location on the WEB, or retrieve an image, sound file or movie clip.

Availability: Mosaic is currently shareware and can be downloaded from several FTP sites. Contact the Data Center for current FTP sites which are available.

Training: Workshops and Departmental training are available from the Data Center. Call x1433 for details.

Documentation: See Appendix A for Help Desk Document Internet-07: Traveling the Internet with Mosaic. Also, a NCSA Mosaic homepage is available at **http:\hawk.idbsu.edu\wmostoc.html**

Netscape

Platform: Windows & Macintosh

Availability: Netscape is currently shareware and can be downloaded from several FTP sites. Contact the Data Center for current FTP sites which are available.

Training: Workshops and Departmental training are available from the Data Center. Call x1433 for details.

Documentation: See Appendix A for Help Desk Document Internet-07.

Supported Network Software

AppleTalk

Platform: Macintosh

Networking product that includes data link drivers for LocalTalk, Ethernet and Token Ring, AppleTalk transport protocols, NBP built-in naming service and SNMP network manageability. Enables system administrators to manage Macintosh computers on global networks using existing SNMP management consoles. Provides foundation for network printing and file sharing, e-mail and database service.

Availability: AppleTalk is purchased on a departmental basis. Contact the Data Center at x1250 for more details.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: No documentation available.

AppleShare Server

Platform: Macintosh

This file and print server package lets AppleTalk network users share information and use network printers. Transforms computers into network servers that provide shared file storage for up to 150 concurrent users and queued access to five network printers. Other servers and applications programs can run at the same time as on one computer. Includes enhanced password security, administrator messaging, application launch control and print spooling.

Availability: AppleShare is purchased on a departmental basis. Contact the Data Center at x1250 for more details.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: No documentation available.

INN

Platform: UNIX, Macintosh & Windows

InterNetNews is a USENET transport and expiration application for managing news from newsgroups on the Internet. BSU receives its internet newsfeed from Micron via UUCP and then feeds news files to various Network News Transport Protocol sites on campus. From these sites several Windows tools can use the NNTP servers to subscribe to news, newsgroups and other newsfeed transmissions. The software application which can be used for this include Trumpet,Netscape, GroupWise, as well as others.

Availability: If you want to add a newsgroup to the list of groups available at BSU, contact Frank Ferryman, x1159.

Training: No training is currently available. Contact x1159 for information.

Documentation: In process of being developed at time of printing.

NetWare (4.0 or later)

Platform: NetWare(DOS/Macintosh Machines)

Novell NetWare is a high-performance network operating system that allows UNIX, OS/2, DOS, Windows and Macintosh computers to connect via a network cabling system forming a networked workgroup. A NetWare file server allows these workgroups to share applications, data and printers among networked computer workstations.

Availability: NetWare is purchased on a departmental basis and is available from the Data Center at special university pricing.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: A NetWare Guide is available from the Data Center and electronically.

Supported Utility Software

McAfee Antivirus

Platform: DOS & Windows

McAfee is a virus detection and removal system that consists of two utilities SCAN and CLEANUP. SCAN identifies and detects over 2,900 known viruses and their variants. SCAN checks files, sub-directories, diskettes or entire systems for infections. CLEANUP removes the viruses that SCAN identifies. CLEANUP will totally disinfect your system or diskettes.

Availability: 300 Administrative licenses available. Academic machines can use at no additional charge.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available on diskette with software.

VMBackup

Platform: IBM Mainframe

VMBackup is an on-line file backup and restore system for the IBM mainframe. The Data Center uses VMBackup on a daily, weekly, and monthly schedule, to save files on tape. Users can restore old files, or previous versions by using VMBackup. Simply type VMBackup at the CMS prompt and follow the on-screen instructions. Files will be restored to your reader list if you use the defaults or they can be restored directly to your "A" disk if you use the expert level.

Availability: On-line and available to all users who have a mainframe account.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: On-line help available. Press PF1 after entering VMBackup.

Macintosh PC File Exchange

Platform: Macintosh

Macintosh PC Exchange allows a Macintosh computer to work with and exchange DOS files. Macintosh users can format DOS diskettes and save files to them in DOS format.

Availability: Available from local vendors. No site license available.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with software purchase.

Norton Utilities

Platform: DOS, Windows & Macintosh

Norton Utilities are an excellent set of Macintosh utilities that are used for data recovery, file protection, hard drive maintenance and backup.

Availability: Available from local vendors. No site license available.

Training: No training available

Documentation: Available with software purchase.

Virex

Platform: Macintosh

Virus detection utility. Scans diskettes to prevent virusesfrom infecting hard drive. Scans files as they are used to detect viruses before they cause damage. Provides scheduling feature which allows user to automatically scan specified folders/volumes at startup, shut down or on schedule. Includes instant repair capability.

Availability: Available from local vendors. No site license available.

Training: Departmental training is available from the Data Center. Call the Help Desk at x4357 for details.

Documentation: Available with software purchase.

Partially Supported Software

dBASE
Platform: DOS/Windows
Borland's dBASE V is the industry standard data storage and retrieval system. dBASE is an extremely powerful application that incorporates database files, catalogues, views, forms, reports and labels. By using the applications generator a user can develop complex applications for retrieval of information. dBASE also features Structured Query Language (SQL).

LISREL
Platform: Mainframe
LISREL is software that analyzes a variety of linear structural relation models. It is an add-on procedure to SPSSX and allows you to fit causal path models, estimate simultaneous equation models and variance components.

Mainframe Programming
Platform: IBM Mainframe
The following programming languages are available on the IBM mainframe:
ADA: Similar to Pascal, developed for U.S. Department of Defense.
ASSEMBLER: Used to translate Assembler programs into object modules.
C: A general-purpose, function oriented programming language.
COBOL: Common Business Oriented Language.
FORTRAN: FORmula TRANslator. A language for use in scientific problems.
PASCAL: Used for teaching programming and for doing systems programming.
PL/1: All-purpose language that is similar to FORTRAN.

Micro Computer Programming
Platform: DOS & Windows
The following programming languages for IBM compatible computers are available:
Borland C++ : Create Windows & DOS programs.

Microsoft Excel
Platform: Windows & Macintosh
Microsoft Excel for Macintosh and Windows is a sophisticated program that combines database and graphics features into a powerful spreadsheet application. Excel can perform business analysis, forecasting, budgeting and cash flow management. It features fast calculation, point and click mouse support, data linking and macro creation.

Microsoft PowerPoint
Platform: DOS & Macintosh
Microsoft PowerPoint is a business graphics application used for creating professional looking presentations. PowerPoint is the perfect tool for creating on screen slide shows, 35mm slides, overheads and handouts. Users can create their own drawings or use PowerPoint's built-in layouts and clip-art.

Microsoft Word
Platform: Windows & Macintosh

Microsoft Word is an easy-to-use and powerful word processing package for both Windows and Macintosh users. Word allows the user to revise tools & menus, define style sheets, integrate spelling correction, generate outlines, setup newspaper columns, and create professional quality documents. Word also interacts and links data with other Microsoft products like Excel.

ObjectVision
Platform: Windows

ObjectVision is a Windows-based product that allows users to visually create applications without programming. ObjectVision's visual programming technology uses graphical decision trees to represent and capture business rules, and gives non-technical users the power to easily create their own applications without traditional programming. Applications can be connected to a variety of popular databases and operate in a multi-user network environment.

Pegasus Mail
Platform: DOS, Windows & Macintosh

Pegasus Mail is an electronic mail system that runs on and requires a NetWare file server. When installed on a file server all users have immediate access to Pegasus Mail and can communicate with each other. Pegasus is also an SMTP mail package which enables users to communicate with MACPost, PROFS & MailBook users, as well as any user on the internet who is using an SMTP based mail package.

Script
Platform: IBM Mainframe

SCRIPT is IBMs mainframe document composition facility that is used for text processing and document creation. Because many people now have word processing packages on their PCs, SCRIPT is most useful for those who only have a mainframe terminal. Use of this software involves: 1) Create the text in XEDIT on the mainframe. 2) Add information to the text called text markup. Markup includes such things as page breaks, underlining and bolding. 3) Process the document using the text formatter SCRIPT. 4) Display or print the formatted document.

Trumpet
Platform: Windows

Trumpet allows yo to read the articles within the USENET news groups. A news group is a grooup of articles with arelatedtopic. News groups are arranges in hierarchies so that related topics are grouped together. Each of these news groups contain a list of articles with are usually transient in nature and generally don't stay on teh news server for more than a week or so.

Watfile

Platform: Mainframe & DOS

Watfile is an interactive data manipulation system designed for use by non-technical computer users. Watfile allows the user to create and manipulate lists of data (flat-file databases). With Watfile, files are easy to create and modify. Functions include sort, average, and calculate. Reports can be created quickly, and mailing labels can be produced automatically. See Appendix A for Help Desk Document Mainframe-12.

CHAPTER 5
Academic Computer Networks
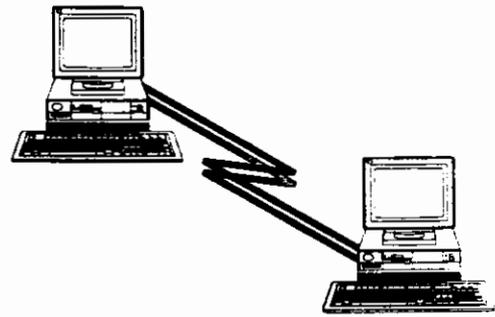
This chapter describes how to gain access to academic computer networks around the world. The BSU campus network is directly connected to the Internet. This means that all users of the IBM mainframe, UNIX hosts or personal computers that are connected to the network can access resources around the world via the Internet.

Using the Internet

What is the Internet?

In simple terms, the Internet today is a collection of many separate network systems that communicate together via high-speed telephone lines sometimes called data highways. The main backbone of the Internet is provided by the NSFNET, or National Science Foundation Network. The NSFNET backbone is the data highway that ties other networks/highways together to form the Internet. TCP/IP or IP (Internet Protocol) is the language that allows computers to talk with each other over the Internet.

Some of the other networks that tie into NSFNET are Defense Data Network (DDN), NASA Science Network (NSN) and other smaller regional network providers. BSU's network is part of one of the smaller regional TCP/IP networks called WESTNET.

The Internet Topology
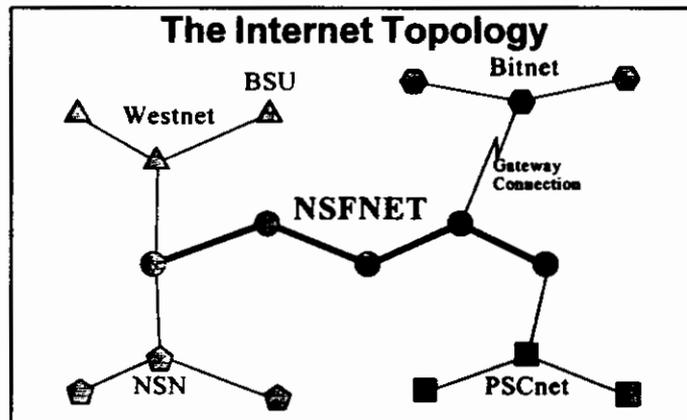
Recently, some of the non-IP based networks like Bitnet, Compuserve, Fidonet, and DECnets have connected to the Internet. Because these networks don't use TCP/IP to communicate, *gateway* connections were developed to transfer their information back and forth from the Internet. (Note: BSU's IBM mainframe is also a Bitnet gateway.)

The Internet has diversified into a support network for academic, commercial and recreational uses as well as for government and military research. The Internet's main purpose is to facilitate research and cooperation among universities, industry and government agencies. Although the largest number of networks are in the United States, the Internet connects networks in Canada, Mexico, Japan, Europe, New Zealand, Australia and Asia. Since each network that connects to the Internet is managed separately, and new users are added daily, at any one time the number of computer/users available is difficult to assess. Estimates vary from over 100,000 up to several hundred thousand computer/users.
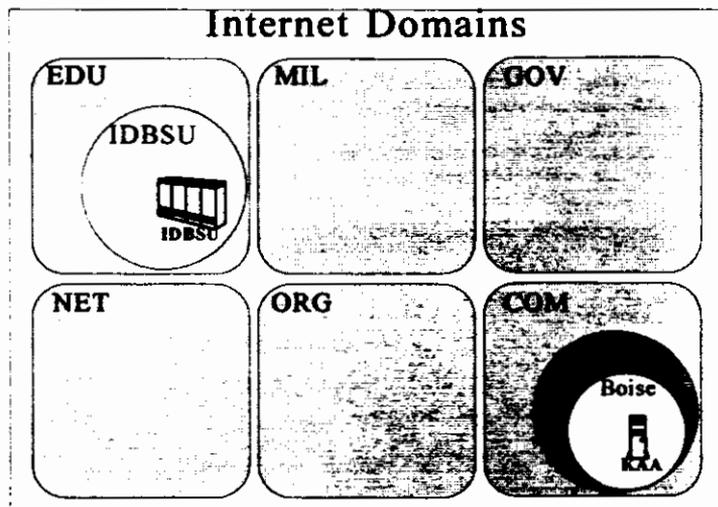
Internet Addresses

In order to access information on the Internet, you must know the Internet "address" of the host computer you wish to communicate with. Every host computer and Internet user has a unique address. This means that to copy files, run programs, or send mail to other people via the internet you must use the "address" for the specific host or person that you wish to communicate with.

Internet addresses are based on a four-level numeric combination. For example, the BSU IBM mainframe's Internet address is 132.178.16.1. As you can see it would be very difficult to remember all these numbers for all the different computers and users that you would like to communicate with. Therefore, an easier way was created called the "Domain Name System" that enables us to communicate with computers by using "names" instead of numbers. Under this naming system the BSU mainframe is identified as IDBSU. The ID in IDBSU stands for Idaho and distinguishes our mainframe from other universities that are using BSU like Ball State University. In order to keep track of what name goes with what numeric address, special computers called "Domain Name Servers" are set up in different areas of the Internet. Because of the large number of computers, the Internet was broken up into smaller areas called domains. Each domain manages all the names and addresses for the computers in its area. There are six major Internet domains which are as follows:

1. COM: For commercial organizations
2. EDU: Educational organizations (universities, secondary schools)
3. GOV: Governmental organizations, non-military
4. MIL: Military (army, navy, etc.)
5. ORG Other organizations
6. NET: Network resources

(Note: *Because the Internet is worldwide, there are also around 300 country domain codes like CA for Canada and NL for Netherlands.*)

Our domain at BSU is called IDBSU.EDU. This is because we are a university which is a part of the EDU domain of the Internet. IDBSU designates our portion of the EDU area and is represented by the circle labeled IDBSU in the following diagram.

Internet Domains

The complete Internet address for computers in our domain are created by adding the hostname to the domain name. The BSU mainframe's complete Internet address using the domain name system would be as follows:

$$\text{1DBSU + IDBSU.EDU = } \textbf{IDBSU.IDBSU.EDU}$$

Another example of a complete Internet address is illustrated in the above diagram. The host computer called KAA in the Boise area of the domain HP.COM would have a complete Internet address of KAA.BOISE.HP.COM. A user's Internet address is defined as the UserID plus an @ symbol plus the complete host address. If your UserID on the BSU mainframe were RSASMITH, your complete Internet address would be the following:

$$\text{RSASMITH + @ + IDBSU.IDBSU.EDU = } \textbf{RSASMITH@IDBSU.IDBSU.EDU}$$

Bitnet Addresses

Many people communicate with users on other network systems that are tied to the Internet via gateways like Bitnet. To communicate with Bitnet , a slightly different addressing standard is used. A Bitnet address is composed of the UserID, the host computer name and BITNET. There are no domain names in Bitnet addresses; all addresses have the form USERID@HOST.BITNET. Therefore, if you wanted to communicate with a user on Bitnet, and their UserID was RJONES and their host computer's name was ORSTATE, their complete Bitnet address would be the following:

$$\text{RJONES + @ + ORSTATE + BITNET = } \textbf{RJONES@ORSTATE.BITNET}$$

Internet Tools

In order to access information on the Internet, special tools or programs must be used. This section will discuss six of the most prominently used Internet tools which are: Telnet, FTP, Mail, USENET News, and Gopher.

Telnet (Remote Login)

Telnet is used for logging into other computers on the Internet. It can be used to access mainframe programs, library card catalogs and other public information and database services. Telnet lets you sit at your computer and log into a remote computer that is located somewhere else on the Internet. When you are connected, it is as if your keyboard is directly connected to the other remote computer.

There are several different kinds of Telnet programs. Some remote computers, like our IBM mainframe, require that you log in using a 3270 style Telnet called TN3270 (Telnet + 3270). Other remote computers, like the BSU library's card catalog system called Catalyst, require that you log in via a VT100/VT220 style Telnet. A VT100/ VT220 style Telnet program might be called Telnet, TNVT100 (Telnet + VT100), or TNVT220 (Telnet + VT220) depending upon what computer platform you are currently using. To determine what the Telnet program is called on for your platform, please see Help Desk Document Internet-01 in Appendix A.
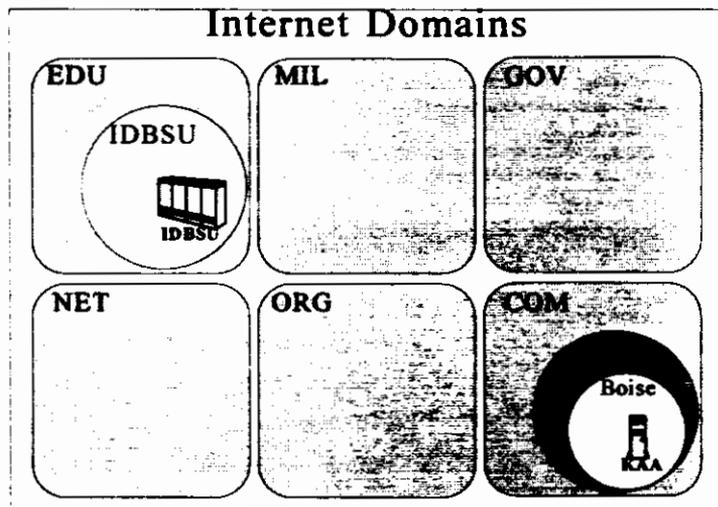
FTP (Transferring Files)

FTP is a program that allows you to move files from one computer to another across the Internet. By using FTP you can find anything from legal opinions to recipes to free software. FTP is named after the protocol or language that it uses called File Transfer Protocol. It doesn't matter where the two computers are on the Internet, and it doesn't even matter if the two computers are the same kind of computer. A PC can use FTP to transfer files to and from a UNIX-based computer or a Macintosh can transfer files to and from an IBM mainframe computer. As long as both computers talk the FTP protocol, files can be transferred back and forth between them.

As with Telnet, each computer platform has its own version of FTP that it can run. On the mainframe and DOS computers you would use FTP, on a Macintosh you would use Xferlt, and on a Windows-based machine you would use RapidFiler. To determine what your FTP program is called on your platform, please see Help Desk Document Internet-01 in Appendix A. Like Telnet, FTP requires you to specify the machine with which you would like to exchange files.

Mail (Electronic Mail)

The primary Internet usage for most network users is sending and receiving mail. Electronic mail is different than other Internet tools like FTP and Telnet because it is not an "end to end" service. This means that your computer need not be able to

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communicate directly with other mail users' computers for it to work. There are two types of e-mail used at BSU, Internet Mail and Bitnet Mail. Internet mail is based on the sender/receiver mail model and Bitnet mail is based on the "store and forward" mail model. The protocol of Internet mail is SMTP (Simple Mail Transfer Protocol). With SMTP mail, messages are transferred between two host SMTP mail servers, one being the sender and the other the receiver. The transfer mechanism is a two-way transmission channel. If the SMTP receiver successfully processes an incoming message it responds back to the sender with an OK reply.

Bitnet mail is very similar to the way the U.S. Postal Service operates. When you send a letter via the Postal Service, you put the letter in an envelope, address it and put it into a post box. The letter is then picked up by a mail carrier and stored at a Post Office near your location. The letter is then sorted and forwarded to another location (store and forward). This process is repeated until the letter finally arrives at the destination mailbox. If the mailbox happens to be in a place where the U.S. Postal Service cannot deliver, like another country, then the U.S. Post will pass the letter on to the Postal Service of that country.

Just as in the Postal Service, if an E-mail message is addressed to another network, like Bitnet, there must be a place where the e-mail from one network (Internet) is handed off to the e-mail service of the other network (Bitnet). This message hand off is completed by special computers called gateways that talk to both networks.

Whether or not your e-mail gets to its destination depends almost solely on whether or not the address is correct. Sometimes a message will not be delivered because of a hardware problem, but this is rare. Be sure to check the Internet or Bitnet address you are sending to when you are having a delivery problem.

USENET News (Network News)

Network News is similar to an electronic bulletin board system. News articles and discussions are posted electronically to special computers on the Internet called **news servers** that organize the messages into **news groups**. The main news groupings are as follows:

1. Comp   Computer related topics
2. News   Network news related topics
3. Rec   Recreational related topics
4. Sci   Scientific related topics
5. Soc   Social related topics
6. Talk   Controversial topics
7. Misc   Anything that doesn't fit the above categories

News items can then be read on your computer by means of a news reading program. A news reading program communicates with a news server and allows you to read the messages posted in the different news groups. Items can be browsed and read at the leisure of the user. You can read them every day, once a month, or once a year

without having all the messages sent to you. See Help Desk Document Internet-04 in Appendix A.

Gopher (Browsing the Internet)

Gopher is an Internet lookup tool that lets you browse through the Internet by selecting items from menus. When you find something you like, you can read or access it without having to worry about what Internet tool to use, or what the address or IP number is. For example, if you wanted to use the on-line card catalog at the University of Utah, rather than searching for the address and using Telnet to access it, you could run Gopher, find a menu line item for it and hit enter. Gopher will do all the work for you.

To access a Gopher system, you need a Gopher client program for your computer or you can simply use a standard VT100 style Telnet program. For more details on using Gopher see Help Desk Document Internet-06 in Appendix A.

LISTSERV (Subscribing to Bitnet Forums)

Listserv is a computer program that runs on computers that are part of the Bitnet network which manages "discussion groups" for people who have similar interests. A computer that runs the Listserv program and manages a discussion group is called a Listserver. The discussion groups are topic-oriented forums that distribute messages to all subscribers via e-mail.

When you subscribe to a Listserv discussion list, all messages sent to the forum will be automatically forwarded to your e-mail address. Because all messages sent to the discussion list are forwarded back to you, Listserv subscriptions can become overwhelming. Many lists generate hundreds of messages everyday! For this reason many of the Bitnet discussion lists are actually posted to the Internet USENET Network News service. The messages can then be viewed on USENET without having to subscribe to them. This eliminates the hundreds of messages you would receive otherwise. For detailed information on Listserv subscriptions see Help Desk Document Internet-05 in Appendix A.

Mosaic

NCSA Mosaic is a browser for the World Wide Web, part of the Internet that is based on Pages with hypertext links to other Pages.

Once you are on a Home Page, there usually is text explaining what that Page is about. Somewhere on the Page will be links to other items, distinguished by underlining or a different color text. By clicking on the Links you can be taken to another Page. Other things that may appear as Links are: a file for you to download to your machine, a sound you can play, a movie you can view, and connections to other services like Gopher. For additional information see Help Desk Document Internet-

07 in Appendix A. A NCSA Mosaic Home Page is available at **http:// www.ncsa.uiuc.edu/SDG/software/winmosaic**.

Netscape Navigator

Netscape Navigator is used to access information, communicate, and conduct commerce on the Internet. With Web browsing, email, news, file transfer capabilites and new ease-of-use enhancements integrated into a seamless package, you can use more of the Internet, more easily.

As the resources on the Internet grow, you need an easy way to track and organize your favorite Web sites. Netscape Navigator's bookmark feature provides a drag-and-drop, folder-based interface for saving and accessing your favorite sites. Users can drag and drop links from any Web page into the bookmark window and arrange them according to their needs.

Transferring files to your computer from the Internet is quick and easy with the file transfer interface. By providing a separate window for file transfer, you can transfer multiple files in the background while accessing other resources on the Internet. A progress indicator provides you with detailed information on the status of your file transfer.

For additional information see Help Desk Document Internet-07 in Appendix A. Netscape Home Page is available at **http:/home.netscape.com.**

WAIS

WAIS (Wide Area Information Server) lets you search through Internet archives looking for articles containing groups of words. WAIS is a tool for working with collections of data, or databases. WAIS will search indexes made in hundreds of libraries and bring up the particular topic you asked for.

To make a document available through a WAIS, someone must create an index for that server to use in the search. For textual information, every word in the document is usually indexed. When you request a search from a WAIS client, it contacts the servers that handle the libraries you suggested. It asks each server to search its index for a set of words. The server then sends you a list of documents that may be appropriate. You can pick which documents to view, and WAIS will display them for you.

WWW

The World-Wide Web (WWW) is an attempt to organize all the information on the Internet using hypertext. Hypertext is a method of presenting information where selected words in the text can be clicked upon and provide other information about the word. The hypertext is a link to other documents which can be text, files, pictures, sounds or even movies.

Home pages are used to organize the links which, when selected, can go any place. For example, you can become a tourist and go anywhere in the world (providing there exists a home page!) First you select the country from a world globe. Then travel to a designated city, and on to the local sights. Click on the park, the cathedral or the local museum and take a tour without leaving the comforts of your home.

Boise State University has a home page available. To connect, go to **http:// www.idbsu.edu.** Topics include Student Services and Resources, Academic Departments & Programs, Campus Information & Events, Other Services & Information, People & Pages, Athletics at BSU and Community Connections.

CHAPTER 6
Administrative
Data Processing
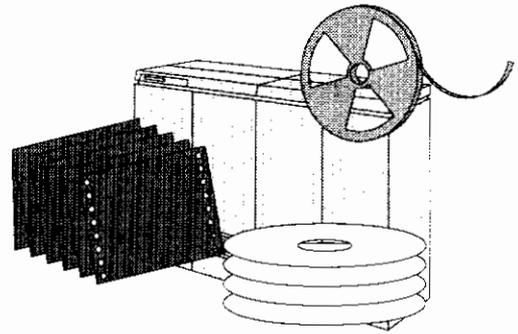
Introduction

Administrative Data Processing is a group within the Data Center that provides data-processing services to support Boise State's administrative objectives. Available services include new system development and production systems.

Because of the high cost required for many of the following services, the Executive Steering Committee approves projects undertaken by Administrative Data Processing to be sure they coincide with the goals and objectives of the university. This committee is composed of the chief executive officers of Boise State and its purpose is to review, evaluate, and prioritize project requests.

The Committee Coordinator (Associate Vice President) is responsible for communicating between the committee and data processing users, including:

* Preparation of the meeting agenda.

* Presentation of project proposals.

* Communication of committee action to users.

* Progress reporting for projects under development.

* Incorporating committee decisions into the Center for Data Processing's long-range plans.

What follows is a brief description of each of the services provided by Administrative Data Processing.

New System Development

"Development" is the addition of data processing services not presently rendered, and may include new programs, procedures, systems, and/or equipment.

User requests that will require up to ten days or $5,000 of Data Center resources, can be approved by the Manager of Administrative Data Processing. All projects exceed-

ing this limit (10 person-days or $5,000) must be forwarded to the Executive Steering Committee for consideration.

Preparation of a project proposal for submittal to the Executive Steering Committee is a joint effort between the user and Administrative Data Processing. The completed project proposal must be approved by:

1. The unit head or department chairperson in the user administrative unit or academic department.

2. The Manager of Administrative Data Processing.

3. The Associate Vice President for Data Processing and Information Systems.

The Associate Vice President for Data Processing will place the proposal on the agenda for the next scheduled meeting of the Executive Steering Committee.

A guide for preparing the project proposal can be found at the end of this chapter.

Production Systems

Requests for program changes or enhancements are initiated by the user, Center for Data Processing or programming staff. In all cases an electronic change request (in the case of the SR system) or a "Data Center Incident Report" form is generated and submitted to the user-coordinator who is responsible for logging into their Change Report index and assigning it a priority. It is then sent to the systems analyst responsible for maintaining the application. If a systems analyst has not been assigned, the Incident Report is sent to the Manager of Administrative Data Processing. Following are the administrative applications, user-coordinator and assigned systems analyst.

Loan Management System (LMS)
User-coordinator: Ron Moran, Manager
                     Student Loan Accounts
Systems Analyst: Linda Rose, Center for Data Processing
Function: Provides student billing and accounts receivable functions for the Student Loan office.

Financial Aid System (FAM)
User-coordinator: Lois Kelly, Director
                     Student Financial Aid Services
Systems Analyst: Linda Rose, Center for Data Processing
Function: Maintains records on students who have applied and/or received financial aid at the university. This system produces award letters sent to students and numerous reports that support the Financial Aid office in federal reporting requirements. This system integrates with the billing system to post awards to student records for calculation of student bills.

Prospective Student System

User-coordinator:	Gertrude Arnold, Director
	New Student Information
Systems Analyst:	Staff, Center for Data Processing
Function:	Provides a means of storing information about prospective students and tracks status of material they have requested. Produces mailing labels, listings of materials sent to students and other related reports.

Inventory System

User-coordinator:	Art Hotykay,
	Capital Property Inventory Accounting
Systems Analyst:	Staff, Center for Data Processing
Function:	Provides control reporting of all tagged items located on the university campus. This system generates reports regarding the area of responsibility for the equipment by account code and various information on university owned items.

Library Overdue System

User-coordinator:	Carol Clemens, Library Assistant
	CSC Library
Systems Analyst:	Staff, Center for Data Processing
Function:	Provides library overdue notices for the Curriculum Resource Center.

ACT/SAT System

User-coordinator:	Steve Spafford, Dean
	Admissions
Systems Analyst:	Mike Prenn, Center for Data Processing
Function:	Allows uploading of student ACT/SAT test scores to the Records and Registration data base and generates files for student profile studies. This system produces lists and labels of students meeting selection criteria as defined by individual departments.

Payroll

User-coordinator:	Pam Durnil, Manager
	Payroll
Systems Analyst:	Keith Kline, Center for Data Processing
Function:	Provides on-line data entry and reports for processing all employee time sheets. Information is uploaded to the Human Resource system for creation of payroll checks and transmittal of information to the State Auditor's office.

Position Control System

User-coordinator:	Ron Turner, Director
	Budget
Systems Analyst:	Staff, Center for Data Processing
Function:	Allows on-line data entry of employee personal information and produces reports for tracking positions and budget controls. Information is

used to create a file for producing the budget book as well as files that are downloaded to personal computers for creating contracts, salary recommendations and other ad hoc reports.

Finance System

User-coordinator: Mark Kroll, Supervisor
                      Accounting
Systems Analyst: Staff, Center for Data Processing
Function: The financial system is a fully integrated on-line system for the following financial functions:

* Budget allocation and control
* Requisition and purchasing
* Chart of accounts maintenance
* Vendor data base maintenance
* Central Receiving processing
* Accounts payable, checks and appropriated fund payable transactions (DA8)
* Grant accounting
* System security and access

In addition, there are automated interfaces into the payroll, financial aid, and accounts receivable systems to allow maintenance of all general ledger transactions produced by the university.

Records and Registration System

User-coordinator: Debbie Afoa, DP Production Services
                      Registrar
Systems Analyst: John Plowman, Center for Data Processing
Function: This system is a fully integrated student system for maintaining student information which facilitates the following subsystems:

* **Course sub-system**
  Ownership: Registrar, Susanna Yunker
  This sub-system provides an on-line list of all the courses that have been offered at the university and their associated requirements i.e., pre-requisites and/or co-requisites.

* **Admission applications sub-system**
  Ownership: Dean of Admissions, Steve Spafford
  This sub-system allows on-line entry, update and inquiry of student applications. This automated system insures admissions standards and regulations are followed when new students apply.

* **Transfer sub-system**
  Ownership: Registrar, Susanna Yunker
  This sub-system allows on-line entry of student transcripts from other institutions as well as entry of the equivalent classes and credit hours at the university. Transfer data is used in the registration process to automatically determine class standing and pre-requisite checking.

* **Drop/Add sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system allows on-line entry of requested classes with extensive on-line editing of student background against the classes requested. Student background checking includes items such as math placement scores , ACT scores and specialized English requirements. Pre-requisite checking and co-requisite checking is performed including normal BSU classes, transfer classes, non-traditional classes, priors and class restrictions. Shopping is provided to assist students who have time conflicts. Shopping allows the system to select a section that will fit into their schedule. Section and course statistics are automatically updated to prevent students signing up for classes that are closed or full.

* **Grade processing sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system allows on-line posting and processing of grades for the students at both mid-term and semester. Authorized grade changes by the registrar are allowed with an appropriate audit of changes captured.

* **Holds sub-system**

    Ownership: Registrar, Susanna Yunker and authorized departments

    This sub-system provides the ability to create on-line "holds" of a student's record to prevent registration. Authorized departments can enter the "holds" for such things as library fines or parking tickets. All "holds" can be overridden by appropriate authority.

* **Probation/Withdrawal/Dismissal sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system provides automatic monitoring of student records for probation students as well as dismissal, if required. In addition, this system monitors the re-instatement process. The withdrawal system provides information needed by the university when a student leaves. Reasons for withdrawal are tracked for statistical analysis to assist BSU in retention studies.

* **Billing sub-system**

    Ownership: Bursar, Leslie Pass

    This sub-system produces a bill for the student at the time of registration and if unpaid, creates reminders. This complex system calculates each bill according to appropriate information pulled from other systems such as financial aid and factors of scholarships, special fees, waivers, on/off campus rates and tuition waivers. Students are automatically dropped from classes for non-payment.

* **Reporting sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system allows on-line requests by departments for various reports. Reports are created in the evening and available the next morning.

* **Security sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system provides the security overlay for access to the on-line

student system. Access to the systems can be controlled at the sub-system function level down to an individual piece of information.

* **Ad Hoc Reporting sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system provides an extract of student information loaded into tables that can be accessed or questioned with a reporting program - Query Management Facility (QMF).

* **Section sub-system**

    Ownership: Registrar, Susanna Yunker

    This sub-system maintains all information about each section offered at BSU. Items tracked are student names, grades, instructor, location, time offered and miscellaneous activity counters used during registration.

* **Student Enrollment (SRINFO)**

    Ownership: Registrar, Susanna Yunker

    This sub-system creates a report of "Paid Academic Enrollment." This report is refreshed nightly and used by executives for tracking enrollment counts.

Project Proposals

Title Page

The title page shall consist of a short title, date of preparation, and signatures.

Summary

The summary shall present the key points of the project proposal.

Project Description

A project description should explain what the proposed system or service will accomplish for the university if it were implemented. Bounds or limits may be developed by describing what the project can and/or cannot accomplish.

Statement of Ownership

The office responsible for the project is identified here, including the number of staff available to work on the project and the availability of budget to buy or build the system.

Statement of Need

The statement of need shall describe the expected benefits of the project, stating the reasons the project should be implemented. The goals and objectives of the project should be stated and related to those of the university. (The statement of need contrasts with the project description, which describes what the system or service will do, whereas this section explains why the system or service is needed and who will benefit. It also addresses the consequences of not doing the project.)

Cost/Benefit Study

Cost/Benefit analysis shall compare the total benefits versus the total costs for the expected life of the system. All costs and benefits must be expressed in terms of dollars. Costs shall include both the developmental and operational costs to both user department(s) and the Center for Data Processing. The identification of costs will be the responsibility of the Center for Data Processing with input from user management. Benefits to both users and the Data Center will be identified and documented by the user department(s) with assistance from the Data Center. Savings in time and/or dollars that will be realized by the university are identified.

Scheduling Concerns

This section shall contain any scheduling concerns or time constraints that may affect the development of the proposed project (e.g., mandates, legal or contractual requirements, delivery schedules, project size, etc.)

Impact on Existing Systems

This section describes how the proposed system interfaces with other systems and sub-systems at the university.

Alternatives

Alternative approaches, including the possibility of the status quo, purchase of software package or in-house development, shall be presented and briefly reviewed.

Appendices

Supporting materials for the information provided in the previous sections may be presented in appendices. This information is not presented to the Executive Steering Committee, but is available for their use should the need arise.

Appendix Contents

APPENDIX A
Help Desk Documents

Available from the User Service Center located in the Data Center B-116. (**Note:** These documents are indented to be used by the majority on Campus. Some Help Desk Documents may not be able to assist you. Please call the Help Desk at x4357 for additional support.)

BSU Campus:

BSU-01	Varney - Student Mail System
BSU-02	Student Mail System - Instructions for Faculty
BSU-03	CWIS - Campus Wide Information System
BSU-04	CATALYST - Library Access
BSU-05	Exchanging E-Mail Across Campus

Communication:

COMM-01	Terminal Access Unit (TAU)
COMM-02	Dialing into the IBM Mainframe with Yterm v2.1
COMM-03	Transferring Files with Yterm's PCTRANS
COMM-04	VT100 Terminal Key Sequences
COMM-05	Remote Terminal Access

Internet:

INTERNET-01	Internet Services Guide
INTERNET-02	Transferring Files with FTP
INTERNET-03	Using Telnet to Login to Remote Computers
INTERNET-04	Accessing USENET Network News
INTERNET-05	Subscribing to LISTSERV Forums
INTERNET-06	Browsing the Internet with Gopher
INTERNET-07	Traveling the Internet with Mosaic/Netscape
INTERNET-08	Reading USENET with Trumpet

Mainframe:

MAINFRAME-01	Gaining Access and Logging On
MAINFRAME-02	Changing Passwords
MAINFRAME-03	Using MultiTerm/VM
MAINFRAME-04	Signing On to VSE/ESA CICS
MAINFRAME-05	CMS Commands
MAINFRAME-06	XEDIT: File Editor
MAINFRAME-07	How to FTP directly to Your Mainframe Minidisk
MAINFRAME-08	NETPRINT to direct Printer Jobs to NetWare Printers
MAINFRAME-09	PROFS Mail Tips
MAINFRAME-10	PROFS Calendar Tips
MAINFRAME-11	MailBook (Formerly RICEMail)
MAINFRAME-12	WATFILE/Plus: Data Manipulation System
MAINFRAME-13	VT100 TELNET

Personal Computers:

PC-01	Memory Management for DOS 6.0 and Above
PC-02	Windows to Multitask Network Applications
PC-03	Saving Telnet Session Data to Disk with LAN WorkPlace
PC-04	Resolver Configuration file for LAN WorkPlace
PC-05	LAN WorkPlace for DOS - TN3270
PC-06	LAN WorkPlace for DOS - FTP
PC-07	LAN WorkPlace for DOS - TNVT220
PC-08	LAN WorkPlace for Windows
PC-09	DOS 6.0 and Above Special Features

VARNEY

What is it?

VARNEY is a Novell network server set up exclusively to provide all students with full internet access from on campus as well as from home.

How do I get an account?

You must be currently enrolled or registered for classes at BSU to obtain or retain an e-mail account on VARNEY. To get a VARNEY account stop by the Data Center, room 116 of the Business building, and pick up the form from the table outside the door. Fill out the form (bubble sheet) using a #2 pencil. Drop the completed form into the box provided. All forms turned in before 4pm will be processed by 5pm that day. If you are unable to login after 2 days, stop by B-116 to verify your account was set up. You will be required to show your student identification card for verification of an account or to change your password.

What is my account name?

Your account name should be the first four characters of your last name followed by the last four digits of your student number. For example, student Pat Jones, 123-45-6789, would have the account name JONE6789.

How do I get access to it?

In most student labs on campus there will be a menu item that will attach you to VARNEY and run the mail program. Using mail you can send messages to classmates, professors, or anyone else in the world who has an e-mail account.

Can I call into it from home?

Yes, dial-in access to VARNEY from home is available. The dial-in procedure requires a home computer capable of running Windows v3.1 and at least a 9600 baud modem. For more information on dial-in, see the documentation on the World Wide Web. For information on accessing Web Documentation see the next paragraph.

How do I get access to more documentation?

We have moved the documentation to the World Wide Web. To access this documentation you need to go to any student lab that has either Mosaic or Netscape available. Using one of these web browsers, go to the BSU World Wide Web home page, http://www.idbsu.edu/, and select the Student Services and Resources button. From that page find the link to Varney and click there to access the BSU Academic Computer Networking Guide.

Student Mail System
Instructions for Faculty

Mail User-IDs:

The Student Mail System will give students a permanent mail User-ID for the course of their enrollment at the University. The mail IDs are generated in a way that will make it easy for you to determine what a student's ID is from your enrollment sheets. The ID is a combination of the first four letters of the last name and the last four digits of their social security number. Example:

<div align="center">

John Smith   467-34-5786

</div>

The mail ID would be generated as follows:

<div align="center">

SMIT   +   5786   =   SMIT5786

</div>

Setting up Groups:

Because of the sheer number of students and classes, setting up groups or distribution lists will be the responsibility of the instructor. The instructor can set up groups and distribution lists from his personal mail account in PROFS, RICE MAIL and PEGASUS. All student e-mail accounts will be located on the Pegasus mail host called "VARNEY." When setting up the distribution lists simply enter each student's mail ID as follows:

<div align="center">

SMIT5786@VARNEY

</div>

Students will address mail to the instructor as normal. If the instructor's mail account is on the mainframe the message would be addressed as follows:

<div align="center">

RBUJONES@IDBSU

</div>

Or if the instructor's account were on a Pegasus Mail server the student would address the message as follows:

<div align="center">

RBUJONES@COBFAC

</div>

Internet Address:

The student mail system can also communicate with the Internet and Bitnet. The full Internet address for students would look like the following:

<div align="center">

SMIT5786@VARNEY.IDBSU.EDU

</div>

CWIS
Campus Wide Information Service

Have you ever wanted to find a place to look for phone numbers, look up coming campus events, check on the hours for an athletic facility, search for a book in the library, or check the weather in some other city? You might not think to look right on your desk, but if you are attached to the campus network, or can dial into the campus — then you can access the Boise State Campus Wide Information Service. The CWIS, sponsored by the Center for Data Processing, is a computer based, easy to use, interactive service giving access to the public documents relating to the University.

The Campus Wide Information Service — we call it CWIS (pronounced quiz for short) will be a one-stop shopping place for information. It can include updated announcements, calendars, student employment information, catalog information, references and University standards. Throughout the CWIS, you can also reach universities and libraries all over the world. New features are being added frequently. Check the CWIS regularly to see what's new. The BSU campus-wide information service is available to all faculty, staff and students.

Accessing BSUINFO

From Home:
Use your modem and communication software to dial the campus. The number to call is:
9600 baud line — 385-3847

Once connected, a menu of available systems is displayed.
Type **bsuinfo** as the system to access.
Type **bsuinfo** (again) at the login prompt — bsuinfo must be lowercase

From a PC connected to the campus network using LAN WorkPlace:
From the DOS C> prompt,
Type in **TNVT220 GOZER**
Type **bsuinfo** at the login prompt.

If you are using Windows and have an icon for TNVT@@),
Click on the icon
Type **OPEN GOZER** at the TNVT220 prompt
Type **bsuinfo** at the login prompt — bsuinfo must be lowercase.

Note: You cannot connect to the CWIS if your are using CUTCP. If you are a CUTCP user, contact the Help Desk (x4357) to find out about acquiring LAN WorkPlace software to replace CUTCP.

From a Macintosh:
Double-click the Telnet icon
Select **File** from the menu
Select **Open**
Type **gozer** at the command line
Type **bsuinfo** at the login prompt—bsuinfo must be lowercase.

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Note: Some Macintosh monitors do not display the highlighting that is used in some CWIS files to distinguish between comments and selectable options.

From a mainframe VM session:

From a CMS account, type in **tnvt220 gozer**

Type **bsuinfo** at the login prompt—bsuinfo must be lowercase.

Note: When accessing the CWIS this way, PF keys are used instead of arrow keys to navigate through the system. A VT100 Terminal Key Sequence Help Document is available at the Data Center. To get one, call the Help desk and ask for Help Desk Document COMM-04.

From a UNIX machine:

Telnet to Gozer

Type **bsuinfo** at the login prompt—bsuinfo must be lowercase

CATALYST - Library Access

Catalyst is the Boise State University/Idaho State Library catalog. The system is available 24 hours a day and is accessable via our mainframe. Catalyst includes all books in the Library as well as many non-print items and can be found by exact author, title, subject, or by key words.

Searches
Searches can be limited to books in a specific language or published before or after a certain date, and can use front and back trunsaction in keyword searching. For example, enter * at the beginning or end of a word to substitute for letters, "*physics" or "astro*".

Access to Catalyst
Off-Campus
To access Catalyst from **off-campus** use any standard communication software. Dial **385-3847** to access the library. Your data settings should be set at:

<div align="center">

8 Data bits
1 Stop bit
Parity =n
Duplex full
Baud rate 1200, 2400 or 9600

</div>

1. Type: **catalyst**
2. Next, you will be prompted for your system teminal type. The most common is the VT100 emulation. Type **5** for VT100.
3. The Welcome Menu will let you select from a search or the library hours.

Mainframe
To access Catalyst via the Mainframe sign onto the mainframe (**Note:** syntax is case sensitive. Must be lowercase.)
1. At the ready prompt type: **tnvt100 catalyst**
2. Type: **login: catalyst**
3. Select terminal type **5** (VT100)
4. To get out select **3**.

LAN WorkPlace
To access Catalyst via LAN Workplace:
1. Start from the directory **c:\net\bin**.
2. Type: **TNVT220 Catalyst**
3. Login as: **catalyst**.
4. Choose **5** (VT100) as your terminal type.

Exchanging E-Mail Across Campus

If you want to exchange mail with someone who is using a different mail system, you will need to know:

1. Does your mail system access/exchange mail via the internet? If the answer is yes, proceed. If you don't know if your mail system has internet access, please check with your department PC or Network Coordinator. If you are using either of the mainframe mail systems, they do have internet access.

2. Does the mail system you want to reach access/exchange mail via the internet? If the answer is yes, proceed.

3. You must know the exact e-mail address of the person you want to correspond with. There is no universal e-mail directory at this time. Some (but not all) of the names in the 1994-1995 Faculty-Staff Directory have e-mail addresses listed at the end of their entry. Some of the listings are not complete addresses. Instead of guessing, telephone the person to be sure they use e-mail and to verify their email address. If they don't know their e-mail address, have them send you a message and you can identify their address.

In the "TO:" line of your email system - type the full e-mail address of your recipient. This means the address would be something like:

<p align="center">userid@xxxx.xxxx.xxx</p>

Remember, this full address is only required when you are sending to a recipient on a mail system other than the one you are using. WordPerfect Office (GroupWise) is an exception and you need to type the word **internet:** immediately before the userid address (with no space - i.e.: internet:argdoe@idbsu.idbsu.edu) on the 'To' line of the message when sending to other mail systems.

Examples of addresses currently being used on campus include:

Address	Mail System
userid@idbsu.idbsu.edu	Profs* and RiceMail
userid@bsu.idbsu.edu	WordPerfect Office 4.0a**
userid@claven.idbsu.edu	Eudora mail system for some MAC users
userid@cobfac.idbsu.edu	Pegasus Mail for College of Business faculty/staff
userid@VARNEY.idbsu.edu	Student mail system
userid@math.idbsu.edu	Unix machine in Math Department

Most e-mail systems have the ability to create nicknames or groups so that you don't have to type the long names again and again. This will save you time and possibly eliminate typing mistakes. Please call the HelpDesk if you want more information about nicknames/groups.

* PROFS requires the use of a nickname file (LNAME) for names longer than eight characters.
** Several departments on campus are using older versions of WordPerfect Office (3.0 and 3.1). These versions are not connected to the internet and cannot be reached by other mail systems on campus. Often faculty and staff in these departments are also using one of the mainframe mail systems to access the internet. Be sure to use their mainframe userid to reach these people.

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Terminal Adapter Unit (TAU)

The Ericsson phone system in place at Boise State University is an intelligent, digital phone system. In place of standard analog type modems, the Ericsson system uses a digital Terminal Adapter Unit or TAU. The TAU emulates a Hayes Smartmodem and connects directly to your computer's serial port just like a standard modem.

Availability:
The Ericsson TAU can be purchased from the BSU Telephone Services department at x3690. The TAU also requires that a data line be installed on your phone. This installation is performed by the Telephone Services department.

Connecting the TAU:
The TAU uses a standard RS-232C serial cable with a male and a female connector to attach it to your PC. The cable can be purchased through the Data Center Hardware Repair department. Call x4357 for information.

Plug the telephone cable from the wall into the TAU's jack labeled PBX. Then plug the short phone cable on the TAU into your phone. Next, plug in the AC power adapter. If everything is connected properly the Ready light on the TAU will blink momentarily and then remain on solid. (*Note: if the TAU's Ready light continues to blink call Telephone Services at x3690.*)

Using the TAU:
Your TAU should work with virtually all communications software, although there are no guarantees. YTERM, Procomm Plus and Windows terminal all seem to work fine. In your software package select "Hayes compatible" as the modem type. Also, most communications programs send an initialization string to the modem when it is invoked. It is recommended that you place the following line in your initialization string:

AT&C1&W

This should eliminate some possible problems encountered with carrier detect when your communications program is invoked. (*Note: for other settings and AT commands see the TAU-2620 operations manual.*)

Data calls to other computers on campus should be made at 9600 baud. All TAUs are set to default to 9600 baud. When making calls to modems off campus set your communications software to the appropriate baud rate of the modem you are calling and then simply dial 9 and the number. The Ericsson system will then connect you to the outgoing campus modem pool and select a modem with the correct baud rate to connect your call. (*Note: Sometimes when dialing 2400 baud numbers, the modem pool will not connect you to the correct pool of 2400 baud modems. To solve this problem simply dial 611, 9, and then the number. This will force a connection to the 2400 baud modem pool.*)

Dialing in to Your TAU:
It is also possible to dial into your TAU from a home computer and gain access to your campus PC. This requires that your TAU be setup with a **DID** phone number and that special remote control software be installed on your PC. Some remote control modem software will not operate correctly with a TAU. It is recommended that you test the software with the TAU before you purchase. To have your TAU setup with a DID number call the BSU Telephone Services department.

Troubleshooting:
If you experience problems with your TAU, disconnect and reconnect the power source to the back of the TAU. This can solve some basic modem problems.

BSU Mainframe with YTERM 2.1

YTERM is telecommunications program primarily used for IBM 3270 mainframe terminal emulation . The main advantage of YTERM is that the keyboard is already properly mapped for 3270 operation. It also allows for transfer of files to your remote PC using PCTRANS.

Step 1:
YTERM is controlled with the use of 2 batch files, IBM.BAT and IDBSU.LGN. These 2 files must be modified to comply with your PC's configuration. You can use EDLIN or EDIT to modify these files. The first file, IBM.BAT looks like the following:

```
x 64
setattr bsuattr
t 2 e b "/x" /c1 /i
logon idbsu
t 2 e b /c1
```

There are two modifications that must be made to the IBM.BAT. First, in line three and line five the 2 designates 2400 baud and should be changed to match the baud rate of your modem. Change as follows:

```
1=1200 baud
2=2400 baud
9=9600 baud
```

Also, in line three and five the C1 designates the COM port that your modem is attached to. Change this as follows:

```
C1= COM 1
C2=COM 2
```

Step 2:
There are also two changes that must be made to the file IDBSU.LGN. The file IDBSU.LGN looks like the following:

```
ECHO ON
IF ANYTHING GOES WRONG, START OVER 2 TIMES
USE COM1
TONE DIAL ATDT 3853847
CONNECT
type carriage return until "Please enter name of host:"
type "IDBSU"
type carriage return until "Enter terminal type:"
type "IBMPC" carriage return
```

First, line three reads "USE COM1". Simply change this to COM1, COM2, or COM3 depending on your configuration. Next, line four contains the proper phone number for your baud rate. The following phone number will automatically detected your modem speed for use at the University: **385-3847**

Step 3:
You are now ready to dial in. Type the following at the prompt: C:\yterm> **IBM<ENTER>**

> *(Note: The modem should now dial and connect to the BSU mainframe. The VM/XA mainframe logon screen will now appear. Logon as normal.)*

Step 4:
When finished, type: +++ and wait (DO NOT PRESS ENTER). When cursor returns, press **ALT+H** to disconnect the telephone connection.

Step 5:
Now logoff as normal and then press **CTRL + BREAK** to quit YTERM and return to DOS.

Key Mapping:	**Clear Key = + key on numeric keypad**	**F11 = NumLock**	**F12 = ScrollLock**

Transferring Files with YTERM's PCTRAN

YTERM has the ability to transfer ASCII and binary files to/from BSU's IBM mainframe and your home PC via a modem. T.COM in YTERM v2.1 contains comprehensive error-correcting file transfer services that work with a mainframe command called PCTRANS. To transfer a file with YTERM and PCTRANS do the following:

Step 1: Start YTERM and dial the mainframe C:\YTERM> **ibm**

Step 2: Enter userid and password at VM/XA screen USERID = = = > **argsmith**

Step 3: Run PCTRANS from CMS command line = = = > **pctrans**

The PCTRANS main menu will now appear and look like the following:

```
DO YOU WANT TO DO A  (SELECT ONE)

FILE TRANSFER       PF4
CLOCK FUNCTION      PF5
DIRECTORY           PF6
ERASE (PC FILE)     PF7
RENAME (PC FILE)    PF8
```

Step 4: Select File Transfer mode Press **PF4**

The File Transfer Screen will now appear and look like the following:

```
FILE TRANSFER TYPE:  UP
(UP, DOWN, UPBIN, DOWNBIN)

PC FILE NAME        XXXXXXXX
PC FILE EXTENSION   XXX

CMS FILE NAME       XXXXXXXX
CMS FILE TYPE       XXXXXXXX
CMS FILE MODE       A1
```

Step 5: Type in file transfer type FILE TRANSFER TYPE: **DOWN**

UP=Transfer ASCII text file from your home PC to mainframe.
DOWN=Transfer ASCII text file from mainframe to your home PC.
UPBIN=Transfer binary file from your home PC to mainframe.
DOWNBIN=Transfer binary file from mainframe to your home PC.

Step 6: Type in PC file name and extension (Type in UPPERCASE only) PC FILE NAME **REPORT**
PC FILE EXTENSION **TXT**

Step 7: Type in mainframe file name, type & mode (Delete all X's with spacebar) CMS FILE NAME **REPORT**
CMS FILE TYPE **TEXT**
CMS FILE MODE A1

Step 8: Press the ENTER key to start file transfer Press **<ENTER>**

Note on Binary Transfers

Binary transfers tend to be large executable, GIF or ZIP files. PCTRANS can have difficulty downloading these files from the BSU mainframe to your home PC. When FTP is initially used to retrieve binary files to your BSU mainframe account, the file is given a logical record length (Lrecl) of 8,192 by default. (*You can see the Lrecl of the binary file from the CMS filelist. Just type "F" at the CMS command line to view the filelist.*) To avoid any conflicts with PCTRANS, the binary file needs to have a Lrecl of 80. To set the Lrecl for the initial binary file to 80, type the following at the FTP prompt on the mainframe **before doing a GET**:

ftp command> **binary fixed 80**

The binary file will be saved on your mainframe account with an Lrecl of 80 and PCTRANS will be able to download the file to your home PC properly.

VT100 Terminal Key Sequences

Use the following table to map your VT100 terminal software default keyboard to the 3270 Functions which are commonly used.

FUNCTION	ASCII CODE	VT-100 KEY SEQUENCE
Enter	CR	RETURN
Clear	ESC, O, M	ENTER
Erase EOF	ESC, DEL	ESC, DELETE
PA1	ESC + Comma or ESC + Less	(ESC + ,) or (ESC + <)
PA2	ESC + Period or ESC + Greater	(ESC + .) or (ESC + >)
PA3	ESC + Slash or ESC + Question	(ESC + /) or (ESC + ?)
Home	BS	BACKSPACE
Cursor UP	ESC, O, A	Up Arrow
Cursor Down	ESC, O, B	Down Arrow
Cursor Right	ESC, O, C	Right Arrow
Cursor Left	ESC, O, D	Left Arrow
PF1	ESC, 1 or ESC, O, P	(ESC + 1) or F1
PF2	ESC, 2 or Esc, O, Q	(ESC + 2) or F2
PF3	ESC, 3 or ESC, O, R	(ESC + 3) or F3
PF4	ESC, 4 or ESC, O, w	(ESC + 4) or 7
PF5	ESC, 5 or ESC, O, x	(ESC + 5) or 8
PF6	ESC, 6 or ESC, O, y	(ESC + 6) or 9
PF7	ESC, 7 or ESC, O, t	(ESC + 7) or 4
PF8	ESC, 8 or ESC, O ,u	(ESC + 8) or 5
PF9	ESC, 9 or ESC, O, v	(ESC + 9) or 6
PF10	ESC, 0 or ESC, O, q	(ESC + 0) or 1
PF11	ESC, Hyphen or ESC, O, r	(ESC + -) or 2
PF12	ESC, Equal or ESC, O, s	(ESC + =) or 3
PF13	ESC, Exclaim or ESC, O, p	(ESC + !) or 0
PF14	ESC, AT or ESC, O, Q	(ESC + @) or 0
PF15	ESC, Pound or ESC, O, e	(ESC + #) or 0

Remote Terminal Access

The Data Center provides remote ASCII terminal access to the IBM system. Most ASCII asynchronous terminals and microcomputers running a terminal emulation program can access the system. The Data Center supports Hayes compatible 1200, 2400, and 9600 baud modems. A variety of equipment can be used to access the computers at Boise State University. Regardless of the type of equipment, two components are essential: a modem and a terminal.

Establishing a communication link with the IBM system requires that the remote terminal and modem be configured properly. The method of configuration is different for each type of modem and terminal. It is the responsibility of the remote user to know how to configure both the terminal and the modem at the remote site.

The Data Center does not guarantee the usability of any hardware from any remote site. It is the responsibility of the remote user to make sure that all hardware and software components are compatible.

Dial-up Access to the IBM System

The Data Center has provided remote access to the IBM system through 48 telephones and modems attached to a UNIX Gateway. These are speed sensing and will accept transmission rates of either 1200, 2400, or 9600 baud.

Both terminal and modem must be configured correctly to access the IBM system. Modem options must be set as follows:

Full Duplex
1200, 2400, or 9600 Baud

Modem options are set either with software commands or mechanical switches. The correct terminal configuration is also necessary to access the IBM system. The settings are as follows:

8 Data Bits
None Parity
1 Stop Bit
Full Duplex
XON/XOFF Pacing (optional)

Terminal configurations are set with software commands or mechanical switches.

1. After the modem and terminal have correctly configured, the telephone connection is made by dialing **385-3847**.

2. When the connection is made, press **<Enter>** (transmit a carriage return) once or twice. A menu will appear displaying computer available on campus.

3. Select **IDBSU** to go to the IBM ES9000 Mainframe. The gateway will prompt you for a terminal type.

4. Enter one of the supported terminal types. Your selection determines the operational characteristics of your terminal.

The following is a list of nine support terminal types:

Lear Siegler ADM3A	IBMPC (running YTERM)
Televideo TVI912	Datamedia DM1520
Televideo TVI920	Datamedia DM1521
Televideo TVI950	TTY terminals TYPETERM
Digital Equipment VT100	

Matching terminal characteristics to support terminal types can be either very simple or very difficult. Most microcomputer terminal emulation software, emulates a common terminal type. The terminal that is emulated is generally listed in the documentation. Reference your documentation for this information. If the remote connection involves a terminal or emulator that is one of the supported terminals, type in the correct terminal designator, i.e. ADM3A for Lear Sieglar ADM3A. If the terminal or emulator is not one of the supported types, selection is a trial and error process for a supported terminal that best fits the remote configuration.

5. Success is evident when the VMXASP logo appears on the remote terminal screen.

6. After choosing a terminal type, get a terminal function map from the Data Center for the selected terminal. This map lists the ASCII terminal key strokes that provide the IBM terminal functions, i.e. PF keys, CLEAR, TAB, etc.

7. At the conclusion of a terminal session type **LOGOFF** and disconnect the modem. If a telephone connection is broken during a terminal session the system generally disconnects the user. On re-entering the system the CP READ message will be displayed in the lower right hand corner. Type **B** to reactivate the session.

The Data Center provides online support Monday through Friday 8-5 through the User Service Center at 385-H-E-L-P (4357).

BSU Internet Services Guide

Function	RS6000 (VIPER) UNIX	Mainframe (IDBSU) VM/CMS	LAN WorkPlace DOS-ODI PC Workstation	Macintosh MAC/TCP
Internet File Transfer Protocol	FTP	FTP	FTP (DOS) Rapidfiler (Windows)	Fetch
Telnet (VT100 or VT220)	TELNET	TNVT100	TNVT220 (DOS) Presenter (Windows)	TELNET
Telnet (3270 emulation)	TELNET	TELNET	TN3270 & WINTN3270	TN3270
TN3270 File Transfer	N/A	N/A	(ALT + F) Send/Receive uses mainframe ind$file	FTP back from mainframe to Mac IP number
Internet Mail (SMTP)	MAIL	Rice Mail or PROFS	Pegasus Mail (requires NetWare)	EudoraLite PopMail
FTP File Server Services	FTP server available (FTP GOZER)	FTP Server available (FTP IDBSU)	Run FTPD to create FTP server. Serving FTP/WIN	FTPd
Telnet Server	N/A	N/A	Load XPC on PC to create a Telnet Server	NONE
USENET News System	N/A	N/A	Trumpet News for LAN WorkPlace (NEWSLWP.exe)	NewsWatcher Netscape
Gopher Client	N/A	Available via TNVT100	LWPGOPHR.exe or via TNVT220	TurboGopher
Archie	N/A	Available via TNVT100	ARCHLWP.exe or via TNVT220	AnArchie

Internet Services Guide

Help Desk Doc
User Service Center   **Boise State University**   *Internet-02*
                 Center for Data Processing

Transferring Files with FTP

FTP is a program that allows you to move files from one computer to another across the Internet. **FTP** stands for "File Transfer Protocol." With **FTP**, you can sit at your computer and transfer files to and from other computers in your building, on your campus, or around the world. To transfer files you must know the following: 1) the Internet address or name of the host, 2) a valid username and password for the host. Many **FTP** host sites allow you to log in with the user name "ANONYMOUS" and your USERID as the password. To start a file transfer do the following:

Step 1: Type ftp and host name   C:\\> **ftp ucsd.edu**

Step 2: Login as "anonymous"   Remote User Name: **anonymous**
                                   Remote Password: *userid@idbsu*

FTP Transfer Modes

By default, **FTP** transfers files in **ASCII** transfer mode. In **ASCII** mode all files are transferred as text files. Before you can copy binary files, such as executable programs, you must change the transfer mode to **BINARY**. The following table shows a list of compressed file formats that must be transferred in binary mode.

To transfer files in binary mode type **BINARY** at the ftp> prompt. All files will then be transferred in **BINARY**

Suffix	Program Needed	Suffix	Program Needed
.z	Compress	.zip	PKUNZIP
.pit	PackIt	.sit	STUFFIT
.zoo	ZOO210	.hqx	STUFFIT

mode. To switch back to ASCII mode, type **ASCII** at the ftp> prompt.

Copying Files from a Remote Host to your PC

To copy one file to your PC from a remote host use the "**GET**" command. To copy multiple files to your PC use the "**MGET**" command. The syntax for GET is: **GET** *remote_file [local_file]* (**Note:** if you specify *local_file, remote_file* will be renamed to *local_file*)

Sample GET: ftp> **GET report1.txt c:\wp51\report1.doc**

Sample MGET: ftp> **MGET *.doc**

Copying Files to a Remote Host from your PC

To copy a file to a remote host use the "**PUT**" command. To copy multiple files to a remote host use the "**MPUT**" command. The syntax for PUT is: **PUT** *local_file [remote_file]*   (**Note:** if you specify *remote_file, local_file* will be renamed to *remote_file*)

Sample PUT: ftp> **PUT report2.doc report2.txt**

Sample MPUT: ftp> **MPUT *.doc**

Other FTP Commands

DIR = Display remote directory	CD = Change remote directory	CLOSE = Close session
LCD = Change local directory	LDIR = Display local directory	HELP = List all commands
LS = Display a list of files	OPEN = Open connection to remote host	QUIT = Quit FTP

Using Telnet to Login to Remote Computers

Telnet is a program that allows you to login to other computers (remote hosts) on the Internet. It is known as the Internet's "remote login" application. With **Telnet**, you can sit at your computer and login to a remote computer in your building, on your campus, or around the world. **Telnet** is used to gain access to public services, library card catalogs and many other types of information. You can login to a remote host and emulate a terminal if you know the following: 1) the Internet address or name of the host, 2) a valid userid and password for the host. (Note: some hosts allow for public access) To start a **Telnet** session to a remote host type the following at the DOS prompt:

For LAN WorkPlace	C:\> **tnvt220** *hostname*
For other Telnet programs	C:\> **telnet** *hostname*

Telnet Command Mode

To enter **telnet** command mode, type telnet alone at the dos prompt (C:\>). You will then see the telnet command mode prompt. With LAN WorkPlace you will see **TNVT220>**, with other telnet programs you will see **TELNET>**. The telnet command mode prompt means that telnet is waiting for you to type a command. When you are in command mode you can type the word **help** or sometimes a question mark "?" to view a list of available **telnet** commands. To connect to a remote host from the command mode type the following:

For LAN WorkPlace	TNVT220> **open** *hostname*
For other telnet programs	TELNET> **open** *hostname*

In the following example, you will use LAN WorkPlace's **telnet** to connect to the BSU library system.

1. Establish a TNVT220 session with a host:	C:\> **TNVT220** *catalyst*
2. At the login prompt type catalyst:	LOGIN: **catalyst**
3. Press <RETURN> and select 5 for your terminal type:	**5**

You are now logged into catalyst and can access the library card catalog system. When finished, select 4 at the main menu to exit catalyst and quit your **telnet** session.

Useful Commands*

CLOSE: Closes current session	SEND: Transmit special characters
DISPLAY: Display operating parameters	SET: Set operating parameters
HELP: Lists all TELNET commands	STATUS: Displays status of sessions
?: Lists all TELNET commans	MODE: Enter line-by-line or character-at-a-time mode
OPEN: Establish a new session	Z: Suspend telnet session
QUIT: Closes all sessions & quits program	

* May not work depending on setup within Telnet session

Accessing USENET Network News

Network News is the Internet counterpart of an e-mail discussion group or, it can be viewed as similar to a bulletin board system. News articles and discussions are electronically placed, or "**posted**," to Internet news servers and organized into "**news groups**." The "**news items**" can then be viewed on your computer by means of a news reading program.

Unlike the e-mail discussion groups, **news items** can be read at the leisure of the user. With e-mail discussion groups, the messages are actually electronic mail messages that are sent to all subscribers of the discussion group. The user is bombarded everyday with messages that must be read or discarded. On the other hand, with **network news** you don't have to subscribe to a mailing list. **News items** can be browsed daily, once a month, or once a year without the problem with the volume of messages.

Network News Organization

News items are organized into "**news groups**" that are setup according to a voluntary set of rules for maintaining, using, creating and deleting news groups. These rules and the volunteers who use and respect those rules are called **USENET**. **USENET** is made up of seven well-managed news categories. They are:

comp	Computer science and related topics.
news	Groups concerned with the news network and news software.
rec	Groups discussing hobbies, recreational activities and the arts.
sci	Groups discussing scientific research and applications.
soc	Groups that address social issues. Also "politically relevant."
talk	Groups that debate controversial topics.
misc	Anything that doesn't fit the above categories.

News groups are organized with the **USENET** category name first, followed by an arbitrary number of subgroups. Each subgroup name is separated from its parent group name by a period. For example, the **news group** called "**rec.music.synth**" is a recreational discussion, in the general category of **music**, and is specifically a discussion of **synth**esized music. There are over 1800 different **news groups**.

Reading News

In order to read **network news**, you need to have access to a **news reader** program. There are many different **news readers** available for each computer platform. At BSU the most commonly used **news readers** are:

Trumpet News   DOS Workstation Running LAN WorkPlace: Run NEWSLWP.EXE at the DOS prompt.

NewsWatcher/Netscape   Macintosh: Click on NewsWatcher or Netscape icon.

All of these **news readers** allow you to view **news groups**, read **news items**, filter out unwanted groups, reply to discussions and **post** news articles. **NETNEWS** does not allow you to directly **post** to the news groups, but you can still **post** news items to the group by using e-mail. To post to a **news group** via e-mail, send an e-mail message addressed to the **news group** to one of two **USENET** news servers. For example, if you wanted to post a **news item** to **rec.music.synth** you would simply address an e-mail message as follows:

> *mail* rec.music.synth@cs.utexas.edu
> or   *mail* rec-music-synth@pws.bull.com
> *(Note: change periods in group name to dashes)*

Note: For additional information, see Help Desk Document Internet-08.

Subscribing to LISTSERV Forums

Listserv is a computer program that runs on computers that are part of the Bitnet network which manages "discussion groups" for people who have similar interests. A computer that runs the Listserv program and manages a discussion group is called a Listserver. The discussion groups are topic-oriented forums that are distributed out to all subscribers via e-mail.

When you subscribe to a Listserv discussion list, all messages sent to the forum will be automatically forwarded to your e-mail address. Because all messages sent to the discussion list are forwarded back to you, Listserv subscriptions can become over-whelming. Many lists generate hundreds of messages everyday! For this reason many of the Bitnet discussion lists are actually posted to the Internet USENET Network News service. The messages can then be viewed on USENET without having to subscribe to them. This eliminates the hundreds of messages you would receive otherwise.

Subscribing to a List:
The easiest way to subscribe to a discussion list is to use the "subscribe" command via electronic mail. Most all LISTSERV commands are used by placing the command as a single line message in an e-mail. If you wanted to subscribe to the discussion list called EMUSIC-L then you would use the following address and command string in your e-mail package:

> **Mail To:**   listserv@suvm.bitnet
> **Message:**   **subscribe emusic-l John Doe**

(Note: When you send commands to the listserv you can use the short ".BITNET" address as shown above.)

Sending a Message to the List:
To send a message to the list simply send e-mail to the group's name at its address as follows:

> **Mail To:**   **emusic-l@suvm.bitnet**
> **Message:**   **What ever you want to send to the group.**

Unsubscribing from a List:
*NOTE: **You must unsubscribe from the same machine you originally subscribed from.*** To cancel your subscription from a list simply send e-mail to the listserv at the BITNET address as follows:

> **Mail To:**   listserv@suvm.bitnet
> **Message:**   **unsubscribe emusic-l John Doe**

Other Commands:
The following is a list of other important commands that you can send to a **LISTSERV**. All of these commands are used like the examples by placing them as a single line message in e-mail to a LISTSERV. A common mistake is to send commands to the list instead of the LISTSERV.

list global	Use to see what LISTSERV groups are available
get refcard	Use to get a reference card summarizing all LISTSERV commands
index *listname*	Use to get an index of archived files about a group stored on a LISTSERV
get *filename filetype*	Use to get a particular file from the index list
set Mail/NOMail	Use to temporarily stop receipt of mail
signoff * (netwide	Use to unsubscribe from all lists on the network

Browsing the Internet with Gopher

Gopher is an Internet lookup tool that was developed by University of Minnesota, home of the "Golden Gophers." Also, the software's primary function is to "go fer" things, hence the name Gopher. Gopher allows you to browse through Internet resources via a menu system. One of the great benefits of using Gopher is the fact that you don't need to know the domain names or IP addresses of the Internet resources that you are attaching to. All the user must do is select which resource they would like to browse on the menu and Gopher does the rest.

Gopher Clients:
To access a Gopher server you must have a Gopher client program on your computer, use Telnet or use the BSU Home Page. There are Gopher clients available for most computer platforms. (*See Help Desk Internet-01 for information on what Gopher client is available on your platform. Also the Lan WorkPlace Gopher is available via FTP on TOPGUN.IDBSU.EDU. in the LWP41 directory.*)

With a VT100 style Telnet program you can also access Gopher servers. For example, with LAN WorkPlace's TNVT220 Telnet program you would simply login to the Gopher server as "Gopher."

> C:\> **tnvt220 gopher.uwp.edu**
> login: **gopher**
>
> Other Gopher addresses: consultant.micro.umn.edu
>   gopher.uiuc.edu
>   panda.uiowa.edu

You can also login to the BSU Campus Wide Information System or CWIS called "BSUINFO" to access Gopher servers. This method is probably the easiest. Login to BSUINFO and then from the main menu select "Access to off-campus resources." On the next menu choose "Various interesting places and resources." You will now see a menu option called "Gophers Galore." Select this menu item to access hundreds of Gopher sites.

What Can You Find on Gopher Servers:
Gopher allows you to see many types and forms of information throughout the Internet as if it were organized all on one central menu. There are hundreds of Gopher servers in the world that are interconnected to form "Gopherspace." The following re-sources can be found out in Gopherspace:

Files:	Electronic books
	Usenet and Listserv archives
	FTP archives
Telnet resources:	On-line library catalogs
	Telephone and E-mail directories
	Campus Wide Information Systems
Database searches:	Full-text searches of files stored in Gopher
	Archie and WAIS database searches
Miscellaneous:	Digitized sounds, MIDI files and graphics

How Gopher Functions:
When you first run your Gopher client software it will automatically connect to its home Gopher server and request the main menu. (*Note: Most Gopher clients are preconfigured with the IP address of their home Gopher server.*) The Gopher server then sends its main menu and your client software will display it for you. The user then can select items from the menu. When an item is selected the Gopher server sends specific information about the selected resource back to the Gopher client, for example the IP address of another server. The client then saves its current position in Gopherspace, in case you want to return to the previous menu, and takes the information sent from the Gopher server to attach to the new server. This process is repeated every time you make a menu selection. In this fashion you can hop from server to server in "Gopherspace."

Traveling Internet with Mosaic/Netscape

Mosaic and Netscape are browsers for the World Wide Web, part of the Internet that is based on Home Pages with hypertext links to other Home Pages. Both applications are Windows based.

Starting Up

When the Brower of your choice has been installed double-click the approprate icon. Once you are on a Page, there is usually text explaining what that Page is about. Somewhere on the Page will be links to other items, distinguished by underlining or a different color text. By clicking on the Links you can be taken to another Page. Other things that may appear as Links are: a file for you to download to your machine, a sound you can play, a movie you can view, and connections to other services like Gopher.

Getting to Other Pages

If someone else finds a great Page that you would like to go to, the Uniform Resource Locator (URL) for that Page is the location you need to connect to the specific Page. It will look something like BSU Homepage

<URL:http://www.idbsu.edu

Here's the interpretation:

URL: Uniform Resource Locator, an address of something the World Wide Web can access. It's called a Uniform Resource Locator because this same format is used for Pages, Files to download, Pictures to view, Movies to play, Sounds to play, and connections to other services.

http: HyperText Transfer Protocol, the way Pages are transferred from one machine to another across the Internet.

//www.idbsu.edu   Is a Page that is on VIPER, a machine at BSU.

Once you know the URL of another site, you can get there by selecting the **Open URL** choice in the **FILE** menu. Enter the **URL** in the **URL** box then select **OK** to switch Pages.

If you have difficulty with sounds/movies/pictures/etc. not working properly on your PC, call the Help Desk at x4357. There could be additional software needed or just re-setting preferences for the program to work properly.

Netscape

The **Button Bar** will allow you to move back and forth among the Pages you have opened. **Back** will take you to the previous Page, the **Forward** will take you to the next Page. The menu bar has a pull-down menu called **GO**, click on **GO** and then click on View **History** will bring up a list of all the places you have been. Double-clicking any of these will take you back to that Page. The **Net Search Button and Net Directory button** contains a list of various sites that are good starting points for further exploration.

If you find a Page you really like, you can add it to the **Bookmarks** pull-down menu by selecting the **Add Bookmark** choice, while you are still looking at that Page.

Mosaic/Netscape

A.21

Mosaic

The **Navigate Menu** will allow you to move back and forth among the Pages you have opened. **Back** will take you to the previous Page, the **Forward** will take you to the next Page. **History** will bring up a list of all the places you have been. Double-clicking any of these will take you back to that Page. The **Starting Points** menu contains a list of various sites that are good starting points for further exploration; NCSA Mosaic Home Page is a good one.

If you find a Page you really like, you can add it to the **Starting Points** menu by selecting the **Add to Current HotList** choice on the **Navigate Menu**, while you are still looking at that Page.

BSU Web Policy

The Data Center will grant accounts on its server (**www.idbsu.edu**) to all full-time employees, both faculy and staff. Others can have Web pages, but not on **www.idbsu.edu**.

Faculty may set up pages on **www.idbsu.edu** for a course. The instructor may allow students to create pages, and student may be granted accounts in tihs context, but the accounts will end when the course does.

Reading USENET with Trumpet

Trumpet is a program that allows you to read the articles within the USENET news groups. A news group is a group of articles with a related topic. News groups are arranges in hierarchies so that related topics are grouped together. Each of these news groups contain a list of articles which are usually transient in nature and generally don't stay on the news server for more than a week or so.

Setting Up Trumpet
Start the Trumpet program by double-clicking its icon. The first time you run Trumpet you will need to modify its setup. Pull the File menu down and select SETUP. You will now see the trumpet setup as seen below.

1. Enter the News Host Name of **viper.idbsu.edu** and the Mail Host Name of **idbsu.idbsu.edu**.
2. Next fill in your network userid in the E-Mail Address box like the one shown.
3. Your Full Name and Organization are optional.
4. Click the **OK** button. You can now subscribe to news groups.

	Trumpet Setup
News Host Name	viper.idbsu.edu
Mail Host Name	varney.idbsu.edu
E-Mail Address	smit1234 @ varney.idbsu.edu
Full Name	Bob Smith
Organization	Boise State University
Signature File Name	
POP Host Name	
POP User Name	Password
	☐ Fetch Read only
Ok	Cancel

Subscribing to News Groups
You will then be asked if you wish to subscribe to all news groups. The easiest thing to do is answer NO, then select the Group menu option, either by pressing **Alt-G** or **F10**, then select Subscribe. The program will say it is merging groups (Be patient this may take a while). You are then presented with a list of all the possible groups you can subscribe to.

1. Use the **arrow keys** along with the page up/down keys to highlight the first group you want that you want to subscribe to.
2. Press **enter** to subscribe to the group. Any group you select will appear in the upper section of the screen.
3. When you have finished selecting groups press **Esc**.
4. Highlight a group and press **enter** to read the articles within that news group.

*See reference in orange guide for Trumpet Setup to access remote mail.

Reading an Article
The button bar is designed to help you negotiate through the articles and news groups. You can click on any button with the mouse or use the keyboard equivalents.

Button	Keyboard	Actions
<<	F7	Go to previous article
>>	F8	Go to next article
View/List	F9	View list of articles
Format	F10	Format the article list
Skip All	Ctrl-S	Skip all articles
Post	Ctrl-P	Post a new article
Follow	Ctrl-F	Post a follow-up article
Reply	Ctrl-R	Reply to author of article
	Tab	Switch between groups

Reading/Sending Mail with Trumpet
You can switch between reading Mail and USENET Network News by pulling down the WINDOW menu and selecting either NEWS or MAIL.

1.   Click the MAIL button at the bottom of the screen.
2.   Put the address in the TO: box.
3.   Enter a Subject in the SUBJECT: box.
4.   Type your message.
5.   Click the SEND button.

Gaining Access and Logging On

Before you can use Boise State's IBM mainframe computer, you must have:

1. **A valid USERID:** To get a USERID you'll need to fill out a form in B-116 requesting a mainframe account.
2. **A terminal,** or a personal computer (PC) that is connected to the mainframe.

Mainframe Systems & Accounts

Boise State's mainframe has many applications and systems to choose from. When requesting access to the mainframe you will need to specify which systems you wish to use. The following diagram shows the different types of mainframe accounts and the available systems within them:

Mainframe Systems
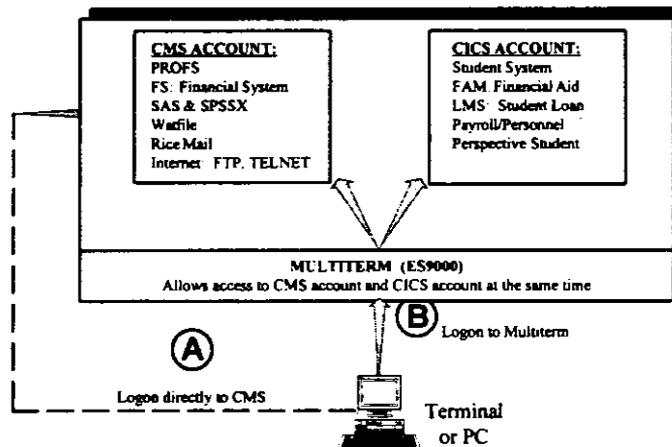
Logging On the Mainframe

There are two methods of logging on to the mainframe depending on what systems you wish to use. When your terminal or PC connects to the mainframe the first screen you will see will look like the following:
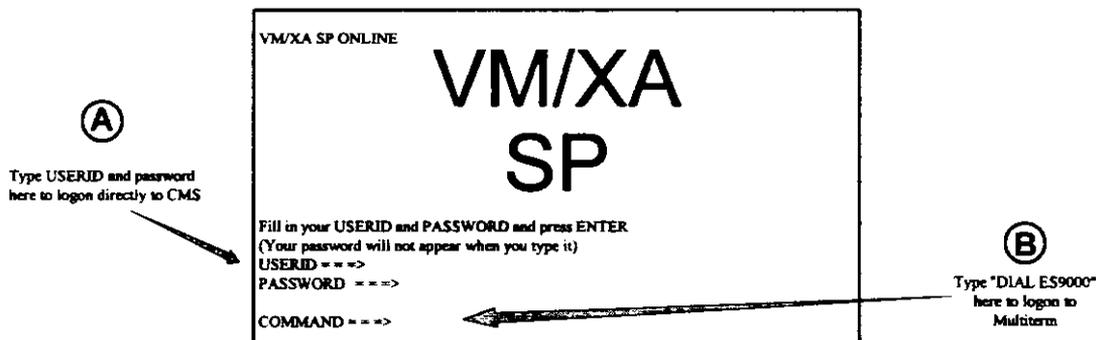
Method A: Logging directly into your CMS account.

To log directly into your CMS account simply enter your userid in the USERID field, then type your password and press the <ENTER> key. If your USERID is less than eight characters, you must tab to the PASSWORD field. The CMS ready prompt will now appear on your screen. When you are finished using your CMS account type LOG at the command line to logoff of your CMS account.

Method B: Logging on the Mainframe Via Multiterm

If you use a CICS system or if you wish to use both CMS and CICS systems, you will need to logon to the mainframe via Multiterm. At the VM/XA logon screen use your <TAB> key to position the cursor at the COMMAND field, then type DIAL ES9000 and press <ENTER>. It will look like this:

COMMAND = = => DIAL ES9000

The following screen will then appear:

```
11/14/94  Port: 0076   M U L T I T E R M / V M  v4.2.0   Level 263   MT000001
08:30:00 Phys: 004C                                       ES9000     Menu 0 0
-----------------------------------------------------------------------------
                    Welcome To:

               M U L T I T E R M / V M

                      T H E
                 VM Session Manager

       BlueLine Software, Inc.
       5775 Wavzata Blvd.
       Suite 690
                    (C) COPYRIGHT BLUELINE SOFTWARE, INC. 1990
-----------------------------------------------------------------------------
Enter PROFILE name (and password, if required)
= => AZMSMITH   Pswd= =>        ID= =>
ENTER= Use default PROFILE   PF03= Exit Multiterm
```

Enter your USERID here in the first field

In the first entry field, below Enter PROFILE, type your USERID and press <ENTER>. (**Note: *do not tab over to the ID field and enter your USERID. Doing so will give you a default profile and you will not get your personalized menu.*)** The Multiterm Session Map, or menu will now appear on your screen. It will look like the following:

```
11/14/94  Port: 0076   M U L T I T E R M / V M  v4.2.0   Level 263   MT000001
08:30:00 Phys: 004C              Session Map              ES9000     Menu 1.1
-----------------------------------------------------------------------------
Sel Pfkey Sessid-- Session-Description---- Start  Type  Inact  Status----
1.  PF01            LOGON TO AZMSMITH
2   PF02            DIAL CICS PROD




-----------------------------------------------------------------------------
Type selection an press ENTER - OR - press PFkey to TOGGLE to Session.
= =>
PF03= Last Menu   PF06= Return to session   PF07= Back   PF08= Forward
```

If you've been authorized and trained to use the Student Registration, Financial Aid, Student Loan, or other CICS systems, press the PF key associated with the DIAL CICS PROD session description, in this case PF02. On the other hand, if you want to use your personal CMS account, PROFS, the Financial System, or other CMS systems, then press the PF key associated with your CMS account, in this case PF01.

Logging Off with Multiterm

Log off your CMS account as usual by typing LOG and off CICS by clearing the screen and typing "d." This will drop you back to the Multiterm session map above. Now type **;;d all** in lowercase letters at the command prompt to log off of Multiterm. It will look like this:

= => ;;d all

Changing Your CMS Password

When you log on your CMS account where you use PROFS, the Financial System, and other software you'll see some information flash by as the computer sets up your account. The last few sentences that appear deal with the status of your password. This tells you how long it's been since you last changed your password, and how long until your password expires. You can change your password every single day if you wish, however if you don't change it within the time period shown when you log on, your password will expire and you'll no longer be able to log on. If that happens, call the User Service Center (extension 4357) for help.

To change your password, first logon and wait until you see the ready prompt or PROFS menu, then issue the command:

DIRM PW <ENTER>

After typing your new password (it will not appear on the screen) and pressing <ENTER>, you'll be prompted for verification.

Once you type the new password again, you'll be prompted for your old password in order to verify that it's really you (and not a malicious neighbor).

Your new password will not go into effect until the next hour, so use your old password until the system updates your password on the hour. Passwords are updated on the hour, every hour.

Note: _It is no longer possible to use your most-recent passwords again. The computer keeps a record of your last few passwords, and forces you to think of a completely new one._

Using Multiterm/VM

Multiterm is a mainframe software package that allows you to logon to more than one mainframe system at a time. It basically turns your PC or terminal into "multiple terminals", hence the name Multiterm. Multiterm also gives you the ability to toggle or quickly switch between the different mainframe systems.

Logging In:

1. At the VM/XA logon screen type the following at the command line:

    COMMAND = = = > **Dial ES9000**   (UPPER or lower case)

The following screen will appear:
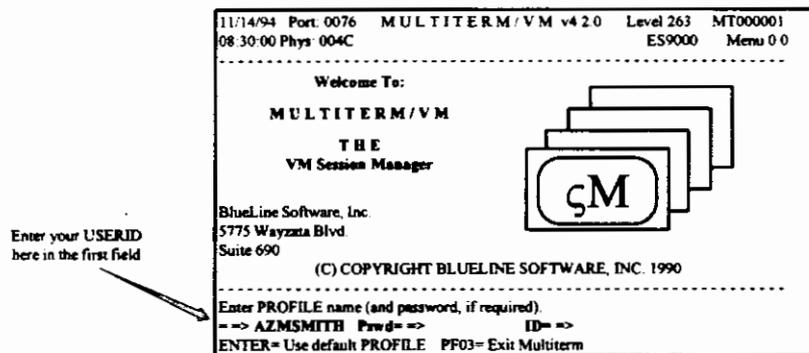
```
11/14/94  Port: 0076    M U L T I T E R M / V M  v4 2 0   Level 263   MT000001
08:30:00 Phys: 004C                                 ES9000     Menu 0 0
------------------------------------------------------------------------
            Welcome To:

        M U L T I T E R M / V M

                T H E
           VM Session Manager

BlueLine Software, Inc.
5775 Wayzata Blvd.
Suite 690
                (C) COPYRIGHT BLUELINE SOFTWARE, INC. 1990
------------------------------------------------------------------------
Enter PROFILE name (and password, if required).
= => AZMSMITH  Pwd= =>                  ID= =>
ENTER= Use default PROFILE   PF03= Exit Multiterm
```

Enter your USERID
here in the first field

In the first entry field, below Enter PROFILE, type your UserID and press <Enter>. (Note: do not tab over to the ID field and enter your UserID. Doing so will give you a default profile and you will not get your personalized menu.) The Multiterm Session Map, or menu will now appear. To logon to a mainframe system, hit the PFkey associated with the system you wish to run.

Toggling between mainframe systems:

To toggle back to menu from CMS or CICS press: ALT+3   for LAN WorkPlace
                                                        ALT+F6   for PCVMBond
                                                        ALT+F5   for CUTCP

To toggle back to CMS or CICS from the Multiterm menu press one of the following:

1. F6 to return to last session you were in
2. PFkey associated with CMS or CICS, example: PF1 to return to CMS
3. The number associated with the session, example: Press 1 to return to CMS

Adding a Session to the Multiterm Menu:

You can add an additional menu line item at any time to your Multiterm Menu. Whenever you need to sign in to another system or another account temporarily you can by typing the following at the Multiterm Menu command line:

    = = >;;a   (must be in lowercase)

The command ";;a" will add an additional line item on your Multiterm Menu. When you select the new line item, a new session to the mainframe will be started and you will see the VM/XA logon screen again. Then simply logon to the additional account or system that you need.

Multiterm/VM

Signing On to VSE/ESA CICS

Logging in:

1.   **Dial ES9000**

2.   At the next screen, Session Manager, type your **userid** at the first arrow.

3.   You should now be at the Session Map, make the selection for VSE/ESA CICS. You may use **the PF key assigned to VSE/ESA CICS** or (SR) or the selection number.

4.   From **BSU-VTAM CICS APPLICATION SELECTION MENU** select:
      - A.   HRMS - Payroll or Personnel
      - B.   FAM/LMS - Financial System
      - C.   TEST - CICS
      - D.   Reset Terminal - To Exit
      - E.   Student System

5.   If you select **A, B, C, or E**. It will take you to another screen that says: CICS Signon DFH3561A **Type in your name and password.**

          Name = your Userid
          Password = your password to VSE/ESA CICS PROD
          Language = leave blank, it will default to English.

      Name and Password can be typed in **uppercase or lowercase**

      If you select **D**, it will say "Command Accepted" and return you to the Session Map.

          It will say "DFH3504i __:__:__ Sign-on is complete".

6.   Type: "**DMSSSCT01**"   (to enter Student System;
                                      there are variations to this in uppercase)
                                      Press <**Enter**>

7.   It will say: DMS/VS Security System
                      Key your security Code
                      _____ (**Password for Student Information System in UPPER CASE only**)

                      Press <Enter>

                      It should come back: DMS/VS ___ SECURITY SYSTEM
                      THANK YOU
                      (**YOUR NAME**)
                      SECURITY CLEARED
                      Press <Enter>

8.   To get out of CICS: Clear the screen
                                  Type "**dial**"

CMS Commands

CMS Commands

Mainframe Files

A mainframe file's name has three parts:

1. *Filename* - Any combination of letters and numbers (maximum of 8).
2. *Filetype* - Same as filename, except that certain filetypes have special meanings, such as SCRIPT, DATA, LISTING, and EXEC.
3. *Filemode* - One letter (default is A) indicating where the file will be stored.

Commands to Create or Edit a File

Note: *All examples of commands should be followed by the <Enter> key.*

<div align="center">

X Filename Filetype Filemode   (X is short for XEDIT)

Example: X MEMO23 SCRIPT A

NOTE: See Help Desk Document Mainframe-08 for more information about XEDIT.

</div>

Viewing and Manipulating Files

The command *filelist* (f is short for filelist) shows you a list of files on your A disk (your computer account's personal storage area). An asterisk can serve as a wildcard for selecting certain files. For example:

F * SCRIPT A   (displays all files on your A disk with filetype SCRIPT)

F MEM* * A (displays all files on your A disk with a filename that
starts with MEM)

When viewing your filelist you'll see columns of information. The first column is the place where you can type commands that will operate on the file listed in the same row as the cursor. The following commands will work in the filelist command column. In each case, use your **<TAB>** key to place the cursor in front of the file you want to work with.

RENAME	Changes the name of a file.
	Syntax: **REN** / <new filename> <new filetype> <new filemode>
COPY	Makes a new version of your file.
	Syntax: **COPY** / <new filename> <new filetype> <new filemode>
SENDFILE	Sends a copy of your file to another account.
	Syntax: **SF** / <userid>
BROWSE	Allows you to view your file without editing it.
X	Invokes file editor XEDIT and opens file for editing.
PRINT	Prints a copy of the file to the default or selected printer.
DISCARD	Deletes a file
<PF3>	Exit your filelist

Screen Messages	*(appear on bottom-right of your screen)*
MORE...	Computer is displaying a message or data. Press **<CLEAR>** to proceed, otherwise screen refreshes after 60 seconds.
HOLDING	Computer display will stay on your screen until you **<CLEAR>**
RUNNING	Computer is either working or waiting for input.
VM READ	Computer is waiting for a command.

Printing Files

There are numerous mainframe printers spread across Boise State's campus. The command PRINTER ? will display a list of printers with an abbreviation for each on the left side of the screen. Use a particular abbreviation to select a printer with the command PRINTER <abbreviation>. Your printed files will be directed to the selected printer until you issue the command again or log off. For example, PRINTER B routes print jobs to the Budget Office, while

PRINTER SYSTEM routes jobs to the Data Center's high-speed printer (B-116). After directing the output in this manner, use the command PRINT <filename> <filetype> <filemode> or type PRINT in the command column of the filelist, in front of the file you want to print.

Setting Up Your Names File

Your NAMES file is a personal directory of userids and nodes for people with whom you communicate -- both on campus and at other sites. It allows you to send a note to someone by using only a nickname (instead of typing out the full address every time you send a note).

By entering the command LNAME, you open a panel for recording a nickname, userid, node, and proper name. For people with accounts on BSU's IBM mainframe, the node is always IDBSU (individual userids are listed on the last few pages of the Faculty/Staff Directory). For network addresses from CREN or Internet, the rule of thumb is that the userid is made up of everything to the left of the @ symbol, and the node consists of everything to the right of the @ symbol. A fictitious example of a complex network address would be: ACRKROLL@MATH.STANFORD.EDU In this example, ACRKROLL is the userid, and MATH.STANFORD.EDU is the node.

Communicating via MailBook *(formerly RICEMail)*

To use the mail program called MailBook for sending notes, issue the command **MAIL <nickname>** or **MAIL <userid>@<node>** For example, if you have an address in your NAMES file under the nickname *Tony*, you can send a note with the command **MAIL TONY**. If you don't have a person in your NAMES file, you must type out his/her whole address. For example:
MAIL ACRKROLL@MATH.STANFORD.EDU

To read mail that's been sent to you, simply type **MAIL**. A list of your current notes will be displayed. Move your cursor to the note you want to work with, then use the <PF> keys listed at the bottom of the screen to issue commands.

Receiving Files

Everything that is sent to your mainframe account ends up in your *reader*, whether a note from a mail package or a data file from someone using the **SENDFILE** command. The reader is a temporary holding area. Mail files in your reader will be handled by a mail package such as MailBook, however you must deal with other files yourself. The command RL displays the files in your reader. **Note:** *The reader list looks much the same as your filelist. If you forget where you are, just check the top line of your screen.*

Once you're viewing your reader list you can issue commands by moving the cursor in front of the file with which you would like to work (the command column in the reader list works the same as in the filelist).

RECEIVE	Moves the file from your reader to your disk.
PEEK	Allows you to look at the contents of a file before you move it to your disk or delete it.
DISCARD	Deletes the file.

XEDIT: File Editor

The command **X <filename> <filetype> <filemode> <Enter>** opens a file for editing. For example: X SURVEY DATA A. Or, view your FILELIST and type **X <Enter>** in front of the file you want to edit. During the editing session you'll see the file's contents displayed on your screen from column seven all the way to the right side of the screen. The first five columns on the left of your data are reserved for Prefix Commands (see following section). The command line, designated by a ====> prompt, is where you enter all the other commands listed in this reference card. All commands, except PF keys, are followed by **<Enter>**.

Commands to Save or Exit From a File

SAVE	Saves a copy of the file without exiting XEDIT
FILE	Saves a copy of the file and exits XEDIT
QUIT	Exits XEDIT, but only if no changes have been made since the last SAVE command
QQUIT	Exits XEDIT without saving any changes

Prefix Commands (placed in the first 5 columns in front of your data)

a	Adds the specified number of blank lines (default is 1)
d	Deletes the specified number of lines (default is 1)
"	Duplicates a line
c	Copies a line and places it after the line where you put an "f"
m	Moves a line and places it after the line where you put an "f"
>	Shifts data right the number of specified columns (default 1)
<	Shifts data left the number of specified columns (default 1)
/	Make this line the *current* line

Commands to Retrieve/Place Files or Data

GET	Imports all or part of another file in your filelist
PUT	Writes all or part of the current file into another file
PUTD	Same as PUT, but deletes from the current file those lines that are being *put*
RECOVER	Restores lines of data that have been accidently erased

Commands to Move Around in a File

PF7	Moves up one screen
PF8	Moves down one screen
DOWN	Moves a specified number of lines down a file
UP	Moves a specified number of lines up a file
LEFT	Moves a specified number of columns left in a file
RIGHT	Moves a specified number of columns right in a file
TOP	Moves to the top of a file
BOTTOM	Moves to the bottom of a file

XEDIT: File Editor

Commands to Observe Specific Data and Get Information

LOCATE	Searches for string. Vital for understanding *targets*
ALL	Displays only those lines that have a specified target
COUNT	Counts number of times a target is found in a file
HELP	Give information on specified XEDIT command

Commands to Modify Text

ADD	Adds a specified number of blank lines
DELETE	Deletes a specified number of lines
CHANGE	Searches for a string and replaces it with one you specify
MERGE	Combines two sets of lines
JOIN	Appends the following line onto the end of the current line
SPLIT	Separates one line (at the cursor) into two lines
LOWERCASE	Changes text to lower case on the specified lines
UPPERCASE	Changes text to upper case on the specified lines
SORT	Sorts data based on specified columns

Commands to Modify XEDIT Attributes

SET ARBCHAR	Defines *wildcards* used in target searches
SET AUTOSAVE	Automatically saves data after specified number of changes
SET TABS	Defines tab settings
SET ZONE	Restricts columns within which other commands operate to those that you specify

Examples

X SURVEY DATA A	(opens file for editing)
DOWN 35	(moves down in the file 35 lines)
ADD 10	(adds 10 blank lines after line 35, place cursor on 36th line)
<Enter>	(returns cursor to command line)
BOTTOM	(makes last line of file the current line)
PF7	(moves up one screen)
DELETE 5	(deletes 5 lines, starting with current line)
TOP	(makes first line of file the current line)
SET ZONE 30 45	(following commands will affect only columns 30 through 45)
CHANGE /a/X/* *	(changes all occurrences of "a" to "X", on all lines, but only in columns 30-45)
SAVE SURVTWO DATA A	(Saves your current editing session to a second file. Does not update original file.)
BOTTOM	(makes last line of file the current line)
GET SALARY QUESTNAR A	(inserts contents of file called SALARY QUESTIONAR A in your current editing session, starting at current line)
FILE	(exits XEDIT and saves all changes to the original file SURVEY DATA A)
X SURVEY REPORT A	(opens file for editing)
UPPERCASE *	(changes all lines to uppercase)
ALL /RAPTOR/	(displays only those lines of the file that have the word "RAPTOR" in them)
PUT * RAPTOR DATA A	(writes the lines that are displayed from the ALL command to a new or existing file called RAPTOR DATA A)
QQUIT	(exits XEDIT without changing the original file SURVEY REPORT A)

How to FTP directly to Your Mainframe Minidisk

If you have a personal computer (PC or Mac) that is connected to the BSU network, you can use **FTP** (File Transfer Protocol) on your workstation to transfer files to and from your mainframe CMS minidisk. Although transferring files from your minidisk sounds complex, the procedure is actually quite simple. In order to **FTP** to your mainframe minidisk you need to know the following:

1. Your CMS USERID, example: **ARGSMITH**.
2. Your CMS password: the password you normally logon with, example: **ABCD**
3. Your CMS minidisk password.

The first 2 items you already know and your minidisk password is easy to find out. Logon to your CMS account as usual and type the following at the ready prompt or command line:

dirm mdpw

You will then receive the following message back from DIRMAINT showing your minidisk password:

14:43:55 Msg from DIRMAINT: DVDF40IF MDISK 191: READ=LMNO WRIT=WXYZ

In this example your minidisk READ (read-only) password is **LMNO** and your WRIT (read/write) password is **WXYZ**. Most of the time you will want to use your WRIT password. This will enable you to read files from your mainframe minidisk to your PC (GET) and write files from your PC to your mainframe minidisk (PUT).

If you would like to change either password type the following at the ready prompt or command line:

dirm mdisk

The MDISK (minidisk) parameters screen will now appear. You will be prompted for the following:

Minidisk Address: ===> _____ (of the disk to be changed)

Enter **191** in this field. (All personal minidisks have the address 191) Press **<TAB>** to move to the next fields. Enter a new password in the **READ PASSWORD** field and in the **WRITE PASSWORD** field. Do not change the MULTI PASSWORD field. The Multi password should not be used. When finished entering new passwords press **<ENTER>** to save your changes.

Now that you have gathered all the needed information you are ready to **FTP** directly to your CMS minidisk. In this example we will FTP to ARGSMITH's minidisk and copy a file from the mainframe called TEST TXT to the PC. Return to the DOS prompt on your PC, C:\>, and do the following:

Step 1: Type ftp and host name   c:\> **ftp idbsu**
(Use **FTPBIN** *hostname* for CUTPC)

Step 2: Enter your CMS USERID   Remote User Name: **argsmith**

Step 3: Enter your LOGON password   Remote Password: **abcd**

Step4: CD to your minidisk (change directories)   FTP> **cd argsmith**

Step 5: Enter your minidisk password   Enter Password: **wxyz**
                     OR
        Some ftp clients want the "ACCT" password sent   FTP> **quote ACCT wxyz**
            (Note: quote ACCT sends the minidisk password)

Step 6: Copy file from minidisk to your PC   FTP> **get test.txt**

Step 7: The file is transferred, let's quit   FTP> **quit**

NETPRINT to Direct
Print Jobs to NetWare Printers

If your department is connected to a NetWare file server, it is possible to direct mainframe print jobs to NetWare attached printers using a utility called **NETPRINT**. Ask your departmental computer support person if your system meets the requirements for **NETPRINT**. **NETPRINT** requires that your file server run a NetWare Loadable Module (NLM) called FLEX/IP. You will also need to know the name of the NetWare print queue that FLEX/IP is setup for and the name of your host file server. If you meet the requirements simply logon to your CMS mainframe account and do the following:

1. At the CMS ready prompt or command line type the following:
   NETPRINT<ENTER>

2. The "**Print on a Networked Printer**" menu will now appear. Enter the "**Filename**", "**Filetype**" and "**(FM) Filemode**" of the file you wish to print. (*Note:* use the space bar to remove any extra "?" left over in the entry fields.)

3. Press <TAB> to move to the "**Printer**" field. Enter the print queue name for your printer. example PRINTQ_1.

4. Press <TAB> again to move to the "**Host**" field. Enter the name of your host file server. example BSUED.

5. Now press <ENTER> and the file you specified is printed to the print queue on your host file server.

You can also use **NETPRINT** in your filelist. Simply type **NETPRINT** in the left column of the filelist, on the same line as the file you wish to print and press <ENTER>. The name of the file will automatically be placed in **NETPRINT** for you. To set **NETPRINT** as your default method of printing press PF9 while the **NETPRINT** menu is on your screen. Enter the name of the print queue and your host file server when prompted and your default will be set to **NETPRINT** for all print jobs. To use **NETPRINT** with MailBook (formerly RiceMail) do the following steps:

1. Logon to your CMS account on the mainframe.

2. At the CMS ready prompt type the following:
   X LANPRINT XEDIT

3. You will now be in XEDIT creating a file called LANPRINT XEDIT. At the prompt type **I<ENTER>** to enter input mode. Type the following 4 command lines just as they appear:

   ```
   &TRACE OFF
   SAVE RICE TEMP1 A
   NETPRINT RICE TEMP1 A
   ERASE RICE TEMP1 A
   ```

4. Press <ENTER>. You will now be back at the prompt. Type **FILE<ENTER>** to save the file to your A disk.

5. You are now ready to print to your local printer. Enter MailBook and read a mail message. At the MailBook command line type **LANPRINT<ENTER>**. The **NETPRINT** menu will now appear. Press <ENTER> and **NETPRINT** will send your mail message to the NetWare queue for printing.

PROFS Mail Tips

If you want to:

1. See your mail (open the electronic in-basket):
Press PF2 on MENU 1 or type OPENMAIL. You will either see a list of items in your mail or receive a message that there is no mail waiting.

2. Read an item in your in-basket:
Press the PF key next to the item you want to view. After reading the note, you have choices of what to do with the note. Press PF2 to **file** (save) the note in a folder. The folder name can be changed by typing a name over the word "NOTE" at the bottom of the screen. Press PF3 to **keep** the note in the in-basket. PF4 to **erase** the note from the in-basket. PF5 to **forward** the note to someone else. PF6 to **reply** to the sender of the note.

3. Read or work with an item in your in-basket:
Press PF8 to **print** the note. Press PF9 for **help**. Press PF10 to move to the **next** screen, if the note is longer than one screen. Press PF11 to move to the **previous** screen. Press PF12 to **return** to the main menu and exit the in-basket.

4. Read or work with a meeting notice in your in-basket:
All the PF keys are the same as when viewing a new note, a reply or a note that has been forwarded with the exception of: Press PF7 to automatically add this meeting to your calendar. The notice will be added to your calendar. At this time, you do not receive any indication if this new meeting causes a conflict. Use the interrupt key (PA2) to temporarily leave mail and view your calendar. Press PF12 three times to return to the in-basket.

5. Read or work with all the items on one screen of your in-basket at once:
While viewing the "Open Mail Screen (C00)", type "**ALL**" and press enter. You will see screen C06 where you can select to view all items from the previous screen, file all the items in a folder, keep all the items in the in-basket or to erase all the items on that screen of the incoming mail. Usually, the response is PF1 to view all items. Each individual item comes to the screen in order of newest first and you must select an action with the PF keys to continue moving through your mail.

6. Work with files that are not identified as mail by PROFS:
You may have mail or files that PROFS doesn't recognize as mail. These items are left in your reader. When you select PF12 to exit your in-basket, you may see the message "Do you want to process files that are not from PROFS?" Type "Y" or press <ENTER> to process these files, otherwise type "N." Type "Y" and your reader list will appear. The PF keys are slightly different from the basic reader list, but all the functions are there. PF1 to view a file, PF2 to sort the file, PF3 to sort by filename, PF4 to sort by filetype, PF5 to sort by number records, PF6 to sort by the from field, PF7 to sort by date, PF8 erase the file, PF10 to scroll forward, PF11 to scroll backward.

7. Send a note (mail message):
Press PF4 on the main menu to process notes and messages. Press PF1 to "Send a Note." On screen E04, at the "Send to:" prompt type the user name (AAAJONES), a PROFS nickname (John), a CMS nickname (cmsnames(John)) or the name of a distribution list (groupX). (*Shortcut: at the command line on the main menu, type note addressee name and press <ENTER>. Example - note aaajones or note john, or note cmsnames(john)*). Next, type in a subject and then type the text of the note. Note creation is very limited in editing capabilities. The choices are PF3 to erase a line and PF4 to add a line. Line ending codes must be manually typed (or to reformat free form typing press PF6). Press PF10 to move to the next screen if you fill a screen with your note. Press PF11 to return to the previous screen if you are on the second or later screen of a note. Press PF8 for proofreading help which includes spell checking, checking words in context (affect/effect), phrasing within a sentence and reading comprehension level (grade level). Press PF7 to send the note just created. Press PF12 to cancel the note if you decide not to send it.

PROFS Calendar Tips

PROFS Calendar

If you want to:

1. Work with schedules:
Press PF1 on the main office menu (A00).

2. Work with your schedule for today:
Press PF1 on the main Calendar menu (W00) or type **CURCAL** on the main menu.

3. Work with another person's schedule or a group calendar:
Type over the name currently showing as user name with the name or nickname of the person's calendar you need to work with and press PF1 if you are on screen (W00) or if you are on screen (W01) just press <ENTER> after typing the name/nickname.

4. Work with the schedule on a date other than today:
Depending on the new date, either: Type over the date showing and press <ENTER> or press PF4 to move forward one day at a time, or PF5 to move backward one day at a time.

5. Put a meeting or event on a schedule:
Type the start time on (W01) under "Begin" and tab to "End" and type the ending time. Tab to "Description" and type a description. (*Note*: times between 8:00 am and 6:00 pm can be entered without colons, zeros and AM/PM; i.e.: Begin 8 - End 930 would be formatted as Begin 8:00 am - End 9:30 am.) Appointments can be entered in any order for the same date and the system will put them in order when you press <ENTER>. New appointments are always typed at the bottom of the list.

6. Mark an event so only you or people you authorize can see the description:
Type either "CONF:" or "PERS:" at the beginning of the description entry.

7. Add a note to a schedule:
Type "**NOTES:**" under "Begin" time on a new line. Tab to the description column and type the note.

8. Schedule a meeting or event that covers all day or all of several days:
Under "Begin" time type "**ALL**" and tab to "End" time and type the number (i.e.; 1 for a one-day event or 5 for all week). Then tab and type the description. Press <ENTER> and the event will be scheduled.

9. View a schedule for several days:
On screen (W00), press PF2 to view 7 days of the schedule. For a different number of days, tab to the number displayed and type a new number between 2-99.

10. Delete existing appointments:
Tab to the meeting or event and type "**D**" in front of the "Begin" time and press <ENTER>.

11. Move an existing appointment to the same time on another day:
Tab to the event and type "M" in front of the "Begin" time. Type the date of the new meeting in the date field and press <ENTER> or if the new date is just 1-2 days away, press PF4 (forward) or PF5 (backward).

12. Add a blank line (to enter more narrative) between existing appointments:
Move the cursor to the line above where you want the blank line added. Type "A" and press <ENTER>.

13. Copy an existing appointment to the same time on another day:
Tab to the event and type "C" in front of the "Begin" time. Type the date of the new meeting in the date field and press <ENTER> or if the new date is just 1-2 days away, press PF4 (forward) or PF5 (backward).

14. Schedule a recurring meeting (once a week, every other Tuesday etc.):
Schedule the first occurrence of the event as shown above. After pressing <ENTER>, move the cursor in front of the "Begin" time and type "R". Schedule a Recurring Menu appears (W09). Fill in the starting date of the meetings and the ending date (i.e.; the end of the semester, end of the month, end of the project). Fill in both the "Begin" and "End" times of the meeting. Recurring meetings must have both. Select the meeting dates by typing an "X" in the frequency of the meeting, the day of the week and if the meeting is monthly, select which week. Press <ENTER> to add these meetings to the calendar.

15. Schedule a meeting letting PROFS find a convenient time:
On the "Process Calendars" screen (W00), press PF7 to schedule a meeting. Type the date range when you want to schedule the meeting. Indicate the amount of time needed and type the earliest time the meeting can start. Tab to the list of attendees and either type their userids, nicknames or the name of a distribution list. If you need more space, press PF10. Press PF1 for PROFS to look for a block of time when everyone is free. Next you will see screen (W07), available time list. Tab to the date you want and type "X", then tab to the starting and ending columns and type the times you desire. Press <ENTER> to see the Send a notice of a meeting screen. Fill out this screen with information about the meeting such as location, subject purpose. Press PF7 to send this note to everyone.

A.37

MailBook Tips

MailBook (Formerly RiceMail)

Incoming mail:

1. **Check your mail** (open your electronic mail in-basket):
    Press **PF2** on PROFS NET-Menu (Menu #3), **PF2** on the NTMENU, or type **MAIL** at a command line. You will either see list of items in your mail or receive a message that there is no mail.

2. **Read an item in your mail in-basket:**
    Move the cursor to the item you wish to read and press **PF2**. After reading the note, you have choices of what to do with the note. Press **PF3** to stop reading the note and return to the mail in-basket. **PF5** to reply to the note. **PF9** to delete the note. **PF11** to save the note in a notebook with a tag of the sender's name. **PF1** for help with Mail. **PF2** to move to the next item in the in-basket (if there are additional items below the current one you are viewing. **PF4** to print. **PF7** to move back-ward and **PF8** to move forward if the note is longer than one screen can display. **PF10** displays a menu bar.

3. **Read all the items in your mail in-basket sequentially:**
    Move the cursor to the first item in your mail in-basket. Press **PF2** to read that item and work with it as appropriate. Press **PF2** to move to the next item from the list (without returning to the list of mail items)

Sending mail:

1. **Send a note to someone:**
    Press **PF4** on PROFS NET-Menu (Menu #3), **PF4** on the INTMENU, or type **MAIL USERID** at a command line. If you selected the send mail option from a menu, you will be prompted to type a UserID, nickname or list name. You might then be prompted to type a "real" name for the UserID you entered, or you will be prompted to type a subject for the mail you are creating. If the UserID, nickname or list name is listed in your names file, the complete name will be determined from that file. If your name is listed in your names file, the "from" information will be determined from that file. (Type **LNAME** to create an entry in your names file).

2. Type the body of the note and press **PF5** to send the note. You will be prompted that a copy of the mail will be filed in the XXXXX notebook -- are you ready to send this mail. Press **PF5** to send the mail or press **PF12** to cancel sending the mail.

Names file or using nicknames:

You can use the LNAME command to build and maintain a list of names that you frequently use. This list of names becomes a file with the file name = userid and file type = names (where userid is your userid). When you type the **LNAME** command, you are presented a special data entry screen. The fields in this screen that are mandatory are nickname, userid and node. Use anything you want as a nickname.

Nicknames can be up to eight characters and contain no spaces. The userid is everything before the "@" if you have been given an address and the node is everything after the "@". The "@" itself is not typed anywhere in the LNAME file. Press **PF2** to add a new nickname then press **PF3** to exit the LNAME program. For additional, use **PF1** (HELP) while viewing the LNAME data entry screen.

WATFILE/Plus: Data Manipulation System

Starting WATFILE/Plus requires you to logon the mainframe (see HDD Mainframe-06.) *(NOTE: Running WATFILE within an ES9000 Session is known to cause a variety of problmes. Whenever using WATFILE avoid dialing ES9000.)* Once logged on, type the command **WATFILE<Enter>**. The WATFILE/Plus banner will appear on the screen. You can begin working by **GET**ting a file already on your A-disk, or by **DEFIN**ing columns for a new file. When work is completed, you can **SAV**e. To finish your WATFILE/Plus session, type **QUIT** and then **LOGOFF** the mainframe.

When you start WATFILE/Plus, the cursor will be positioned at the command prompt, where you can enter any of the following commands: *(NOTE: Capital letters indicate acceptable abbreviations of commands.)*

Editing Commands

Bottom	Displays last record(s) of workspace
CHANGE	Change characters in columns
CLEAR	Clear global, or all workspace columns and/or rows
CUt	Delete/move records
CLIPBOARD	Copy workspace data to the clipboard
DEFine	Create a column in the workspace
DIsplay	Display contents of current record
Down	Move down in workspace
DUPlicate	Duplicate records a number of times
EDit	Change the contents of records
Insert	Insert new records
KEEP	Retain only specified columns
Left	Displays columns to left of current position
PAste	Insert/move records
REDefine	Change a column's characteristics
REMove	Remove a column or global field
REName	Rename a column or global field
Right	Displays columns to right of current position
Search	Locate a workspace record by its contents
SUBstitute	Change characters in columns
Top	Displays beginning record(s) of workspace
Up	Move up in workspace
UPSearch	Locate a workspace record by its contents

File Commands

DIRectory	Display names of files on disk
ERASE	Erase a file from disk
FREname	Change the name of a file on disk
Get	Retrieve a DATA file into the workspace
GET DIRectory	Display a directory of files
INput	Retrieve a TEXT file into the workspace
OUTput	Save workspace without column definition
SAVe	Save workspace with column definition

Reporting Commands

FORmat	Format the workspace for reporting
LABel	Print workspace in label format
LAYBreak	Describe a report panel group
LIst	Show current or external workspace onscreen
PRint	Print workspace
REPort	Print formatted workspace
SHow	Display selected records on the screen
TITLe	Set up report and workspace titles

Miscellaneous Commands

=	Repeat the last command
BYe	Same as QUIT
CMS	Same as SYSTEM under VM/XA SP
CONFigure	Display or set up values affecting WATFILE's behavior
HELp	Display help information
Query	Desk calculator function
QUIT	Terminate the WATFILE/Plus session
RECover	Recover previous state of workspace
STatus	Display status of current or external workspace
SYStem	Invoke system subset
Window	Select columns to be displayed

Examples of WATFILE/Plus Commands

(Note: WATFILE/Plus commands are in capital letters, and user-defined names are in lower case.)

CLEAR	Clears workspace of current file
GET staff	Takes the file *staff* from user's A-disk and copies it to the workspace
DEFINE address=20	Defines a column named *address* which can contain up to 20 characters
HELP SORT	Displays help information concerning the SORT command
RENAME zip=zipcode	This form changes the name of the column *zip* to *zipcode*. The contents of the column are not changed
REDEFINE address=35	Increase size of *address* column to 35 characters, while keeping existing data intact
SORT lastname	Arranges the records in the workspace to be in ascending order based on the contents of the column *lastname*
LIST 5	Lists five records on the screen
KEEP firstname, lastname	Rearranges the workspace, retaining only the columns named in the fieldlist -- in this case *firstname* and *lastname*. You can re-arrange the original order, the save the results to a different filename
DOWN 4	Moves the current record down four lines in the workspace
CHANGE "then""now"	Causes the first occurrence of the character sequence *then* in each column of each record to be replaced with the character sequence *now*
SAVE staff2	Places a copy of the current workspace on the user's A-disk under the new name *staff2*
QUIT	Terminates the WATFILE/Plus session leaving the original file *staff* as it was, and returns control to CMS
LOGOFF	Ends the mainframe session

Using VT100 TELNET

The BSU IBM mainframe now has a CMS version of a VT100 style TELNET. This means that you can now TELNET to host that only supports VT100 emulation. This includes most UNIX hosts like the BSU library card catalog system called CATALYST. To run this version of TELNET, logon to your CMS account on the IBM mainframe and type the following at the CMS ready prompt:

TNVT100 *hostname*

If you want to logon to the BSU electronic card Catalog system you would type the following at the CMS READY prompt:

TNVT100 catalyst

VT100 TELNET

Using DOS 6.0 or Above Memory Features to Get the Most out of Your Networked PC

DOS versions 6.0 and above have improved memory handling capabilities that will help you free up memory and allow your programs to run faster and more efficiently. If your PC is on the BSU network, chances are that you're expending a great deal of your memory just loading all the network drivers you need to get on the net. This guide will help you optimize your memory usage and network performance.

What do I need?
The recommended system requirements are as follows:

1. At least a 386SX or above PC (a 286 based machine cannot utilize all of these tips)
2. At least 4MB of memory
3. MS DOS version 5.00 or Above (COMPAQ and IBM DOS 5.00 are also acceptable)

Identifying Memory
To see the amount of memory your PC has you can use the MEM command to generate a memory report for your computer. At the DOS prompt type **MEM/C<Enter>**. The following information appears:

```
Conventional Memory:

Name            Size in Decimal         Size in Hex
MSDOS           12912    (12.6K)        3270
HIMEM           1136     ( 1.1K)        470
COMMAND         2624     ( 2.6K)        A40
FREE            64       (0.1K)         40
FREE            634352   (619.5K)       9ADF0

Total FREE:                634352   (619.5K)

Total bytes available to programs:  634416    (619.5K)
Largest executable program size:  634192      (619.3K)

2097152   bytes total contiguous extended memory
      0   bytes available contiguous extended memory
2031616   bytes available XMS memory
          MS-DOS resident in High Memory Area
```

Conventional Memory
The Disk Operating System can only access memory addressed between 0 and 1MB. However, the upper 384KB of this 1MB, is reserved for system use. If you subtract this upper 384KB from 1,024KB (1MB) you'll discover that DOS applications really only have 640KB to work with. Therefore, the memory from 0 to 640KB is called conventional memory; the memory that is used to run DOS programs. No matter how much memory you have, you cannot have more than 640KB of conventional memory because of the way the original IBM PC was designed. This 640KB is the only memory that your PC can use without the aid of a memory manager (a special program that allows the computer to access memory above the 1mb memory address limitation).

Upper (Reserved) Memory
Upper memory is defined as the 384KB of reserved memory that sits directly above conventional memory. The system utilizes the upper memory for items like video memory, ROM BIOS, memory mapped I/O for network cards and other devices such as scanner cards. It should be noted that not all of the upper memory is used by your PC and can be utilized to help relieve *ram cram* in conventional memory.
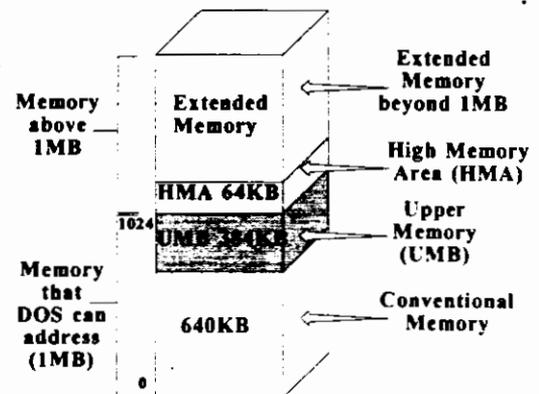
Extended Memory and the HMA

Extended memory is memory that starts at the 1MB address and goes beyond (up to 16MB under protected mode). If your PC has 4MB of memory, you most likely have 640KB of conventional memory, 384KB of upper memory and about 3MB of extended memory. In order for your PC to use extended memory you need to install a program called an *extended memory manager*. DOS 5.0 comes with an extended memory manager called HIMEM.SYS.

```
Sample CONFIG.SYS

DEVICE=C:\DOS\HIMEM.SYS
DOS=HIGH
FILES=30
BUFFERS=20
DEVICE=C \DOS\MOUSE.SYS
STACKS=9,256
```

Now, the first 64KB of your extended memory is called the *high memory area* or HMA. The HMA can be utilized by items that normally take up space in your conventional memory. One of the unique features of DOS 5.0 is its ability to place part of the operating system and system buffers into the HMA which results in freeing up 48KB of conventional memory.

To utilize your extended memory and load DOS into the high memory area, at the DOS prompt type **EDIT CONFIG.SYS<Enter>**. Make sure your CONFIG.SYS file has the first 2 lines as in this example. If not, add the lines and save your changes.

Using Upper Memory Blocks

One of the most important features of DOS 5.0 and above is the ability to load programs and device drivers into the unused portions of upper memory. This provides relief for the crowded conventional memory area. To accomplish this, DOS requires a PC equipped with at least an 80386SX microprocessor and an expanded memory manager called EMM386.EXE (CEMM.EXE for Compaq PCs). EMM386.EXE uses the hardware re-mapping capability of the 80386 to place extended memory into the unused portions of upper memory. These extended memory blocks which are re-mapped into upper memory are called UMBs, or *Upper Memory Blocks*. On most PCs, using UMBs will usually free up over 100KB of conventional memory, depending on the amount of devices and software you have loaded.

To create UMBs you must make some modifications to your CONFIG.SYS file. First you must add the ",UMB" switch after the DOS=HIGH statement. The UMB switch instructs DOS to handle the memory management housekeeping for the UMBs. Secondly, a device statement needs to be added to activate EMM386.EXE. Use the "/ NOEMS" switch in conjunction with the EMM386.EXE device statement. This stops EMM386.EXE from using a portion of your extended memory to create *Expanded Memory (Note:* expanded memory is rarely used with current applications. If your application does require expanded memory, use the "/RAM" switch instead of the "/ NOEMS" switch).

```
CONFIG.SYS with UMBs

DEVICE=C \DOS\HIMEM.SYS
DOS=HIGH,UMB
DEVICE=C:\DOS\EMM386.EXE /NOEMS
FILES=30
BUFFERS=20
DEVICE=C \DOS\MOUSE SYS
STACKS=9,256
```

Type **EDIT CONFIG.SYS<Enter>** to edit your CONFIG.SYS file. Your CONFIG.SYS file should now look like this example. Once you have edited the file and saved your changes, reboot your computer. Then type **MEM /C |MORE<Enter>** at the DOS prompt to see if your UMBs are now available. The MEM listing should now show that *Upper Memory* is available.

DEVICEHIGH & LOADHIGH Statements

To relocate device drivers into upper memory blocks, you must use the **DEVICEHIGH** statement in your CONFIG.SYS file. First determine which device drivers will fit into the available UMBs. Then replace each "**DEVICE=**" statement in your CONFIG.SYS with a "**DEVICEHIGH=**" statement. Try to load your device drivers in order from the largest memory user first to the smallest. This will insure that drivers that consume the most conventional memory will be relocated into your UMBs. If you have many device drivers to load , they all may not fit into upper memory. In this example we will load the MOUSE.SYS device driver into the upper memory blocks. Type **EDIT CONFIG.SYS<Enter>** to make this change to your CONFIG.SYS file. Your CONFIG.SYS file should now look like this example.

```
CONFIG.SYS using DEVICEHIGH

DEVICE=C \DOS\HIMEM SYS
DOS=HIGH,UMB
DEVICE=C \DOS\EMM386 EXE /NOEMS
FILES=30
BUFFERS=20
DEVICEHIGH=C \DOS\MOUSE.SYS
STACKS=9,256
```

A similar procedure can be used in your AUTOEXEC.BAT file to load memory resident programs and network drivers into your upper memory blocks. To load these items into UMB, add the **"LOADHIGH"** statement to each line in your AUTOEXEC.BAT file that loads these programs. Type **EDIT AUTOEXEC.BAT<Enter>** at the prompt to add the LOADHIGH statements to your batch file.

Creating More Available UMBs

If more UMB space is needed, you can instruct EMM386.EXE to use other areas of upper memory that may be free. To increase the available amount of UMB space, you must first understand how the upper memory in your computer is being used. The 384KB address space of upper memory is organized into 6 blocks of 64KB beginning at 640K or address A000. The first 64KB

segment is reserved for high resolution memory mapped video (EGA, VGA). Never attempt to utilize this reserved memory segment. Your PC will not boot up correctly if you do. The same warning applies to the upper most segment which starts a F000. This segment is always used by the system BIOS. (Note: IBM PS/2s also use the segment E000 to F000 for system BIOS.) Two other segments that you should avoid are the upper half of segment B000 and the lower half of segment C000. These areas are used for video text memory and the video BIOS ROM.
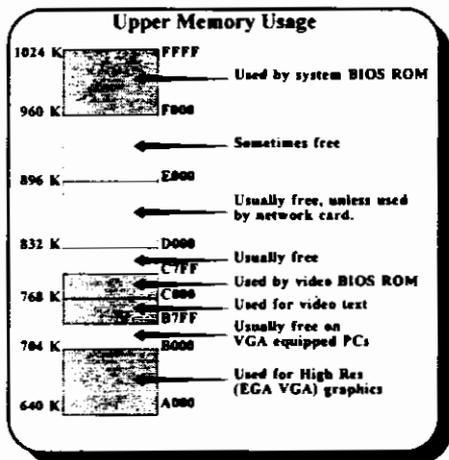
As noted earlier, each brand of PC will use the upper memory blocks differently. If you have Microsoft Windows v3.1 on your PC you can use the Microsoft Utility called MSD to actually view what portions of upper memory your PC is currently using. At the DOS prompt change directories to C:\WINDOWS and type MSD<Enter>. After the Microsoft Diagnostics program loads, type "M" for memory. An upper memory usage map similar to this example will be displayed showing you which UMBs are being used and which ones are available.

EMM386.EXE will automatically try to select anything free from C000 up to F000. All other segments must be reclaimed manually. To reclaim available UMBs you must edit your CONFIG.SYS file and add the "I=" command (short for "include") to the EMM386.EXE device statement. In this example we'll reclaim the segment at B000-B7FF. Type **EDIT CONFIG.SYS<Enter>** at the DOS prompt and add "I=B000-B7FF" to the EMM386.EXE device line.

If you attempt to reclaim more than the default number of UMBs, be careful. Each PC's configuration varies tremendously. Various network cards and devices could be using some of the normally unused portions of upper memory. Creating UMBs in areas already occupied can result in system hangs and crashes. The example AUTOEXEC.BAT file on this page shows network drivers being loaded into UMB. You'll notice that the network packet driver, named 3C523 in this example, uses a 16KB block of upper memory at 0xD800 (D800) for its I/O mapping. This segment is automatically selected by EMM386.EXE for use as UMBs. Thus a conflict exists between EMM386.EXE and the packet driver 3C523; both programs are vying for the same upper memory segment at D800. In this situation the network packet driver takes precedence and should be given control of the memory segment. EMM386.EXE must be told not to use the D800 segment. This is done by adding the "X=" command (short for "exclude") to the EMM386.EXE device statement in the CONFIG.SYS. Type **EDIT CONFIG.SYS<Enter>** and add "X=D800-DBFF" to the EMM386.EXE device line. Your CONFIG.SYS file should now look like this example. Type "MEM" at the prompt to check your available conventional memory. If you followed all of these steps correctly, you should now have close to 600KB of conventional memory available.

Windows Multitasking

With Windows, you can have more than one application running at the same time, or "multitasked." Windows' multitasking allows you to connect to the BSU mainframe via TN3270, and then switch to WordPerfect, or any other application, while remaining logged into your mainframe account. You can then *task switch* between the mainframe and the application with simple key strokes.

What do I need?
The recommended system requirements are as follows:

1. At least a 386SX machine (a 386DX machine is preferred)
2. At least 4MB of memory
3. MS DOS version 5.00 or above
4. Windows version 3.1 running in 386 Enhanced Mode
5. Windows PIF file named TN3270.PIF
6. Novell workstation software: LAN WorkPlace v4.2

To see if your PC meets the recommended system requirements, do the following:

1. At the DOS prompt type **NVER<Enter>**. The following information appears:

   NetWare Version Utility, Version 3.12

   IPX Version: 3.30
   SPX Version: 3.30

   Lan Driver: 3COM Etherlink II Adapter v1.00
                       IRQ5, Port 0300

   Shell: v3.26 Rev. A
   DOS: MSDOS V5.00 on IBM_PC

2. To view the amount of memory your PC has, type **MEM** at the DOS prompt.

3. To view what mode you are running Windows in, choose **"About Program Manager"** from the Help Menu in Windows Program Manager. The version of Windows will be shown, as well as the current mode of operation. Windows can run in two different operation modes: Standard mode and 386 Enhanced mode. For both of these operationg modes, the processor runs in protected mode. When **"WIN"** is typed at the command prompt, Windows automatically runs the appropriate mode, depending on the computer hardware and the amount of memory of the workstation.

Multitask Network Applications

Windows PIF File

This last step requires you to add an ICON for TN3270 in Windows Program Manager. This requires that you have a copy of the TN3270.PIF file. (**Note**: *If you don't have the PIF file you can create it with the Windows PIF Editor or get a copy from the Data Center.*) Run Windows and then do the following:

1. Pull down the "**File**" menu and choose "**New**." The "**New Program Object**" dialog box will come up with two choices; new "**Program Group**" or new "**Program Item**."

2. Choose new "**Program Item**" and click the "**OK**" button. The "**Program Item Properties**" dialog box will come up with several fields that need to be filled in.

3. Type TN3270 in the "**Description**" field, C:\NET\TN3270\TN3270.PIF in the "**Command Line**" field (or the appropriate path to your LWP directory), and C:\NET\TN3270 in the "**Working Directory**" field.

4. Click the "**OK**" button to save the changes to the new Program Item. (**Note**: *This action creates a new icon for TN3270 in Windows Program Manager*)

How do I start task switching?

If you have LAN WorkPlace installed on your pc, and have added an icon for TN3270 in Program Manager, you are now ready to start task switching. Run Windows and do the following:

1. Double-click the "**TN3270**" icon. This runs TN3270 and brings up the VM/XA logon screen. Log in to your mainframe account as usual.

2. Now hold down the <**ALT**> key and press <**ESC**>. This switches you back to Windows Program Manager. (**Note**: *TN3270 is still operating in the background.*)

3. Choose another program to run, for example WordPerfect, and double-click the icon associated with it. WordPerfect is now running and your connection to the mainframe via TN3270 is still active in the background.

4. Now switch back to your mainframe session with a simple keystroke. Press <**ALT**> and <**ESC**> twice to switch back to TN3270. You may now switch back and forth between the applications at will!

Key combinations for task switching in Windows

1. <**ALT**> + <**TAB**>: Quickly switch to the last application you used.
2. <**ALT**> + <**ESC**>: Toggle through all open applications.
3. <**CTRL**> + <**ESC**>: Pops up "**Task List**" window that displays a list of all open applications. You can double-click the name of the application you want to switch to , or select the name of the application and click the "Switch To" button.

Saving TELNET Session Data to Disk
for LAN WorkPlace

TN3270

TN3270 allows you to save IBM host screen information to a DOS file on your disk. You access the Screen-to-Disk feature by pressing the SCRN DSK key combination. If you don't specify a disk file, the IBM host information is saved in the default file SCREENx.DAT (x is the number of the current host session). For example the default filename for session 2 is SCREEN2.DAT.

To use the Screen-to-Disk function do the following:

  1. When the information you wish to save is on your screen press <CTRL><F9>.

  2. The following appears:

> Screen file SCREENx.DAT exists:
> Quit, Retry, Delete, Append, New_name?

  3. Press **Q, R, D, A,** or **N** to choose which option you want to use.

  4. Every time you want a copy of the screen press the <ENTER> on the numeric keypad.

  5. Disable Screen-to-Disk by pressing <CTRL><F9> again.

TNVT220

To capture screen information while using TNVT220 use Novell's CAPTURE command to save the data to DOS file. To save information displayed on your screen while in TNVT220 do the following: *(Note: Use capture only if you are attached to a novell fileserver)*

  1. Before you begin your TELNET session (you may place this in a batch file) type:

CAPTURE CR=H:\HOME\USERID\SCREEN1.DAT <ENTER>

  2. Now TELNET to the host and access the screen you want to save to disk.

  3. Press <SHIFT><PRINT SCREEN>. Repeat this for any additional screens you wish to save.

  4. When finished with your TELNET session, return to DOS and type:

ENDCAP

Sample Batch file for TNVT220

Use this sample batch file to automate this procedure for TNVT220. Create a batch file similar to this for each host that you need to capture screen information from.

```
CATALYST.BAT

    CAPTURE CR=H:\HOME\JAY\SCREEN1.DAT
    TNVT220 CATALYST
    ENDCAP
```

(vertical text in right margin) TELNET Session Data to Disk

Resolver Configuration File for LAN WorkPlace

To access a Domain Name System (DNS) nameserver on the network, you must have a resolver file on you workstation. This is the RESOLV.CFG file in the \NET\TCP directory. It contains entries that specify the Internet address of the system on which the name server is running.

During the installation process, if you decided that you would use DNS, you were prompted for the name of you domain and your DNS server's IP address. The installation program then created the RESOLV.CFG file with this information.

Two types of entries are available in the resolver file: DOMAIN and NAMESERVER. The following RESOLV.CFG shows the DOMAIN and NAMESERVER settings that should be used at BSU.

```
;BSU DNS resolver file
;
domain idbsu.edu
;
;EUSKADI (Primary nameserver for BSU)
nameserver 132.178.16.3
;
;OPAL (Secondary nameserver for BSU)
nameserver 132.178.200.33
;
;CCNUCB (Primary root nameserver - Colorado)
nameserver 128.138.238.34
```

The DOMAIN entry is a single entry with the following format:

DOMAIN *domain_name*

DOMAIN is a required keyword. The *domain_name* has the extension .COM for a commercial organization, .MIL for a military organization, .EDU for a school, and .GOV for a government organization.

The NAMESERVER entry is a multiple entry (you can have more than one) with the following format:

NAMESERVER *Internet_address*

NAMESERVER is a required keyword. Internet_address is the Internet address of the name server in dotted notation. You can include a maximum of three NAMESERVER entries in the resolver configuration file. The resolver tries the addresses in the order listed. In this case VIPER first, then OPAL, and then CCNUCB.

OCS3270 & EXCELAN Variable
For TN3270 and the resolver file to function correctly you must set two environment variables in your AUTOEXEC.BAT or LANWP.BAT file. Add the following two lines to either batch file:

SET OCS3270=C:\NET\TN3270
SET EXCELAN=C:\NET

LAN WorkPlace for DOS - TN3270

LAN WorkPlace for DOS is a collection of network utilities and programs that let you communicate with BSU's IBM mainframe, remote hosts and other computers on the internet. TN3270 for LAN WorkPlace allows you to connect to the BSU mainframe.

Start by typing the following at the DOS prompt:

C:> **TN3270 idbsu**

When you log off your mainframe account you will always be dropped back to the Telnet command-mode line (TN-CMD>). To quit type:

TN-CMD> **QUIT**

Connecting to Multiple Hosts

TN3270 for LWP allows you to establish up to 4 simultaneous sessions with hosts. To establish a second session do the following:

1. Press <CTRL> <]> to escape to the Telnet command-mode line. (TN-CMD>)
2. At the TN-CMD> prompt type the following:

TN-CMD> **OPEN** *hostname*

While in your session you can switch between your active sessions by using <ALT><S>. If you are at the TN-CMD line just type 1 or 2 to return to your session. (**Note:** You will see "SESS 1" at the bottom of your screen. This indicates your current session .)

Transfering Files from Your Mainframe Account to Your PC

LAN WorkPlace allows you to send and receive files between the mainframe and your PC. You must be logged onto your CMS account to transfer files. You must be on a blank screen which shows only the READY prompt. (PF12 to exit PROFS menu and/or PF3 to exit file list.) The record length cannot be greater than 80 characters. If greater than 80 characters, go to DOS and use TNVT220 as shown in Help Desk Document PC-07. To transfer WordPerfect files, you must first save them in ASCII text format. (Note: **syntax is case sensitive**.)

To transfer files do the following:
1. Press <ALT><F> while at the CMS command line to enter the LAN WorkPlace File Transfer Command Mode (Cmd>). Do not confuse the File Transfer Command Mode (Cmd>) with the Telnet Command-mode (TN-CMD>).
2. To send or receive a file, enter a file transfer SEND or RECEIVE command (See examples below) at the (Cmd>) prompt.
3. Exit the File Transfer Command Mode when the transfer is complete by pressing <ALT><F>.

Example Send (From PC to Mainframe)

The syntax for sending files is: **send** *dosfilename vmfilename vmfiletype vmfilemode*

The following sample SEND command shows you how to transfer a file called TEST.TXT from your PC to your CMS account:

Cmd> **send C:\WP51\TEST.TXT test text a**

Example Receive (From Mainframe to PC)

The syntax for receiving files is: **receive** *dosfilename vmfilename vmfiletype vmfilemode*

The following sample RECEIVE command shows you how to transfer a file called TEST DATA from your CMS account to your PC:

Cmd> **receive c:\wp51\test.txt TEST DATA A**

TN3270 Key Mappings

<ALT><C>or <Esc> = Clear	<ALT><R> = Reset	<ALT><H> = Help	<ALT><D> = Exit to DOS
<ALT><F> = File Transfer	<ALT><S> = Switch sessions	<ALT><]> = Telnet Cmd	<ALT><4> = Erase EOF
<ALT><1> = PA1	<ALT><2> = PA2	<ALT><3> = PA3	<Ctrl><F9> = Screen to disk

LAN WorkPlace for DOS - FTP

The LAN WorkPlace FTP utility allows you to transfer files between your PC workstation and a remote host. You can log into a remote host and transfer files only if you know the following: 1) the internet address or name of the host, 2) the remote host recognizes your IP address as a valid address, 3) You can provide a valid username and password for the host. Many FTP host sites allow you to log in with the user name "ANONYMOUS" and your USERID as the password. There are two methods of starting a file transfer session.

Method A:	Step 1: Type ftp at DOS prompt	C:\> **ftp**
	Step 2: Open the remote host ftp> **open ucsd.edu**	
	Step 3: Login as "anonymous"	Remote User Name: **anonymous** Remote Password:
Method B:	Step 1: Type ftp and host name	C:\> **ftp ucsd.edu**
	Step 2: Login as "anonymous"	Remote User Name: **anonymous** Remote Password:

FTP Transfer Modes

By default, FTP transfers files in ASCII transfer mode. In ASCII mode, FTP transfers all files as text files. Before you can copy binary files, such as executable programs, you must change the transfer mode to BINARY. Type (**must be in lowercase**) the following at the ftp> prompt:

ftp> **BINARY**

All files will now be transfered in binary transfer mode. To switch back to ASCII transfer mode, type (**must be in lowercase**) the following at the ftp> prompt:

ftp> **ASCII**

Copying Files from a Remote Host to your PC

To copy one file to your PC from a remote host type (**must be in lowercase**) "GET" command. To copy multiple files to your PC type (**must be in lowercase**) "MGET" command.

The syntax for GET is: **GET** *remote_file [local_file]*
(**Note:** [local_file] is optional. If you specify *local_file, remote _file* will be renamed to *local_file*)

Sample GET:	ftp> **GET report1.txt c:\wp51\report1.doc**
Sample MGET:	ftp> **MGET *.doc**

Copying Files to a Remote Host from your PC

To copy a file to a remote host use the "PUT" command. To copy multiple files to a remote host use the "MPUT" command.

The syntax for PUT is: **PUT** *local_file [remote_file]*
(**Note:** [local_file] is optional. If you specify *local_file, remote _file* will be renamed to *local_file*)

Sample PUT:	ftp> **PUT report2.doc report2.txt**
Sample MPUT:	ftp> **MPUT *.doc**

Other FTP Commands

Type "**help**" to make sure commands correspond.

DIR = display remote directory	CD = change remote directory	CLOSE = close FTP session, remain in FTP
LCD = change local directory of PC	LDIR = display local directory	HELP = List all FTP commands
LS = Display a list of files	OPEN = Open connection to remote host	QUIT = Terminate all FTP sessions & quit

LAN WorkPlace for DOS - TNVT220
Telnet VT220 & VT100 Terminal Emulator

The LAN WorkPlace TNVT220 utility allows you to connect to any remote host that is running a Telnet server program and emulate a VT220, VT100, VT52, or ANSI terminal. You can log into a remote host and emulate a terminal if you know the following: 1) the internet address or name of the host, 2) a valid userid and password for the host. To start a telnet session to a remote host type the following at the DOS prompt:

C:\> **TNVT220** *hostname*

When you finish a TNVT220 session with a remote host, you can quit and return to the DOS prompt by typing the following:

TNVT220> **QUIT**

Connecting to Multiple Hosts
TNVT220 allows you to establish multiple simultaneous sessions with remote hosts. After you start TNVT220 , you can open a second session to a remote host by doing the following:

1. Press <ALT><T> to escape to the TNVT220 command-mode line. (TNVT220>)
2. At the TNVT220> prompt type the following command:

TNVT220> **OPEN** *hostname*

The second session you requested will now appear on your screen. At the bottom of your telnet screen you will notice (2), which indicates that you are currently working with session 2. To switch back to your first session do the following:

1. Press <ALT><T> to escape to the TNVT220 command-mode line. (TNVT220>)
2. At the TNVT220> prompt type the following command:

TNVT220> **RESUME 1**

You will now return to your first host session. The session indicator at the bottom of your telnet screen should now show (1), indicating that you are now working with session 1.

Changing Your Terminal Settings (Setup Mode)
TNVT220 lets you change many of its default terminal emulation characteristics. The TNVT220 setup mode allows you to change your display colors, terminal mode (VT220, VT100), and language support (English, French, German). In the following example, you will telnet to the BSU library "catalyst," enter setup mode and change your background color. To enter setup mode do the following:

1. Establish a TNVT220 session with a host: C:\> **TNVT220** *catalyst*
2. At the login prompt type catalyst: LOGIN: **catalyst**
3. Press <RETURN> and select 5 for your terminal type: **5**
   (You now have one active telnet session to catalyst)
4. To enter SETUP mode type: **<ALT><S>**
5. Select "Display" and press the numeric keypad <ENTER> key   **<ENTER>** (numeric keypad)
   (**Note:** use the arrows to move the cursor and the numeric
           keypad <ENTER> to select an item)
6. You are now in Display Setup. Arrow down to background color "BG".
7. Now use the numeric keypad <ENTER> to toggle through the colors. **<ENTER>** (numeric keypad)
8. Press <ESC> and select "Save" to save your changes.
9. Press <ESC> to return to your session.   **<ESC>**

TNVT220 Commands

OPEN = Establish a new session	<ALT><S> = Enter setup mode	QUIT = Closes all sessions & quits program
HELP = Lists all telnet commands	RESUME = Resumes specified session	SESSIONS = Displays all sessions
STATUS = Displays status of sessions	<ALT><D> = Exit to DOS	CLOSE=Closes current session

LAN WorkPlace for Windows - TN3270

LAN WorkPlace TN3270 for Windows allows you to emulate an IBM 3270 terminal while running Microsoft Windows version 3.0 or 3.1.

LAN WorkPlace TN3270 for Windows operates in a window. After opening this window, you can log into BSU's IBM host computer from your workstation, as if you were logging in from an IBM 3270 terminal. You can then run 3270-based host applications and transfer files between your workstation and the BSU mainframe.

LAN WorkPlace TN3270 for Windows uses the telnet server on the BSU mainframe to create a connection between your workstation and the host.

To open a session:
1) Double-click the LAN WorkPlace TN3270 for Windows Icon.
   Or, from a terminal session window, select the Open or New Session command from the file menu (Alt+F, O or Alt+F, N). The Open Session dialog box will appear.

2) In the Host Name or Address text box, type the hostname or IP address of your IBM host computer. To access BSU Mainframe, type **"IDBSU"** or **"132.178.16.1"**.

3) In the Model Type box, click the option button for the IBM 3278 model number expected by your host computer. For BSU Mainframe, select **2**.

4) If you want a different session name to appear in the terminal session window title bar, enter a name in the Session Name text box.

5) If you want to trace this session, click the **Trace** checkbox.

6) Click the **OK** button.

The Telnet connection dialog box is displayed while connection with the host computer is being established. There is no time-out for the connection if the host does not respond. If connection takes more than a few minutes, click **Cancel** and try again.

Note: You can open as many simultaneous sessions as your available memory can support, up to a maximum of 99.

Help:
To access the LAN WorkPlace TN3270 for Windows help, press the **F1** key from LAN WorkPlace TN3270 for Windows active Window or after you select a command from a menu.

To close a session:
In the terminal session window, display the READY prompt and type **"LOG"** or **"LOGOFF"**. If you dialed into ES9000, but sure to do a **";;d all"** (case sensitive) to close ES9000. Logging off ensures that Telnet ports are freed for reuse on the host computer resources.

Use one of these methods to exit:
1) Double-click the Control menu box in the upper left corner of the window to close the window and exit.

2) Select **Exit** from the File menu (Alt+F, X) to close the window and exit.

3) Select **Close** from the File menu (Alt+F, C), if this selection is available, to close the session and leave the LAN WorkPlace TN3270 for Windows window open so that you can continue using the menu selections.

Note: When you close a session for which you have made configuration changes, you are prompted to save your changes in the current profile file. Click **OK** to save the changes, or click **Cancel** to discard the changes.

If you have multiple open sessions, the current session is closed and other sessions continue to run.

When you close the last open session, and click **Cancel** on the Open Session dialog box, you also exit from LAN WorkPlace TN3270 for Windows.

FTP Transfer Mode:
FTP transfers a file in Binary, ASCII, or ASCII-CRLF by making the selection on the menu.

Host File:
Use this window to transfer a host computer file or data set to your workstation.

If *Host environment* (VM/CMS, MVS/TSO, or CICS/VS) is incorrect, you can change it by selecting by selecting **System** from the menu and choosing the correct host.

Host File Box - In this box enter information about the file: filename, file type, and file mode to be transferred from your host computer.

Append to file - check this option to add the host data set contents to the end of the workstation file. Leave unchecked to overwrite the workstation file.

Local File - type the path and filename of a workstation file to receive the host file, or click browse to select a file from any workstation directory.

Transfer Mode - Specifies character translation from host to workstation.

Beep after Transfer - signals you when the transfer is complete.

Click *Receive* or *Send* to start the transfer - To run the transfer in the background, iconize the window.

Should you desired additional options, select **Options** which will allow you to specify options such as:

Packet Size - Timeout - Host Program Name - Language - Language Table Path

Note: Send has an additional option of *Advanced* that allows you to set the *record length* and *record format*.

When you are finished setting options, click **OK** to return to the previous window.

To transfer a file from the host computer to your workstation:
To copy a file to your PC from a remote host, select **Alt+T**, select the **Receive** command. This will place a menu on your screen with the above options. Make your selections and click on **Receive**.

To transfer a file from your workstation to the host computer:
To copy a file from your PC to a remote host, select **Alt+T**, select the **Send** command. This will place a menu on your screen with the above options. Make your selections and click on **Send**.

When the bottom of the Copy Host File or Copy Local File menu says transfer is complete, click **OK** to quit.

If you should **Cancel** after clicking the **Send** or **Receive** button and abort file transfer, you might need to press the **Enter** and/or PF2 key once or twice to get the READY prompt.

DOS 6.0 or above Special Features

Defrag

Over time, as programs read from and write to a hard disk, information that is stored on the disk can become fragmented. Fragmentation occurs when a file is broken into fragments that are stored in different locations on the disk. Fragmentation doesn't affect the validity of the information - files are still complete when they are opened. But it takes much longer for the computer to read and write fragmented files than it does to read and write unfragmented files.

defrag once a month to optimize a hard drive. Type **"DEFRAG"** at the command prompt to run the DOS Defragmenter.

Undelete

Restores files that were previously deleted by using the DELETE command. Undelete offers three levels of protecting files against accidental deletion: Delete Sentry, Delete Tracker, and standard. MS-DOS 6 includes undelete for MS-DOS, a program you can run from the command prompt, and Undelete for Windows, a program you can use with Windows. To use the DOS undelete, type **"UNDELETE"** at the command prompt. To use the Windows undelete, select the Undelete icon from the Microsoft Tools group in Program Manager.

Help

There are two types of on-line help for MS-DOS commands.

1) MS-DOS Help, which is a complete in-line reference for MS-DOS commands, including syntax, notes and examples. To use this type of help, type **"help"** or **"help *commandname*"** at a command prompt

2) Command Line Help, which displays the syntax of a command without leaving the command line. To use this type of help, type **"*commandname* /?"** at a command prompt.

Scandisk (DOS 6.2 or above only)

Disk analysis and repair tool which checks a drive for errors and corrects any problems that it finds.

APPENDIX B
Automated Test Scoring System

The Center for Data processing is using an **(NCS) OPSCAN 5 SCANNER.**

In the Test Scoring System **(MSTII)**, the scanner reads the header sheet, the key sheet, and all of the student sheets. It scores, analyzes and prints the reports. **MTSII** uses the standard blue 5 choice NCS bubble form, form number 30423.

Header Sheet

The header sheet is a form that needs to be filled out for each teacher. This form may be reused until such time as the scanner will no longer read it.

The header sheet form includes instructor's name, test name, test date, grade or group, class or subgroup, test id., number of subtests, formula scoring, and transport printer.

Do not mark the back of the header sheet.

TEST NAME can be any name the instructor would like.

TEST DATE is the date the test is brought into the Data Center. Any date can be used as long as it is legitimate.

GRADE OR GROUP is a 3 digit field, used for recording the class level or a certain group of tests. This field is not mandatory, however there is a report option sort on this field.

TEST ID is a 6 digit field that will be used for the instructors Id-Number. The instructor Id-Number is 4 digits long. If it is started in the left most position the machine will fill in the blanks, however if it is the right most position, you will need to fill in the front 2 bubbles with zeros.

NUMBER OF SUBTESTS. A subtest is any smaller unit or subsection of a test for which the administrator desires a separate score. For example, for an English test you may desire to get subtest scores for vocabulary, spelling, and grammar, in addition to the total score on the test. For each subtest you must make a separate key sheet. This grid would be filled in with the number of subtests. If no subtest scores are desired, you must fill in 0 or 1. The one thing we found is that if you mark a 1 it will move TOT over next to the items on the individual test results sheet. This makes the results over by the name.

FORMULA SCORING is a method of adjusting scores for respondent guessing. If you don't want formula scoring mark NO. If you want formula scoring mark YES, then you must also mark the scoring factor you want.

To adjust for guessing, formula scoring uses the following equations:

NUMBER RIGHT - (NUMBER WRONG/FACTOR) = ADJUSTED RAW SCORE

The formula scoring factor is the number of respondent choices minus one.

For example, on a 100-question test each question has five choices. Subtract one from five choices to get a formula scoring factor of four. It a student then gets 90 correct and 10 wrong, the adjusted raw score under formula scoring is 88:

$$90 - (10/4) = 88$$

The **TRANSPORT PRINTER** is not used, the **OFF** bubble must be marked.

Key Sheet

The following is applicable to the KEY SHEET:

Name Block the instructor can fill in as they wish, with either their name or the class name.

Special Codes is left blank.

Identification Number used for recording number of subtests starting in column one followed by a blank space followed by number of answered questions in the test.

> Exp: 1 40 this is a test with one key sheet and 40 answered questions.

When filling in your answer key, mark the correct answers in the correct bubble following the question number. Usually, you will just want one answer per question, but if you ever need all of the answers to be correct for a question just bubble in all answer bubbles for that question. If you do not want that question to be graded do not bubble in any of the answers. The machine will act like the question is not even there. If you decide that there is a question you do not want answered you must delete that question from the question count that goes in to the I.D. number.

> Exp: 40 questions but only 39 with answers. You would put 1 39 in the identification number.

The Student Sheets One bubble per question should be filled in, and the students can either put in their name and/or an I.D. number. This is up to the instructor. If you choose to have them use an I.D. number it must be at least 2 digits long and MUST START IN THE LEFT MOST POSITION WITH NO SPACES IN BETWEEN. **If the I.D. number is not in the left most position the sheet will be ignored.** The Data Center staff ***WILL NOT*** correct the sheet. So if your students are using the I.D. number, please be sure that they start in the left most position.

If there are any reports that you would like done differently or not done at all, please ask as there might be something that we can do to meet your needs.

Forms can be picked up in room B106. Examples of the reports can also be picked up there.

Standard Reports

The Standard Reports are as follows:

INDIVIDUAL TEST RESULTS SORTED BY STUDENT NAME

INDIVIDUAL ITEM RESPONSE SORTED BY STUDENT NAME

INDIVIDUAL ITEM RESPONSE SORTED BY STUDENT NAME, ONE SHEET PER STUDENT. Usually handed back to the student.

ITEM ANALYSIS

RELATIVE FREQUENCY DISTRIBUTION

ABSOLUTE FREQUENCY DISTRIBUTION

TEST SCORE DISTRIBUTION

If a report choice form is not filled out you will receive the seven reports listed above, unless other arrangements are made at the time the test is brought in.

Ten Answer Tests

These are done on the ten answer general purpose NCS answer sheets form number 4887. It has bubbles for up to ten answers and is green.

The teachers must bubble all the way across on the line following the last answer.

> Exp: If there are 20 questions on the test. Number 21 must be bubbled all the way across.

In the identification number the last five nines must be bubbled in, as well as the first two ones of the special codes. Filling in these codes are what makes the teacher's key different from the student sheets. If a student fills in any of these, the machine will make that student's sheet an answer key and will use it to correct all of the sheets after it.

There is no choice of reports with this form. You will get an individual student sheet for each student and an individual test results sheet for you.

The Student Sheets One bubble per question should be filled in, and the students can either put in their name and/or an I.D. number. This is up to the instructor.

Evaluations

These are done on general purpose **NCS** answer sheet forms. The green form is number 4887 and it has bubbles for up to ten answers. The blue form is number 30423 and it can hold up to five answers.

There must be a header sheet for each class. It is like a key sheet but there is no right or wrong answer, so the answer bubbles are left blank. The line following the last answer must be bubbled in all the way across.

Exp: If there are 20 questions the answers for question number 21 must be bubbled all the way across.

Also in the identification number the last five nines must be bubbled in, as well as the first two ones of the special codes.

These are what makes the header sheet different than the student's sheets. If a student fills in any of these, the machine will make the student's sheet act like an answer key, and will use it to start a new evaluation with all the sheets that follow it.

There is no choice of reports with the evaluations, you get an item analysis report.

The students fill in the bubbles one answer per question. They do not need to put a name or I.D. number on the evaluations.

Create Your Own Test/Survey

Bubble Publishing and Top Score

Bubble Publishing System (BP) is a software package that works on the **NCS OPSCAN 5**. This system is used to create customized forms. It can be used to create Tests, Surveys, and Evaluations. A list of questions and responses would be brought in to the Data Center for input into the software for this option. This software limits the number of pages to one. The number of questions this allows on the form varies depending on the number of questions and answers. If you need more than one page, then it would need to be done on **TOP SCORE**, which is another software package that we have.

TOP SCORE (TS) is a software package that works on the **NCS OPSCAN 5**. This system can be used to scan a test, survey, or an evaluation of more than one page. Also, with Top Score, we can design our own report format. If you wish other reports than the normal, ask and we will see what we can do.

There will be a charge for these services. A list of charges follow:

Rates for Scanning

Regular Bubble Sheet forms are NCS FORMS #30423 and #4887

Regular Tests - No Charge for Regular Bubble forms.

Regular Evaluations - No Charge for Regular Bubble forms.

Surveys - Questions included on form, or form design involved - $12.00 per hour set up charge. Plus $0.07 per sheet. This price includes scanning.

Tailored Tests - $12.00 per test set up charge. Plus $0.07 per sheet, includes scanning.

Evaluations - Questions included on form, or form design involved - $12.00 per hour set up charge. Plus $0.07 per sheet, includes scanning.

All data for Tests, Surveys, and Evaluations can be loaded to the mainframe, or put to a diskette. You supply the diskette.

Report Options of Bubble Publishing

The report options for tests on (**BP**) are as follows:

Test Item Analysis of all sheets scanned.

Test Item Analysis with Item Descriptions of all sheets scanned.
Test Results of all sheets scanned.
Individual Profile.
Grade and Score Distribution of all sheets scanned.
Questions Not Answered Correctly of all sheets scanned.
Respondents Listing for Questions Missed.
Quantities of Cross Tabbing Matches.
Bar Chart of Cross Tabbing Matches.

The report options for Surveys on (**BP**) are as follows:

Survey Item Analysis of all sheets scanned.
Survey Item Analysis with Item Descriptions of all sheets scanned.
Quantities of Cross Tabbing Matches.
Bar Chart of Cross Tabbing Matches.

The report options for Evaluations on (**BP**) are as follows:

Survey Item Analysis of all sheets scanned.
Survey Item Analysis with Item Descriptions of all sheets scanned.
Quantities of Cross Tabbing Matches.

The report options on (**TS**) are as follows:

Test Item Analysis
Survey Item Analysis
Individual Profile
Statistical Summary
Questions Missed
Grade Distribution
Score Distribution
Test Results

APPENDIX C
Service Charges

Scanning Hardcopy

The first 150,000 characters of scanned data on the Kurzweil Scanner (Simplot/ Micron, Room 213) are free. Depending on type style and line spacing, this can work out to somewhere between 50 and 100 pages of text. Scanning beyond this limit will cost $.30 for each additional 1,000 characters. There are approximately 3,000 character to a page.

Charges for Mainframe Service

Rates for computer services are dependent upon which computer service is being used and the nature and extent of the use. For those users who are required to pay for computer services, the general philosophy of the Data Center is that they should be billed equitably for costs actually incurred, and that they should not be paying to support services to other users. The following rates, though complex in some instances, represent the Data Center's attempt to implement this philosophy.

IBM DOS/VSE Environment

CMS Accounts, Minimum	$10.00/month
Connect Time	$2.50/hour
Virtual CPU Time	.8/CPU second
Disk Cylinders	$1.20/cylinder

Forms

Mailing Labels	.01/each

NCS Scanner

NCS Scanner Standard Forms	$6.00/per 100
Scanning	$5.00/per 100
Scanner Programming	$12.00/hour
Custom Forms includes scanning	$7.00/per 100

APPENDIX D
User Accounts

IBM Mainframe

To use the IBM mainframe computers, you will need a user identification name (UserID) and password. User identification names are assigned by the Data Center B-116 after you complete a User Request Form - a sample is included in this Appendix. The form asks for the following information:

Please print your name, telephone number, department and room number. Indicate if you are a new faculty member or new to the staff of BSU.

UserID's are created using naming standards for the first three characters of the UserID. For this reason, we need to know if you are a faculty member, an administrative user, a student, graduate student or want a billable account. If this is a request for a student UserID, a student number is required.

Exceptions are student employees who are working with information as though they are administrative employees. Most departments use the first three characters for administrative users with their department abbreviation and a five character ending of a generic term, for example: **argtemp2** or **agrdean**. When that employee leaves, the UserID can be maintained for the next employee and only the password needs to be changed.

UNIX

To use the Data Center IBM RS6000 UNIX system as a primary account, you will need a user identification name (UserID) and password. In order to acquire an account the user must be either faculty, staff or a student currently enrolled.

Please print your name, department, room number and student ID number if appropriate. Indicate if this is a primary or an Usenet News account. User identification names are assigned by the Data Center after you complete a User Account Request Form - a sample is included in this Appendix. Forms are also available from the Data Center in B-116.

Varney - Student Mail System

To acquire an account the user must be currently enrolled as a student. Faculty and staff can also receive an account on Varney. User Identification names are assigned by the Data Center after you complete a User Account Request form - a sample is included in this Appendix. Forms are also available from the Data Center in B-116.

Your account name will be the first four characters of your last name followed by the last four digits of your student number. For example, student **Bob Jones 123-45-6789** would have the account name **JONE6789**.

IBM Mainframe User ID Request Form

Please Return to BSU Data Center Room B-116

Please **print** your name, phone number, department and room number below:

Name: _____ Phone: _____

Department/Major (*required*): _____ Room Number: _____

Faculty/Staff Only: Are you new to BSU?   ☐ Yes   ☐ NO

Please check the following items that apply:

Type of Account: ☐ Administrative   ☐ Student
(*required*)   ☐ Faculty   ☐ Grad Student   **Student #:** _____
                                                        (Required)
                       ☐ Private (billable)

Mainframe Systems:

☐ I want to use the CICS Production System. (*Admin/faculty only*)

If you wish to use the CICS production system, please indicate which application systems you need access to. Note: for each separate application system within CICS you will need to contact the system administrator of that application for security access and clearance.

Please check the CICS application systems you need:

☐ Student System   ☐ Payroll/Personnel   ☐ Prospective Students

☐ LMS   ☐ FAMS   ☐ Other:_____

☐ I want to use CMS as an individual user.

Please select which CMS computer facilities you wish to use:

☐ Financial System   ☐ MailBook   ☐ SAS
(*Admin/faculty only*)

☐ PROFS   ☐ Watfile   ☐ SPSSX

☐ I want to use CMS for a course with a separate User ID for each student.

Please fill in <u>all</u> of the following required information:

Course Description: _____

Course Number: _____   Section Number: _____

Number of Students: _____   Teacher's CMS User ID: _____

Will use of the IBM facilities requested be reimbursed in any fashion by a non-BSU funding source?

☐ Yes   ☐ No

If you answered "yes," please print the name and address of the person or agency to be billed below:

_____

_____

_____

What password do you want?   _ _ _ _ _ _ _ _ _ _ _ _ _ _ _ _

4 characters
required

8 characters
maximum

Sign your name: _____   **Date:** _____

Note: Student IDs are automatically deleted one week after the end of each semester. To keep your ID, please notify the Data Center before the end of the semester.

Authorizing signature: _____

Employees should have their department supervisors or managers sign. Student requests will be verified for current standing in the student system so do not need an authorizing signature.

For BSU Data Center Use Only

Completed Date:_____   By: _____

User lD: _____

Multiterm (ES9000) Menu ☐

CICS Prod: ☐
CICS Test: ☐
Security: ☐

CMS: ☐
CMS Cylinders:_____
V CMS Machine Size:_____
Profs Disk:_____

Date Customer Notified:_____   By: _____

BSU CENTER FOR DATA PROCESSING
USER ACCOUNT REQUEST FORM FOR
THE DATA CENTER IBM RS6000 UNIX SYSTEM

The Data Center Unix System's primary purpose is for providing dial-in access to other computer systems on the campus network using software called MPG. If you currently have a computer account on a system on the campus network, you do NOT need an account on the Data Center IBM RS6000 to use MPG for dial-in access. Please read our documentation on using MPG for dial-in access.

If you wish to use the Data Center IBM RS6000 Unix system as a primary account, please fill out the information below. In order to acquire an account the user must be either faculty, staff or a student CURRENTLY enrolled.

Name:_____**Phone:**_____

Department/Major:_____**Room Number:**_____

Please check the following items that apply:

Administrative_____   Faculty___

Student___   Student ID#_____

_____ I want to use the IBM RS6000 Unix system called Gozer as a primary account. (Please explain below in more detail)

_____ I want to use the Unix system for reading Usenet news.

Comments:_____
_____
_____
_____

Sign your name:_____ Date:_____

Assigned login:_____   Password:_____

Completed by:_____   Date:_____

10/93

BSU CENTER FOR DATA PROCESSING

The Student Mail system provides student mail capacities on campus. In order to acquire an account the user must be CURRENTLY enrolled. Account will stay active as long as you are an enrolled student.

Last Name

First Name

MN

Password 4 Char. Min

Student ID #

Faculty ____ Staff ____ Student ____

Phone _____

Date _____

Major _____

Signature _____

For Data Center Use Only

For Data Center Use Only

User ID _____

Date _____

APPENDIX E
Naming Standards

The following codes are used by the Data Center when assigning user ID's (8 characters) for mainframe accounts. People or areas that have had mainframe ID's for a long period of time often have ID's that do not follow this naming convention.

First Character of UserID:

A	identifies employees whose primary function is administrative work related to either an academic department or a support function at BSU
G	identifies graduate students
I	identifies students who have been approved to have ID's
Q	identifies an ID where the work is non-reimbursed public service by someone who is not officially associated with BSU
R	identifies BSU faculty
X	identifies an ID where the university or any person or unit within the university is being reimbursed for work performed

Second and Third Character of UserID:

A two character mnemonic is assigned by the Center for Data Processing to identify a department code for all academic and administrative units. As department names change, this two character mnemonic is often not obvious or intuitive. Because of this constant change, the codes will not be listed in this edition of the User Guide.

Fourth Through Eighth Characters of UserID:

The last five characters of an UserID are the first five characters of a person's last name. To avoid duplications, there are various exceptions. One common exception is the first four characters of the last name followed by the number "2." Another exception is to use four characters of the last name followed by the first initial of the first name.

APPENDIX F
Faculty Lab
Hardware and Software

As of September 15, 1995

Equipment
Macintosh
Kant

Power Macintosh 7100/66
8 Mb RAM
14" Monitor

Plato

Power Macintosh 7100/66
8 Mb RAM
14" Monitor

Descartes

Centris 610, 68030 processor
12 Mb RAM
14" Monitor
Internal CD-ROM drive

Sartre

Centris 610, 68030 processor
12 Mb RAM
14" Monitor
Internal CD-ROM drive

Zeno

Centris 650, 68030 processor
8 Mb RAM
14" Monitor

Personal Computers
Claudius

Micron 486DX 66Mhz
16 Mb RAM
17" monitor
Internal CD-ROM drive

Tiberius

Micron 486DX 66Mhz
16 Mb RAM
15" monitor
SVGA capable of true color (Viper Card with 2Mb video RAM)
HP Scanjet IIcx, 1200dpi, color scanner

Hadrian
>Micron 486DX 33Mhz
16 Mb RAM
15" monitor
Internal CD-ROM drive
SVGA capable of true color (Viper Card with 2Mb video RAM)

Trajan
>Micron 486DX 33Mhz
16 Mb RAM
15" monitor
Internal CD-ROM drive
SVGA capable of true color (Viper Card with 2Mb video RAM)

Printers

Any computer in the lab can print to the following:

>HP LaserJet 4SI with 10 Mb RAM
HP LaserJet 4SI with 10 Mb RAM
HP DeskJet 1200C/PS with 3 MB RAM (Color Printer)

Common to both platforms

All computers are full clients on the BSU campus network and the Internet. The Macintosh run EtherTalk and TCP/IP; the Personal Computers run Netware and TCP/IP. All machines have the ability to do basic Internet tasks such as TELNET and FTP, plus more advanced tasks like GOPHER and World Wide Web.

All computer are running up-to-date anti-virus software.

All computer have a full complement of file compression utilities, including StuffIt and ZIP.

Software

Generally, all the software below represents the latest version and is running on all machines.

Macintosh
>System 7.5
Aldus Pagemaker
Claris Works
Microsoft Excel
Microsoft Word
Microsoft Powerpoint
WordPerfect
NCSA Telnet
Netscape
Norton Utilities

Personal Computers
>DOS 6.0
>WordPerfect for DOS
>WordPerfect for Windows
>Microsoft Word
>Arts & Letters
>WordPerfect Quattro Pro
>WordPerfect Presentations
>Microsoft Powerpoint
>HALO Imager
>Aldus Pagemaker
>SAS
>SPSS
>ToolBook
>Telnet to IBM Mainframe
>Netscape
>All LAN WorkPlace tools

Special

A full set of canning software is available for both the Macintosh (Sartre) and the Personal Computers (Tiberius). Both machines have OCR software for scanning text.

APPENDIX G
Student Lab
Hardware and Software
Teacher Education Building -- Room 417

Hardware

Macintosh (24)	Centris 610, 68040 processor
	14" Color monitor
	4 MB RAM
	High density 3.5" disk drive
	80 MB Hard Drive
HP Vectras (25)	486s/33mhs
	14" SVGA Color monitor
	8 MB RAM
	High density 3.5" disk drive
	No Hard Drive
PS/2 (11)	55SX 386/25mhs
	12" VGA Color monitor
	2MB RAM
	High density 3.5" disk drive
	40MB Hard Drive
Dot Matrix Printers (13)	Tractor feed
ImageWriter Printers (10)	Tractor feed
Laserjet II (1)	Single Bin, 1MB RAM
Laserwriter (1)	Single Bin

Software - Centris

WordPerfect 2.1	Word Processor
Microsoft Word	Word Processor
Microsoft Excel	Spread Sheet

Software - PC

DOS	Operating System	( )
Windows 3.1 (24)	Operating Environment	
WordPerfect (DOS) 5.1 and 6.0b	Word Processor	
WordPerfect (WIN) 6.0a	WordProcessor	
Microsoft Word 6.0a	Word Processor	
Microsoft Works 3.0	Spreadsheet (Excel), Presentation (Powerpoint)	
DBase IV	Data Base	
QuattroPro (DOS) 5.0	Spreadsheet	
QuattroPro (WIN) 5.0	Spreadsheet	

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APPENDIX H
Network Servers

Area	Reference Personnel & Server	Extension
Arts and Sciences	Ross Nickerson (Network Rep - **QUARTZ**)	x1205, x1708
Art Department	Elizabeth Bauer-Simon	x1310
Biology	Al Dufty	x3263
Chemistry	Loren Carter	x3473
English	Ross Nickerson	x1205, x1708
Geology (CGISS)	Lee Liberty	x1166
Geoscience	Myron Blaine (Network Rep - **TREX**)	x 3904
Math	Alex Feldman or Mike Stark (**OPAL, Diamond**)	x3374
Modern Languages	Bruce Swayne	x3452
Music		
Philosophy		
Physics	Dewey Dystra	x1934
Theatre Arts		
(Honors Program)	Wallace Kay (**QUARTZ**)	x1122
Athletic Department	Dan Pavel (**ARC**)	x1310
Bookstore	Bill Barmes (Net Rep - **BOOKSTORE**)	x3031
Center for Data Processing		
Administration	Diane Dragone (**TOPGUN**)	x1146
	Ben Eichelberger (**SAA, DCCD, ACAD1**)	x3093
Data Center Labs	Frank Powell (**DPLABS**)	x1435
UNIX	Frank Ferryman (**EUSKADI,GOZER, VIPER**)	x1159
College of Business	Larry Sands (Network Rep - **COBFAC**)	x1201
Business Building Lab	Ed Aasvik (**COBLAB**)	x1201
ISBDC	Jim Hogge	x1640
College of Health Science	Ellen Seibolt (Network Rep - **RADTECH**)	x3404
Health Studies (Wellness Center, CEH)		
Respiratory Therapy		
Radiologic Sciences		
Health Sciences		
Nursing	Marian Graham (**NURSE**)	x3789
Healthlab	Sue Powell (**HEALTHLAB**)	x1130

College of Technology	Harvey Capell (Network Rep)	x3022
Applied Technology	**ATSERVER**	
Engineering Technology	**ENGSERVER, TSSSERVER**	
Continuing Education	Brian Nelson (**CONT_ED**)	x4216
Finance & Administration	Randall Reed (Network Rep - **BUCKS**)	x1785
Accounting		
Accounts Payable		
Administrative Services		
Affirmative Action		
Budget Office		
Campus Safety	Bonnie Killian (**PARKING**)	x1681
Cashier Office		
Deferred Fees		
Human Resources		
Payroll Office		
Purchasing		
Student Loans		
Telephone Services		
KBSU	Ralph Hogan (**KBSU**)	x3663
Pavilion	George Manning	x1900
Teacher Education	Jack Vant (Network Rep - **BSUED**)	x3187
HPER	Ross Vaughn	x3366
Library	Hal Kreps	x4024
	(Network Rep - **BOOKS, BOOKS1, BOOKSCD**)	
Physical Plant	Helen Smith (Network Rep - **PPSERV**)	x1805
SMITC	Steve Jackson (Network Rep - **DESKLAB**)	x1858
	Bruce Carter	x1851

SSPA	Bob Henry (Network Rep - **SSPA**)	x3816
Anthropology		
Communications		
Criminal Justice		
History		
Military Science		
Political Science		
Psychology		
Public Affairs		
Social Work		
Sociology		
SSPA LAB	Steve Patrick (**SSPALAB**)	x3225
Survey Research Center	David Scudder (**SRC**)	x1835
Student Affairs	Mike Olson (Network Rep - **OZ**)	x3020
Admissions		
Registrar		
Financial Aid		
Career Center		
Student Union Building	Barry Burbank	x3892

APPENDIX I
How to Use Your Mainframe Account

IBM Mainframe

Learning to use the IBM 3270 terminal is the first step into a special kind of computer environment called CMS (for Conversational Monitoring System). In CMS each user, through a unique name (called user name) and password, has an individualized logical computer made available exclusively for use by him or her. To request a user name and password simply pick up a User Request Form at the Center for Data Processing, B116, and fill it out. Staff at the Center will help you if you have questions.

Refer to handout Help Desk Document Mainframe-01 for logon procedures. Help Desk Document Mainframe-02 thru Mainframe-05 has information on changing passwords, Using MultiTerm/VM, CICS and CMS Commands.

XEDIT -- The IBM VM/CMS Editor

The VM/CMS XEDIT editor is a full-screen editing facility available to all CMS users. It has facilities for creating and editing files. Some familiarity with CMS files will be of use before attempting to use the XEDIT editor. You should also have a CMS user identification name and password and be able to log on to CMS.

Instructions are provided below for creating files and editing existing files. Additional help is available in IBM's CMS User's Guide.

To Create a File
XEDIT may be invoked by the following CMS command:

XEDIT filename filetype

where filename and filetype are parameters you choose.

To create a new file, merely use a filename and/or filetype which did not previously exist. Filenames and filetypes must be eight characters or less in length and may

consist of any alphabetic or numeric (alphanumeric) characters.

Some filetypes have particular characteristics associated with them. A filetype of
DATA, for example, consists of lines which are 80 characters long to simulate 80
character card images. A filetype of SCRIPT automatically invokes upper and lower
case alphabetic capabilities and will be used for all text documents. You may, how-
ever, use any alphanumeric characters you wish as a filetype designator. Filenames
have no special meanings to the editor and you will normally choose one meaningful
to you.

A Practice Exercise
Logon to CMS using your user id and password. Enter the XEDIT command to
create a file having a filename of BRONCO and a filetype of DATA. Note that the
single letter X is an acceptable abbreviation for XEDIT.

Send this command to the computer by pressing the ENTER key. In a few seconds,
you will be placed in the XEDIT environment with: 1) a new screen showing your
file information at the top; 2) a highlighted arrow on a "command line" with the
message that a new file is being created; and 3) the file contents on the rest of the
screen. Since the BRONCO file did not previously exist, the screen contains only
the "TOP-OF-FILE" and the "END-OF-FILE" indicators.

To Input Lines
One way to add lines to a file is to issue the XEDIT command INPUT. This creates
room below the first file content line on the screen. Do this and notice that the
remainder of the screen is cleared for the input of new lines. Data can now be en-
tered into the BRONCO file. Use the "new line" key to go to the next line when
needed. Remember that the cursor movement keys and the delete key can be used for
correction. Each line is defined as a field so the cursor tab keys can be used to go to
the beginning or end of a line. Experiment by typing the following lines:

BSU 50th Anniversary Celebration Schedule:
Jan 29   Grand Opening of 50th Anniversary Theatre
Mar   3   Class Reunion for 30's Graduates
May 15   City of Boise Appreciation Luncheon
Sept 6   50 years ago today class met for the first time
Sept 25   Horseless Carriage Parade -- Founders Dinner

Get out of the input mode by pressing the ENTER key two times, pausing briefly
between. Note that the cursor returns to the command line and the word XEDIT also
appears on the command line. Type TOP and press ENTER.

To Edit a File
Corrections can be made to any line appearing on the screen by moving the cursor to

the appropriate point and retyping. In the previous example, the City of Boise Appreciation Luncheon is actually March 3rd, and the Class Reunion is May 15th. Make these changes and press ENTER.

If the file were longer than could fit on one screen, the PF8 and PF7 keys could be used to page forward and backward, respectively, to bring other lines of the file to the screen to be edited.

To Add Lines

Lines can be added to a file by positioning the cursor under the first "=" at the beginning of the line just above where the lines are to be inserted (this is called the prefix area). Type over the "=====" with the letter "a" and the number of lines to be added (i.e. a9 to add 9 lines) and press ENTER. The lines below this line will move down and the cursor will be positioned at the beginning of the new line area. Add a line with the following information to your file:

April 13th   Performers Festival, SUB Senate Chambers

To Delete Lines

To delete lines from a file, type over the first "=" in the prefix area with a "D" and press the ENTER key. The indicated line will be deleted and the remaining file contents will be moved up. Several lines can be deleted by preceding each line with a "D" before pressing the ENTER key; "n" lines could be deleted by entering Dn in the prefix area, where n is the number of lines to be deleted. If this were March and the Grand Opening on Jan. 29th were over, then that line could be deleted from the file. Do that now and note the action of the remaining lines.

Lines in a file may be moved from one location to another. Existing lines may also be copied in another location in the file. The command Mn (where n is the number of lines) will initiate moving lines; to tell the editor where to put the lines it will be moving, use a P (preceding) or F (following) at any point in the file other than within the n lines to be moved. The command Cn will initiate copying lines; again, use the P or F to indicate the point in the file at which the copy of the line(s) is to be inserted. Experiment with both of these sets of commands to see how they work.

To View Other Parts of a File

Commands issued on the XEDIT command line usually affect the top file content line on the screen. Thus, it often becomes necessary to move the display window up or down the file. There are several commands to do these functions. TOP and BOTtom are the first two of interest; they are used to position, respectively, to the top and bottom of the file. Issue the BOTtom command now by placing the cursor on the command line (if it is not there, simply press ENTER and it will move home), typing BOT and pressing ENTER. Now position to the top of the file with the TOP command.

The Up and Down commands permit more selective movement of the display window. The Un command moves n lines into the top of the screen, at the same time removing lines from the bottom. The letter n in this command represents a number from 1 to as many lines as you have in your file. Entering U without n merely moves one line in the file. The Dn command is the opposite of the Up command. It will remove n lines from the top of the screen and add that many at the bottom. If you are at the top of a file, there are, of course, no lines that can be moved in to the top of the screen; in such cases the Up command is ignored by the computer. The Down command is similarly ignored if you are already at the bottom of a file. Position yourself at the top of your file and enter D4 on the command line. Then enter U2. Continue by entering BOT, U2, and TOP to experiment with these commands.

If a file is longer than the 22 lines on the XEDIT screen you can move forward and backward in groups of 22 lines with the FORward and BACKward commands.

Finally, PF keys (see message line along the bottom of the screen) represent still other ways to page backward (PF7) and forward (PF8) through files.

Saving Files

XEDIT files can be saved in two ways. If you have created a new file or retrieved a file and made changes to it, the file can be written to your disk using either the SAVE command or the FILE command. SAVE writes the file to your disk, but leaves you in XEDIT for further editing. FILE writes the file to your disk, takes you out of XEDIT, and returns control to CMS. A SAVE may be done at any time; if you have made several changes and wish to protect them, use the SAVE command before doing more changes. The XEDIT editor is also "smart" enough that it will sometimes save your file automatically without you asking it to do so. When this happens, a message will be printed on the command line telling you that the file has been AUTOSAVED AS '1 AUTOSAVE A'. This is just a precautionary measure so that file changes and additions do not get accidentally lost.

Continue making changes to the BRONCO file as long as you like. Feel free to experiment with various commands and functions. When you have finished with these changes and experiments, save your file by typing FILE on the command line (remember how to get the cursor there?) and pressing ENTER.

Quit Command

Often you will retrieve a file under XEDIT for a review of its contents. If no changes are made and you wish to return to CMS, use the command QUIT. This command does not write the file to the disk. PF12 also performs the same function.

If changes are made, the QUIT command will result in a reminder that changes have been made and a request to use the QQUIT command if you do not wish to save the

changes.

The above material is summarized in Help Desk Document Mainframe-06 which can be obtained in B-116.

Archiving and Reloading Mainframe Files

IBM/CMS
VMBACKUP is an on-line file backup and restore system for the IBM mainframe. The Data Center uses VMBACKUP on a daily, weekly, and monthly schedule, to save files on tape. Users can restore old files, or previous versions by using VMBACKUP. Simply type VMBACKUP at the CMS prompt and follow the on-screen instructions. Files will be restored to your reader list if you use the defaults or they can be restored directly to your A disk if you use the expert level.

Index

X

Y

Z

no entries