Researchers in MSU's Department of Plant, Soil and Environmental Sciences have installed a GPS (Global Positioning System) base station antenna on one of MSU's tallest buildings. The antenna, mounted on the roof of Leon Johnson Hall, is connected to a GPS receiver in the GPS Laboratory on the 8th floor of the building.

The receiver is connected to a computer which logs GPS data daily from 8:00 am to 6:00 pm. This data can be used for differential correction of "roving" GPS receivers operating within a 200 mile radius of Bozeman.

GPS is a system of satellites operated by the U.S. Department of Defense (DOD). These satellites transmit radio signals that GPS receivers on the ground can interpret. Using signals from four satellites, GPS receivers can calculate their position anywhere on earth, 24 hours a day.

The DOD reserves the right to scramble the GPS signals to prevent unfriendly forces from using the system. What this means to civilian users is that, without differential correction, your GPS position could be up to 100 meters off. With differential correction you may improve the accuracy of your position to 2-5 meters or up to a centimeter or less, depending on your equipment.

Differential corrections uses a GPS receiver operating at a known location as a reference station or base station. The base station can send corrections to the roving receiver in real-time via radio waves, or the corrections can be applied by post-processing software after the GPS data are collected. The MSU base station is capable of operating in real-time mode, but presently provides data for post-processed differential correction only.

The reference position of the MSU GPS base station was precisely surveyed using GPS observations of two independent order B stations.
located within 5,000 meters of Leon Johnson Hall. The base station receiver is a 12-channel Trimble 4000 SST which tracks both C/A code and carrier phase data on a single frequency. GPS data collected by roving receivers manufactured by Trimble Navigation, Ltd. can be directly corrected using Trimble software. MSU can provide base station data in RINEX (Receiver INdependent EXchange) format for correcting data from receiver's made by other manufacturers.

The MSU GPS Laboratory equipment was purchased through private grants and loans. Since MSU is trying to cover its costs and repay the loans, it must charge for use of the facility. Base station data files are available for $50 per day or $25 per 1/2 day, and discounts are available for extended use. MSU also offers a 50 percent discount for cooperative teaching and research projects related to land resource inventory and management. High priority projects include natural resource mapping, crop and rangeland pest surveys, GPS/GIS linkage, terrain and landscape modeling, enhanced soil survey, enhanced land resource photogrammetry, and real-time navigation.

For more information or to request a brochure describing the MSU GPS Laboratory, contact Diana Cooksey (994-5684). You may also write to her at the Department of Plant, Soil and Environmental Sciences, Montana State University, Bozeman, MT 59717.

**Internet...The Series**

**What Is The Internet?**

One of the more remarkable creations of this new information age is the Internet, a grand network of networks that allows access to a massive collection of information resources and services. These resources and services are distributed over a vast array of individual computer networks and are so extensive they are difficult to comprehend. The Internet is one of the primary reasons the concept of information exchange seems to evolve on a daily basis.

The Internet has its origin in the United States Department of Defense (DOD). In response to the launching of Sputnik by the former Soviet Union, DOD created the Advanced Research Projects Agency (ARPA). ARPA subsequently established ARPANET, a computer network intended to facilitate defense-related research and development. By linking various computers around the country, ARPANET allowed

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**Calendar of Events**

November 2:
Information Technology Managers’ Group (ITMG) meeting.

November 4:
Oracle/PowerBuilder User Group meeting, 9:00-12:00, Helena College of Technology.

November 8:
Election Day

November 11:
Veterans Day

November 16:
Information Technology Advisory Council (ITAC) meeting.

November 24:
Thanksgiving Day

December 2:
Oracle/PowerBuilder User Group meeting, 9:00-12:00, Helena College of Technology.

December 7:
Information Technology Managers’ Group (ITMG) meeting.
Scientists and researchers outside the Department of Defense were soon lusting for access to ARPANET. In 1983, this demand and the continuing use of the network for purposes unrelated to national defense resulted in the establishment of a non-military network, MILNET. MILNET was initially dedicated to military operational use. ARPANET was thus left to the non-military researchers and scientists. At approximately the same time, major advances were occurring in network technologies. These advances, linked to the development of the UNIX operating system, led to a proliferation of networks in college science departments across the world. As soon as these networks began connecting to ARPANET, the network of networks known as ARPANET Internet, later known just as Internet, came into existence. Internet was soon an umbrella for networks such as CSNET, a science-oriented network established by the National Science Foundation (NSF), and BITNET, an IBM-sponsored network for scholarly and academic discussions not limited to the sciences.

Today, the Internet provides access to the information resources of universities, research facilities, libraries and governments worldwide. Successor networks such as NSF’s NSFNET and the National Research and Education Network (NREN) are already building upon the Internet, exponentially increasing the information resources available from the Internet. Additionally, the Clinton administration is currently pushing for the establishment of the National Information Infrastructure (NII), which refers to an overall communications system of which the Internet would be a part.

Simply stated, the Internet is a global network of computers (servers) known as data repositories. These repositories represent an inconceivably massive collection of information resources and services. Keep in mind that each data repository (or server) contains a tremendous amount of data. Now multiply the amount of data found at one repository by the millions of repositories globally distributed and one can see this is not a trivial network.

However, to say the Internet is simply a collection of computers is a gross underestimation. Standards had to be developed and put in place, software had to be written and distributed, hardware had to be designed and implemented, and significant sums of money had to be raised for global connectivity on this scale to occur. If you would like to feel like a small drop of water in the ocean, consider how one actually goes about constructing a worldwide network, with millions of users, that actually works!

Today the Internet is the most extensive network on the face of the earth, and it is growing exponentially. Think about it... you can poke your head into data repositories around the world twenty-four hours a day, seven days a week! Substantial benefits can be gained by navigating the Internet such as: you do not need to pay membership fees, everything on the net is "public domain", there is no dress code, and you don’t even need to leave the comfort of your home or office.

With the tremendous amount of information available on this global network, Gene Spaffore’s description of the net seems to say it all, "Usenet is like a herd of performing elephants with diarrhea - massive, difficult to redirect, awe-inspiring, entertaining, and a source of mind-boggling amounts of excrement when you least expect it."

Next month, "Hardware of the Internet".
The article provides a historical sketch of the project, business partnerships that have been created, network protocol selection, agency needs, funding, and overall project complexity. Copies are available from Polly Maynard (444-2700).

**MEGACOM 800 Service**

MEGACOM 800 service has been available since October, 1991. Toll free calling is just one of the many benefits being provided to our Montana citizens. Providing easy access to the taxpayer is paramount in the minds of many of Montana State agencies and MEGACOM 800 service is helping to fill the gap.

Within the Department of Administration, the Information Services Division was very creative and sensitive to State agencies when they wrote the present contract with AT&T to provide toll free calling. The State enjoys excellent 800 service at a price per minute that is very affordable.

Agencies subscribing to MEGACOM 800 service are receiving a 30% (and greater) reduction over normal 800 service rates. Sixteen cents per minute of use is the present rate being charged State agencies. Regardless of the time of day, day of the week or where the call is originating, the cost per minute is the same for calls originating from the contiguous US and/or Canada.

MEGACOM 800 service is available to any State agency phone that is on the State's telephone network. This includes OPX (Off Premise Extension) lines. Calling areas can be defined. For example, an agency may want to restrict receiving calls only from the State of Montana.

AT&T offers free directory listings in their 800 directory and 800 Directory Information service which is an added value to the 800 service.

Ordering MEGACOM 800 service is a fairly simple process. The installation by AT&T is usually done in three to five days after receipt of a service order request. AT&T has a one time charge of $70.00. There is no monthly service charge by AT&T; therefore if the 800 number terminates to an existing State telephone, the agency will pay only for the minutes of usage.

Additional information regarding MEGACOM 800 service and the ordering process is available by calling Les Smith (444-1203). If Les is not available, then anyone in ISD's Telecommunications Operations Bureau (444-2586) will be glad to help you.

**Telephone Fraud Scam**

This article is a reminder that telephone fraud is serious and that several state employees have experienced phone fraud while at work. The most recent fraud occurs like this... the phone rings and a computerized voice asks if you will accept a collect call. Next a person comes on the line and says he is from the telephone company and is trouble shooting the line. He continues to say that the line will not be working correctly for awhile. He also asks you to transfer him to "8-Zero-Zero" (this is not to be confused with an "800" number. It is just three digits which happen to be 800). This is an attempt, by the individual perpetrating the fraud, to mask the origination of the call and the ultimate destination.

Please inform people that this fraud has been occurring and to protect yourselves by doing the following:
- Do not accept collect calls (if possible)
- Under no circumstances transfer anyone to the three digits "8-Zero-Zero"

If you have any questions call Ed Baum (444-2861) or Clara Baer (444-2455) from ISD's Voice Operations group.
Capitol Complex Fiber Project Phase II

Fiber for telecommunications to your home may not be a reality yet, but fiber to the extended Capitol Complex area is rapidly approaching completion. ISD has engaged Fiber Optic Technologies to complete Phase II of the fiber backbone network. The project began August 15, and is expected to be essentially complete by October 31, 1994.

Phase II will extend the fiber to five additional buildings and their agencies. They are the Department of Commerce at 1424 9th Avenue, Corrections at 1539 11th Avenue, State Lands at 1625 11th Avenue, and the Office of Public Instruction at 1227 and 1300 11th Avenue.

Completion of Phase II will provide fiber connection to a total of 15 Capitol Complex buildings.

Cost of Phase II is $275,752.00. Included in the project is the installation of 24 multi-mode fibers in and out of each building. Also included is the installation of two parallel 4" multi-duct PVC conduits. The multi-duct conduits should allow orderly expansion of telecommunication needs well into the 21st century.

ISD would like to express their appreciation for the cooperation and assistance of those agencies who have had their access, parking, and green areas disrupted by the fiber project.

If you have any questions regarding the fiber project, please contact Ted Whitling (444-4357) from ISD's Voice Operations Section.

Round Tapes Are Becoming Obsolete!!!!!

The tape library currently has four round tape drives and sixteen cartridge drives. Starting January 1, 1995 we will no longer allow the creation of new datasets on ISD's round tapes. You will still be able to read existing round tape and external round tape. If you need to write to round tape, you will have to provide ISD with an external round tape. As of January 1 any job requesting a round tape scratch mount will be cancelled. Please review any calendar year end jobs that may still be set up to use round tape and change the JCL accordingly.

To date we have taken 9825 round tapes out of our production library. There are 5,162 tape datasets that have not been accessed for over 2 1/2 years. These tapes are eligible for automatic archive. Every effort will be made to copy these tapes. Any tapes that are unreadable and/or have excessive error blocks will not be archived and will be given to the owner agency. If you have not done so, please take a minute to print a tape list and review the data you are keeping. We would be happy to release old data that is no longer needed.

In the coming months we will be making a concentrated effort to archive data that hasn't been accessed for two or more years and to copy existing round tape files to cartridges. If you have any concerns in this area please call Diane Lemon (444-3336) or Frances Greene (444-2889).

MOPUG, October Meeting

Montana Oracle/PowerBuilder Users Group (MOPUG) met for the first time on October 7, 1994. Proposed bylaws were presented to the members in attendance. Discussion on the bylaws ensued and suggestions were made. It was decided to table the vote on the bylaws until the next meeting so that the changes could be incorporated.

A vote was taken as to the general format of the meetings. It was decided to hold the meetings in a round-robin fashion, by topic. That is, there are three areas of general interest addressed by this user’s group:

- Oracle database and administration
- Oracle application development tools
- Powersoft application development tools
Each meeting will address one area, with the topics rotating each month.

Suggestions were taken for topics of future presentations. They are as follows:

- Oracle Primer
- PowerBuilder Primer
- Oracle Architecture
- Performance Tuning
  - SQL Statements
  - Applications
  - Oracle Database
  - Operating System as it relates to database apps
- PowerBuilder Pricing
- PowerBuilder Tools
- Oracle/PowerBuilder Interfacing
- Development Standards
- PowerBuilder Frameworks and Object Libraries
- Oracle Triggers
  - Oracle forms
  - Oracle database
- PowerBuilder Events
- Oracle PL/SQL
- Design Tools (Case Demo's)
- Pitfalls and Problems - Personal experience
- On-going presentations of new features
- Gateways to existing databases
- Information on New products
  - Oracle for Windows
  - Oracle Objects
- Demonstrations of applications that have been developed
- Discussions of clever/non-obvious tricks

It was decided that the general membership should consider this list, individually prioritize the items according to their interest, and return their sorted list to the Secretary. All the lists will then be averaged and an attempt will be made to arrange for presentations, in order, will be made.

Gary Poepping, ISD, fielded general questions concerning the States' Oracle contract and the ongoing negotiations with Powersoft. It was noted that price schedules for additional Oracle products, under the state contract, are available in ISDN0VS01\VOL1\GUEST\ORACLE\LE as Lotus spreadsheets.

A presentation on Oracle backup and recovery was given by Tony Noble, ISD. The Freelance Graphics file is available in ISDN0VS01\VOL1\GUEST\ORACLE\LE as BACKUP.PRE, or can be ZIPped on a request basis.

A discussion was held concerning methods for dissemination of minutes and other information that results from the MOPUG. It was decided that the Acting President would pursue the following options, in order:
1. Creating a MOPUG forum on the State BBS
2. Creating a MOPUG forum on the Internet
3. Using ZIP/Office for distribution

The sysop for the State BBS was contacted and is of the opinion that the State BBS is not the proper vehicle for distribution. Consequently, until Internet possibilities can be determined, ZIP/Office will be used for distribution.

If you have any problems (opportunities) or questions regarding Oracle or PowerBuilder, call Dave Howse (444-1593) or Tony Noble (444-2922) from Systems Development Support.

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**The Path Of Least Resistance**

A PATH is the route leading from the root directory of a drive to the file to be used. In the example below, the path from the root directory to the POINDXTR.TXT file in the SALARIES directory is C:\EMPLOYEE\SALARIES\POINDXTR.TXT. In MS-DOS, a PATH can be up to 67 characters long including the special characters (try to get through that without a typo!).

Your PC probably has an AUTOEXEC.BAT file in the root directory of the disk from which you boot. The AUTOEXEC.BAT file is a text file that contains a series of commands that run every time you start your computer. One of these commands is a PATH STATEMENT. The PATH STATEMENT specifies the routes that the operating system should search for executable files (files with a .EXE, .COM, or .BAT filename...
extension) and the order that the
directories were searched.

The PATH STATEMENT can be
122 characters long (127 - 5
characters for PATH=) so you may
find yourself trying to conserve on
the length of the statement. Many
applications update the path
statement during installation.
Sometimes the only reason this is
done is so the main executable
module can be found (those .EXE,
.COM, or .BAT extension filenames
again). If you are a Windows user
and the full pathname is specified on
the Command Line in the Program
Item Properties dialog box, it may be
redundant to have it within the
AUTOEXEC.BAT file.

To check for redundancy, first make
certain the application works as
installed. Next, in Windows select
the application's icon in Program
Manager then choose Properties
from the File menu. Verify that the
full path is specified in the
Command Line. Now remove the
application's directory from the
PATH statement in
AUTOEXEC.BAT. Exit Windows,
reboot, restart Windows and try the
application again. If it does not
work, put the directory back in the
path statement. It needs to be there
because of the method used to
invoke this application from another
directory.

If it works, great! You've shortened
your path, saved a small amount of
memory and improved performance
slightly. If a command is mistyped,
DOS will search every directory on
the path before displaying the "Bad
command or filename". The longer
your path, the longer the search.

Any characters over the 122nd
caracter will be ignored so if an
install program blindly adds a new
directory to the end of an already
long path statement, the resulting
path may contain only part of the
new directory. Or if the install adds
directory to the beginning of a long

path, directories that were already on
the path may be pushed off. The
path of least resistance is a short
path.

If you have any questions
concerning the PATH command,
please call Candace Rutledge (444-
2858) from End User Systems
Support.

1. Linking
Linking an OLE object is
similar to pasting a link
using DDE. However, OLE
makes it easy for the Client
application to find and start
the Server application. To
find the Client data the
customer simply
double-clicks on the OLE
object.

2. Embedding
With Embedding, both data
and additional information
are placed within the Client
application. The Embedded
information is not linked to
the original file. An entire
copy of the original file is
placed inside the Client
application. This means
updates to the original file
from the Server is not
reflected in the embedded
object in the Client.

OLE 2.0 is an enhancement to
the previous OLE 1.0 functionality. It
expands on the existing Linking and
Embedding capabilities of OLE 1.0.

Like OLE 1.0, OLE 2.0 is an
application programming interface
(API) that defines a set of functions
programmers can use to incorporate
advanced Object Linking and
Embedding capabilities into their
applications. In the future, OLE 2.0
will be used as a set of services that
will be built into future versions of
the Windows operating system.

OLE 2.0 offers several
enhancements to OLE 1.0. The
enhancements are listed below.
Additionally, OLE 2.0 is designed to
be backward compatible with OLE
1.0. Therefore, programs written to
the OLE 1.0 specification can
interact with OLE 2.0-compliant
applications (and Operating Systems
when available) as if both supported
OLE 1.0.
OLE 1.0 and OLE 2.0 Compatibility

OLE 2.0 and OLE 1.0 applications may coexist on the same system and can be mixed freely as clients and servers. OLE 2.0 applications can default to OLE 1.0 behavior when dealing with an OLE 1.0 application, and take advantage of OLE 2.0 features when dealing with another OLE 2.0 application. For example, if a customer double-clicks on an object that was created by an OLE 1.0-compliant application, but that object is contained within an OLE 2.0-compliant application that supports in-place editing, a new editing window will be activated in the traditional OLE 1.0 style.

New OLE 2.0 Features

(Developers of applications that utilize OLE 2.0 functionality may include all or a subset of the features listed below).

- In-place activation:
  Allows customers to directly activate objects within documents without switching to a different window. This includes options such as editing, displaying, recording, and playing.

- Nested object support:
  Allows customers to directly manipulate objects nested within other objects and establish links to nested objects.

- Drag and drop:
  Enables customers to drag objects from one application window to another, or to drop objects inside other objects.

- Storage-independent links:
  Allows links between embedded objects that are not stored as files on disk. This will enable embedded objects within the same or different documents to update one another's data, whether or not they are recognized by the file system.

  - Adaptable links:
    Enables links between objects to be maintained in certain move or copy operations.

  - Programmability:
    Enables the creation of command sets that operate both within and across applications. For example, a customer can invoke a command from a word processing program that sorts a range of cells in a spreadsheet created by a different application.

  - Logical object pagination:
    Allows objects to overlap page boundaries and break at logical points.

  - Version management:
    Allows objects to contain information about the application and version of the application that created them. This feature gives programmers the ability to handle objects created by different versions of the same application.

  - Object conversion:
    Allows an object type to be converted so that different applications can be used with the same object. For example, an object created with one brand of spreadsheet could be converted so that it could be interpreted by a different spreadsheet application for editing.

Next month's issue will cover a detailed look at OLE 2.0.

For more information or any questions, call Jerry Kozak (444-2907) or Brian Divine (444-2791), both from the End User Systems Support group.

Term Contract Status

Dell
New Sales Rep—Again

Effective November 1st, the new state sales representative will be Scott Mangum, ext. 66226. He takes Eric Bistrup's place, as many of you know didn't work out well. We received several complaints about his availability, and addressed it with Dell representatives. Dell has stated that Scott is very responsive and will keep up with the calls. Agencies are urged to contact CPD with any vendor problems they are experiencing.

ComputerLand of Missoula
New Products

HP has added new LaserJets to the term contract. The LaserJet 4V and 4MV print at 16ppm, have 600dpi resolution, and handle 11x17 paper. The 4MV is a PostScript printer with 12MB RAM standard. Prices are $1864 for the 4V and $2701 for the 4MV.

Also new to the contract is the Color LaserJet. The specs on this are: 10ppm (B&W), 2ppm (Color), 300dpi resolution and 8MB RAM. ComputerLand has loaned ISD a demo Color LaserJet, and agencies are invited to come and take a look at it. Call Dan (444-2029) or Brett (444-0515) to set up a time.
Looking Into
Lotus

Looking Into
Lotus

Using Right Click Menus in Lotus 1-2-3 4.0 and 5.0 for Windows

The right click menus in Lotus 1-2-3 allow you to bring up some common user functions without going through the multiple layers associated with the main menu and/or unnecessary mouse movement.

To use these menus, click the right mouse button and then highlight the selection you wish to use and press the left mouse button. Any of the selections which have ellipsis after them, Clear, Number Format, etc., will bring up additional options.

Cut
Copy
Paste
Clear...
Copy Down
Copy Right
Fill by Example
Number Format...
Font & Attributes...
Lines & Color...
Alignment
Name...

New Features Of Lotus 1-2-3 5.0 For Windows

Lotus 1-2-3 5.0 now has a copy/fill feature. As you move your mouse to the bottom-right edge of a cell you will see your mouse cursor will change into this......

Next, hold the left mouse button down and by dragging the cursor, you can highlight a range. If the cell contains character data Lotus will copy that data to each of your highlighted cells. If the cell had a numerical component (i.e.; JAN01), then the area which was highlighted will have the character portion copied with the numeric portion incrementing by one. See the chart to the right for the results of the copy/fill operation.

If you have any questions concerning Lotus 1-2-3, please call Brian Divine (444-2791) from End User Systems Support.

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State BBS Usage

Legislation in 1993 moved the state's Bulletin Board System (BBS) from pilot to permanent status. The following represents usage statistics of the state's Bulletin Board System (BBS) for toll free (800) number service. As can be seen, usage tends to increase during legislative session activity.

From the Sysop's Corner...

This month's article has been written for those users who are not on the State Capitol Complex Backbone, and, as a result, use a modem when connecting to the State of Montana Electronic Bulletin Board System.

I have talked to several users with questions about modems, software, or configurations.

Modems
The State of Montana Bulletin Board System uses four 14.4Kbaud modems. In simple terms this means that the modems are capable of sending approximately 1440 characters per second over the phone line. These modems are also capable of sending data at a slower baud rate, such as 9600 baud (960 characters per second) or 2400 baud (240 characters per second).

If you have one of the slower (1200 or 2400 baud) modems, you might want to consider upgrading the modem to a faster model.

14.4Kbaud modems are available
through many sources for prices less than $100. The time saved by the increased speed could potentially save more than the cost of the modem.

Software
In order for your computer to be able to use the modem, it needs to have a communications package. These include products such as XTALK, Windows Terminal, Qmodem, and Telemate.
In order to fully use the State of Montana Bulletin Board System, your communications package must have ANSI terminal capabilities. In addition, future software will require the use of “doorway” mode, which enables the use of the function keys and other special keys on your keyboard.

The communication package should also support ZMODEM, YMODEM, or XMODEM. If it supports ZMODEM or YMODEM, then you will be able to transfer more than one file at a time. This is of great benefit when you have several files to download. In addition ZMODEM is faster than YMODEM, and YMODEM is faster than XMODEM.

There are several good programs which contain these features. Programs such as Qmodem and Telemate are available on a shareware basis, and others are available commercially. Please note that Older (and Newer) versions of the above products may or may not have ANSI mode, Doorway Mode, or some of the file transfer protocols. If you are considering upgrading your existing software, please check with the vendor and verify that they have ANSI, Doorway, and the appropriate protocols.

Configuration
Each software package has its own method of configuration. Basically, you should set your communications software to the following parameters:

1) Baud Rate
   Set this to the maximum baud rate of the modem for 2400 baud and under modems.
   For 9600 baud and above, set this to 19.2Kbaud (19,200).
2) Flow Control
   Set this to hardware only for 9600 baud modems and above.
   Set this to BOTH for 2400 baud modems or lower. If your communications program does not have a BOTH option, then set this to XON/XOFF
3) Data, Stop and Parity Bits
   Set this to 8 data, no Parity and 1 Stop Bit.
4) Terminal Emulation
   Set this to ANSI. If ANSI is not available pick either VT320, VT220, VT102, VT100, VT52, or TTY in that order of preference.

Doorway Mode
Doorway mode is a special type of terminal emulation which “passes through” the function keys and other special keys on your keyboard to the Bulletin Board System. This allows you to run DOS programs over the modem. If your communication package does not support doorway mode, you will be unable to use additional software which we will be adding sometime in the future.

Summary
This article clarified the recommended settings used to connect to the State Bulletin Board System. If you have any additional questions, please contact your Agency Sysop, or Forrest Christian (444-2921).

Viewing Documents in ZIP!Office/ZIP! Mail

Someone sends you a WordPerfect document via ZIP!Office/ZIP!Mail. They ask you to review the document and send back your comments. This sounds simple enough. However, when viewing the document in your E-Mail software, you immediately notice some differences that makes this task more difficult than it seems.

So, you decide to print the document. Your hard copy contains most, if not all of the text, but it just doesn’t quite look like a WordPerfect document. Now what?

The solution is simple. Copy the E-Mail message to a storage area (LAN drive/hard drive/diskette drive). Next, retrieve the document into WordPerfect. You can now review, change, or print the document.

First, you must remember, your E-Mail package’s role is to send the document from one user to another. ZIP!Mail/ZIP!Office is sophisticated enough to allow you to view the document. However, the viewer is simply displaying what it was able to translate from the document and consequently can not interpret some of the many formatting codes. (You may have noticed the margins on the right hand side (not to be confused with the Far Side) are truncated on some documents.)
If you retrieve the document in WordPerfect and all codes have been transferred along with the document, E-Mail has done its job. Even though it has enhanced capabilities that allow you to view the document, it is not -- and shouldn't be confused with -- a wordprocessor.

If you have any questions concerning document exchanging via E-Mail, please call Sue Skuletich (444-1392) of End User Systems Support.

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**Windows Freebies!**

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**IconWorks**

IconWorks by Microsoft is a freely distributed, full-featured ICO icon editor for Windows that rivals many shareware and commercial packages. It is full of tools and options, with complete online help. It should be of interest to users of PowerBuilder, Visual Basic, and other GUI programming environments, as it lets you design and save icons for use in your projects.

The IconWorks system contains the following files:
ICONWRKS.EXE - The IconWorks Windows application
ICONWRKS.HLP - The IconWorks Windows Help file
CMDIALOG.VBX - Support file required by IconWorks
README.TXT - An ASCII text file with this info (and more) in it
VBRUN300.DLL is required for IconWorks. Note that if you have other applications that require VBRUN300.DLL, then you only need one copy. If you don't already have a copy of VBRUN300.DLL, contact Denny Knapp (444-2072) via ZIP!Mail or by phone. (It is large, and not included by default with IconWorks).

A current version of CMDIALOG.VBX is required to use IconWorks, and is supplied. NOTE: Some programmers decide to set the date and time of files like CMDIALOG.VBX to the same date and time as their program files. If this is done, then it is possible that an older version of CMDIALOG.VBX will appear to be newer than the one included with this program, which isn't very nice for users. The date and time of CMDIALOG.VBX included with this version of IconWorks is accurate as shipped with the programming environment.

Copy the ICONWRKS.EXE and ICONWRKS.HLP files to any directory. For online help to be available in IconWorks, be sure to set the working directory for the IconWorks choice in your shell to where IconWorks resides (or, just copy ICONWRKS.HLP to the Windows directory). Note that if ICONWRKS.HLP is not found in the current directory, in the working directory, or in a PATH directory when IconWorks starts up, then it will display a message to the effect.

This IconWorks release is based on version 1.00 of the IconWorks Sample Application included with Microsoft Visual Basic 3.0 for Windows, Professional Edition. It was modified, compiled, and distributed by Lou A. Mocchia (America Online: PCA Lou, Internet: pcalou@aol.com).

Microsoft provides a royalty-free right to use, modify, reproduce and distribute the Sample Application Files (and/or any modified version) included with its programming environments in any way found useful, provided that it is agreed that Microsoft has no warranty, obligations or liability for any Sample Application Files.

If you would like to receive a copy of ICONWORKS contact Denny Knapp (444-2072) of End User Systems Support via ZIP!Mail or by phone.

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**Suggestions??**

We are constantly searching for new ideas that could enhance News & Views. Perhaps there are subjects you would like to see covered in future articles, or maybe you just wish to share comments on the "NEW" News & Views. We would like to hear from you.

Our goal is to present a vehicle, which provides information of common interest, to all agencies within state government. Please share with us any ideas you have that
will enable us to keep pace in an ever changing environment. To share your ideas, please contact the editors of News & Views.

Deadline/Editor's Note

If you would like to submit an article to News and Views for publication, please send it to Curt Secker or Irv Vavruska, preferably via ZIP!Mail. Please have your article in by the date listed below for inclusion in the corresponding month:

December Issue 11-18-94
January Issue 12-16-95
February Issue 01-20-95

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Helena, Montana 59620
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Editors: Curt Secker and Irv Vavruska

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ISD Customer Support Center 444-2000

Got a problem (opportunity)? Do you need ISD assistance for any of your information processing requirements? Then contact the ISD Customer Support Center (formerly the Network Assistance Center), which is our central point of contact.
## Training Calendar

This document has been assembled by the Helena College of Technology of The University of Montana. If you have any questions about enrollment, please call 444-6800.

All classes will be held at the Helena College of Technology, Room 210, at 1115 N. Roberts, unless another location is specified. Please note that these costs are subject to change each July 1st.

To enroll in a class, you must send or deadhead an enrollment application to the State Training Center, HCT, Helena, MT 59601. If you have questions about enrollment, please call 444-6800. Once you enroll in a class, the full fee will be charged UNLESS you cancel at least three business days before the first day of class.

<table>
<thead>
<tr>
<th>Data Network/Mainframe Classes</th>
<th>DATES</th>
<th>COST</th>
<th>LENGTH</th>
</tr>
</thead>
<tbody>
<tr>
<td>PowerBuilder</td>
<td>November 1, 2, &amp; 3</td>
<td>255.00</td>
<td>3</td>
</tr>
<tr>
<td>Introduction to Oracle</td>
<td>November 21, 22,&amp;23</td>
<td>212.50</td>
<td>2 1/2</td>
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<tr>
<td>Introduction to TSO/SPF</td>
<td>January 3</td>
<td>85.00</td>
<td>1</td>
</tr>
<tr>
<td>Introduction to JCL</td>
<td>January 4, &amp; 5</td>
<td>340.00</td>
<td>4</td>
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You must take CBT course as a prerequisite to Introduction to JCL

<table>
<thead>
<tr>
<th>Microcomputer Classes</th>
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<tr>
<td>Introduction to DOS</td>
<td>November 28 &amp; 29</td>
<td>85.00</td>
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<tr>
<td>Intermediate DOS</td>
<td>Nov. 30 &amp; Dec. 1</td>
<td>85.00</td>
<td>1</td>
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<tr>
<td>Introduction to Windows</td>
<td>December 12</td>
<td>85.00</td>
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<tr>
<td>WordPerfect Advanced Macros</td>
<td>November 28</td>
<td>42.50</td>
<td>1/2</td>
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<tr>
<td>WordPerfect Columns &amp; Math</td>
<td>November 29</td>
<td>42.50</td>
<td>1/2</td>
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<td>WordPerfect Tables</td>
<td>November 30</td>
<td>42.50</td>
<td>1/2</td>
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<tr>
<td>WordPerfect Graphics</td>
<td>December 1</td>
<td>42.50</td>
<td>1/2</td>
</tr>
<tr>
<td>WordPerfect 6.0a</td>
<td>December 19 &amp; 20</td>
<td>170.00</td>
<td>2</td>
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<tr>
<td>Desktop Publishing WP 6.0a</td>
<td>December 21 &amp; 22</td>
<td>170.00</td>
<td>2</td>
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<tbody>
<tr>
<td>Lotus for Windows</td>
<td>December 13 &amp; 14</td>
<td>170.00</td>
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<tr>
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<tr>
<td>Zip!Office</td>
<td>November 4</td>
<td>FREE</td>
<td>1/3</td>
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<tr>
<td>Zip!Office</td>
<td>November 7</td>
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<tr>
<td>Zip!Office</td>
<td>December 16</td>
<td>FREE</td>
<td>1/3</td>
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<tr>
<td>Zip!Mail</td>
<td>December 16</td>
<td>FREE</td>
<td>1/4</td>
</tr>
</tbody>
</table>

The Helena College of Technology makes reasonable accommodations for any known disability that may interfere with a person's ability to participate in training. Persons needing an accommodation must notify the College no later than two weeks before the date of training to allow adequate time to make needed arrangements. To make your request known, call 444-6800.
ISD CLASS ENROLLMENT APPLICATION
COMPLETE THIS APPLICATION IN FULL AND
RETURN IT **ONE WEEK PRIOR** TO THE FIRST DAY OF CLASS

---

**COURSE DATA**

Course Requested: __________________________

Date Offered: ____________________________

---

**STUDENT DATA**

Name: ______________________________________

Soc. Sec. Number (for P/P/P): __________________________

Agency & Division: ____________________________ / __________________________

Mailing Address: ______________________________________

Phone: ____________________________ Agency #: _______ _______ _______

How have you met the required prerequisites for this course? Explain, giving the class(es) taken, tutorial(s) completed, and/or experience.

____________________________________

____________________________________

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**BILLING INFORMATION/AUTHORIZATION MANDATORY**

Responsibility Center: __________________________

Authorized Signature: __________________________

---

**FULL CLASS FEE WILL BE BILLED TO THE REGISTRANT UNLESS CANCELLATION IS MADE THREE BUSINESS DAYS BEFORE THE START DATE OF THE CLASS.**

DEADHEAD COMPLETED FORM TO:
COMPUTER TRAINING CENTER
HELENA COLLEGE OF TECHNOLOGY
OF THE UNIVERSITY OF MONTANA
PHONE 444-6800 FAX 444-6892