ACSS NEWSLETTER

Academic Computing Services and Systems

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ACSS Income Decreases; Staff and Services Cut

Michael Skow

Over the last few years, we have seen a considerable increase in the aggregate use of our central systems, in spite of the tremendous amount of computing that is migrating to the desk top. Although the use of the CYBER NOS system is declining, the newer NOS/VE system that we manage for the Institute of Technology is saturated with student use. Both the VAX 8650, our VMS system, and the ENCORE Multimax, our UNIX system, have to be expanded this year to meet increasing demand.

Increased demand spells success in most endeavors. In our case, however, we have been unable to find sufficient additional dollars to meet these increased demands adequately; the competition for the small amount of additional legislative funding is fierce. It is not difficult to see that large unmet needs must be addressed in networking, access to workstations, and other high-priority University initiatives.

In the past, we have accepted this situation, and have pared down our central systems staff and services so that we could balance our budget and at the same time increase our support for workstations and networking. We chose our reductions so that our clients would be only minimally inconvenienced. I would like to think that the resulting quality of our services has declined only from very good to good.

This year will be a different story. Increased staff costs due to a much needed general salary increase, coupled with declining income, have forced us to make some difficult decisions.

The following is a summary of some of the changes that will be made.

Applications Software

The text processing help-line has been eliminated. SCRIBE will be removed from the VAX system in December. Support for the remaining text processing packages, for example TEX, will be set at our minimum support level.

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In This Issue . . .

There is a new set of procedures on the VAX VX that **makes most magnetic tape jobs easy** to accomplish. See Jerry Stearns's and John Larsen's article on **TAPEPROCEDURES.**

For **statistics** users, Bruce Center describes **Minitab Version 7**, which is now on the VAX VX.

Also on the VAX is a **new and improved version of GENCORD**, our concordance program, that makes your large jobs faster and less expensive to run. In this issue, Dick Hotchkiss describes this new version and also announces **a new IBM-PC version** of GENCORD.

Ron Zacharski describes EndNote, a **bibliographic data base** program for the Macintosh that will help you create bibliographies.

And if you have very large files on our central systems, or on your microcomputer's hard disk, you'll want to read Peter Oberg's article on **bulk rates for disk storage.**

Labor Day Hours.
See page 185.

HELP PAGE

HELP-LINES

Central Systems (CA,NV,UX,VX):

626-5592 — 8 am to 5 pm weekdays

Artificial Intelligence:

625-8332 — 3 to 4 pm weekdays

Data Base:

626-1887 — 10 to 11 am weekdays

Graphics:

626-5592 — 8 am to 5 pm weekdays

Liberal Arts, Text Analysis:

625-8332 — 3 to 4 pm weekdays

LUMINA (communications questions)

626-2272 — 8 am to 5 pm weekdays

Microcomputer and Workstation Networks:

626-4276 — 9 am to 4 pm, weekdays (Closed 12:00 to 1:30 pm, Monday, Tuesday, and Friday.)

Statistics:

626-1887 — 1 to 3 pm weekdays

CONSULTING

Walk-In

East Bank:

128C Lind Hall; 10 am to noon and 1 pm to 4 pm Monday through Friday

Microcomputer and Workstation Networks:

125 Shepherd Lab; 9 am to 4 pm, weekdays (Closed from 12:00 to 1:30, Monday, Tuesday, and Friday.)

Electronic Mail Consulting

Consulting is now available via the mail facility on all ACSS systems (the CA, NV, UX, and VX). Send mail to user name CONSULT for questions after hours and for low-priority questions that are not critical to your immediate computing work. Replies will be sent to your account through the mail facility on your system.

Instructional Computing Consultant

Department instructors may call 626-0200 for assistance in choosing ACSS systems (CYBER/NOS, CYBER/VE, ENCORE/UNIX, VAX/VMS), software, and for answers to any other inquiries on using computers for instructional computing.

COMPUTING INFORMATION CENTER

128A Lind Hall, 625-7397, MAD@UMNACCA, MAD@UMNACUX, MAD@UMNACVX
8 am to noon, 1:00 to 4:30 pm, Monday through Friday

Computing account and grant applications available for CYBER, ENCORE, and VAX computers.

Short course enrollment. Short course schedules and class descriptions available.

Assistance in ordering vendor documentation. Vendor documentation is not always available in the University bookstores and may be ordered directly from the company.

Complete documentation collection. Reference copies of vendor and all other documentation for ACSS software.

Free ACSS documentation. General information, and central system and microcomputer information available.

Computing Newsletters. Subscribe to the *ACSS Newsletter* and the ACSS *Microcomputer Newsletter*. Newsletters from other computing centers are also available for reference.

University of Minnesota, Twin Cities

ACSS NEWSLETTER

Volume 23, Number 8 August, 1989

ACSS NEWSLETTER

Director, ACSS: Michael Skow
Editors: Steven Brehe, Paula Goblirsch

The *ACSS Newsletter* is published monthly by Academic Computing Services and Systems of the University of Minnesota, Twin Cities. Deadline for articles is the 5th of the month preceding publication; deadline for short announcements is the 10th. The *ACSS Newsletter* is produced with an Apple Macintosh Plus running Microsoft Word, FullPaint, CricketDraw, Adobe Illustrator, and Aldus PageMaker software, with camera-ready copy produced on an Apple LaserWriter Plus.

Direct comments, suggestions, articles, and announcements to the editors at the address below, or call (612) 626-1828, or 626-1093. BITNET: SKB@UMNACVX, PMG@UMNACVX.

For a free subscription call (612) 625-7397, or send your name and address to the Computing Information Center, 128A Lind Hall. BITNET: MAD@UMNACCA, MAD@UMNACUX, or MAD@UMNACVX. On-campus address changes *must* include your department name and address.

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Consulting and other support for humanities computing and artificial intelligence will be reduced by 50 percent this year and eliminated completely next year if no additional funding can be found.

We currently provide full support for a wide variety of mathematical software. This will be reduced to full support for a much smaller set of the most highly used software.

General Consulting

Central systems consulting on the West Bank will be discontinued and the hours on the East Bank will be reduced.

Publications

University-wide informational services such as *Minnesota Computing* have been eliminated. We can no longer provide students with free copies of the *Introduction to UNIX Computing*.

Computing Information Center

Hours at the Computing Information Center will be reduced. The data base of central system documentation, provided for the convenience of our users, will be eliminated. Staff will no longer xerox portions of manuals for users.

Our computer manual updating service to the University Libraries will possibly be discontinued.

UNIX System

We will have to postpone installing protocols on the ENCORE that support development of networked applications.

NOS and NOS/VE Systems

Systems implementation will take place more slowly and consulting help will be less responsive. The CYBER CA, a CYBER 855 machine, will be downgraded immediately to a CYBER 845 to take advantage of lower software costs. Users of CA will notice slower response during peak periods.

Lind Hall I/O Station and Shuttle

Kurzweil optical scanning, a labor-intensive service, will be phased out, and possibly transferred to another department.

The number of shuttle runs between campus locations and Lauderdale will be reduced. This change will be most noticeable to those users on campus who print files and plot graphics on Lauderdale output devices; it will take considerably longer for their output to be delivered to campus locations.

Lauderdale Operations

Lauderdale attended hours will be cut. Unattended hours will begin at midnight instead of the current time of 2:45 am and run to 6 am. This means that magnetic tapes will not be mounted after midnight. Also, system failures will not be corrected after midnight until after 6 am.

Daily magnetic tape library service hours (currently 8:30 to 5:00) will be reduced to 9:00 am to noon and 12:30 to 3:00 pm.

All the reductions above are made necessary by a loss in staff of about 12 full-time equivalents. In many cases this means the remaining staff will be pushed all the harder to accommodate your service needs.

We have chosen those service reductions that affect the fewest number of faculty, staff, and students who use our central systems, but, inevitably, there will be large problems imposed on a few. We ask your patience during these hard times and your support for a brighter future with more stable funding.

Watch for more specific information on these changes in future ACSS newsletters.

TAPEPROCEDURES: VX Tapes Made Easy

John Larsen
JLL@UMNACVX

Jerry Stearns
JSTEARNS@UMNACVX

Learning to use magnetic tapes on a central computing system can be, at the least, time-consuming, if not frustrating. On our CYBER CA, there is a procedure called **TPROC** that enables you to perform such common tape functions as TBLOCK, ARCHIVE, EXAMINE, and others quickly and conveniently by allowing you to make choices from a series of menus. TPROC makes it easier for CA users to use tapes; using this procedure, you do not have to create tape jobs yourself and submit them. You simply supply the necessary information and TPROC creates and submits the job for you.

Now there is a similar procedure on our VAX VX, too. On VX, at the $ prompt, all you have to do is type in:

```
$ TAPEPROCEDURES
```

You can abbreviate this command as **TAPEP**. TAPEPROCEDURES will display a list of eleven functions and ask you to choose one. (The procedure performs only one function each time you execute it.) We have written TAPEPROCEDURES to perform the tape operations that are most often needed by our users, and have minimized the number of qualifiers that you may need to use on the job.

After you have selected a function, TAPEPROCEDURES will ask you questions about your tape, such as its serial number (VSN), tape ID, whether it is labeled and what the label is, and specifics about the function you have chosen.

If you need more information to answer any of TAPEPROCEDURES's questions, type in a **?** after the question. The procedure will display additional information.

TAPEPROCEDURES creates a command file with a jobname that you supply. When you have answered all the required questions, TAPEPROCEDURES submits this command file to the VX batch queue for execution. You may choose to keep the command file, called ***jobname*.COM**, as a file on your directory, using it to learn more about performing tape operations on the VX, or submitting it yourself if you want to perform the same operation at another time. All output is saved to a .LOG file on your root directory.

Each job created by TAPEPROCEDURES also contains a **COST** command, so the cost of each tape job you run will be reported.

Here are the tape operations that you can accomplish with TAPEPROCEDURES:

BLOCK	Uses the ACSS BLOCK program to write specified disk files to tape in blocked format, in either the ASCII or EBCDIC character set. The user is asked for line length and blocking factor and where to position the tape before writing on it.
UNBLOCK	Uses the ACSS UNBLOCK program to read specified block format files from tape and write them to disk in ASCII or EBCDIC. Asks you to supply the line length and blocking factor.
BACKUP SAVE	Uses DEC BACKUP to write specified files into a tape saveset. You can start writing at the beginning of the tape or after the current end of information. The verification about files is written to the output log file. Includes the qualifiers **/Before=** and

	/Modified. BACKUP always writes a new label on the tape, so TAPEPROCEDURES rewrites the user's current label.
BACKUP LIST	Lists files within specific tape savesets to the output log file. Chooses specific savesets or entire tape.
BACKUP RESTORE	Translates specified files in a tape backup saveset, or entire Backup directory structure, to disk, in ASCII format. Always creates new versions of files that already exist on the disk, so previous information is not destroyed.
COPY DISK TO TAPE	Uses the VMS **COPY** command to copy specified files from disk to tape. You can also use wild cards in the file specifications to select similar file names, and you can position the tape before writing.
COPY TAPE TO DISK	Uses the VMS **COPY** command to copy specified files from tape to disk. You can use wild cards in file specifications to select similar file names.
DIRECTORY	Performs the **DIRECTORY** command on the entire tape or on specified tape files. Any **DIR** command qualifiers can be used (such as **/FULL**, **/SIZE**, or **/PROTECTION**).
COPY TAPE TO TAPE	Mounts two tapes, and copies specified files of savesets, or the entire tape, to a specified position on the second tape. Uses the VMS **COPY** command.
INSPECT	Runs the ACSS INSPECT program to return information about the tape format, structure, and contents. Refers you to ACSS$WRITEUP:INSPECT for an explanation of the output.
INITIALIZE	Writes a new ANSI label on a tape. Specifies tape density if you desire.

If you need to accomplish a tape job that TAPEPROCEDURES does not perform, you will still have to write and submit your own jobs. In this case, refer to ACSS's *Guide to Using VAX VMS Magnetic Tapes*, an ACSS manual available in University bookstores. If you have any questions, call our HELP-Line at 625-5592 between 8 and 5 daily.

EndNote: A Bibliographic Data Base Program for the Macintosh

Ron Zacharski
RAZ@VX.ACSS.UMN.EDU

EndNote is a specialized data base manager that maintains bibliographic references. The power of EndNote lies in its ability to scan a word processor document for in-text citations and compile a bibliography for that document. You can either paste in-text citations from your bibliographic data base into your word processor document by using the EndNote desk accessory or type the citation directly into the document.

For example, the in-text citation *[Strawson, 1964]* is added by either method to the following text in Microsoft Word:

```
The topic is what is being talked about,
the point of departure for the utterance
([Strawson, 1964]).
```

Once you have completed the paper, you open it in the EndNote program. EndNote finds all the citations, and asks you to specify a bibliographic style (APA, Chicago, MLA, Science). It then formats the in-text citations and creates a bibliography. Thus, to continue our example, EndNote processes the text above and produces the following documents depending on the style selected.

Science style:

```
The topic is what is being talked about,
the point of departure for the utterance
(1).

References

1. P. F. Strawson, Theoria XXX, 96-118
   (1964).
```

LSA style:

```
The topic is what is being talked about,
the point of departure for the utterance
(Strawson 1964).

References

   Strawson, P.F.  1964.  Identifying
reference and truth values.
Theoria XXX:96-118.
```

EndNote comes with a number of predefined styles and also allows you to define your own easily. For example, you can specify whether references are to be cited in the text by number, superscripted numbers, as (***author, year***), or in any other format. You can indicate how to format the title of the work (e.g. within quotes, italicized, or underlined).

We have worked with other bibliographic data base managers (Pro-Cite and Scholar's Aid) and found EndNote to be the easiest to use. Reviews of EndNote can be found in the February 1989 issues of *MacWorld* (p.261) and *MacUser* (p.202).

EndNote requires at least an enhanced 512K Macintosh. It works with Microsoft Word, WordPerfect, WriteNow, MacWrite and any word processor supporting "Rich text" format. The retail price is $129 but it can be purchased through many mail order sources for around $85.

If you would like more information about EndNote or would like to try the program, contact the consultants in the Special Projects Group at 625-8332.

New Versions of GENCORD, GCORD on VX; IBM-PC GENCORD Now Available

Richard Hotchkiss

New VAX Versions

New versions of GENCORD, a concordance program, and GCORD, an easy-to-use interactive driver for GENCORD, are now available on the VAX VX. GENCORD has been converted to use the Fortran character type. Its sort and merge algorithms have been completely replaced with faster routines. As a result, GENCORD runs up to 40 percent faster and uses considerably less temporary disk space.

GCORD now reports more useful information on your GENCORD run concerning timing, lines read, pages generated on the output file, etc. See **Example 1** for more information about accessing GENCORD, GCORD, and an on-line document about this software.

IBM-PC Version

ACSS now offers GENCORD for IBM-PCs and compatible micros. This version and brief documentation are available for $50 from the text analysis consultant in M141 Fraser Hall, 625-8332. This version's options are limited compared to the central system version.

Comparisons

For comparison purposes the old and new VAX versions of GENCORD, the CYBER CA version, and the PC version were run with the same text file—a file of 62K bytes, 1122 lines, about 17 pages of lines averaging 50 characters per line:

The **CYBER version** ran in 25 seconds and cost $10.09.

The **old VAX version** ran in 76 seconds and cost $10.94.

The **new VAX version** ran in 45 seconds and cost $7.09.

The **PC version**, running on an XT with a Breakthru 286 accelerator board, ran in 261 seconds.

The PC version generated 231 pages of output with the full concordance, word index, and word frequency outputs selected. The output file was about 1.5 Mbytes on the hard disk, about a 24 to 1 ratio between the source text file and output file. Thus the text of an average book might generate about 15 Mbytes of output after hours of computation, which is a forbidding number of pages to print on a microcomputer printer. PC GENCORD can, however, be useful for small texts or for testing portions of large texts before running the full text on the VAX.

Example 1

You can access both GCORD and GENCORD on the VAX VX by first typing the command:

```
$ TEXT_ANALYSIS
```

From there, follow the instructions in the on-line document.

A new version of the document on GENCORD and GCORD is now available on the VAX VX under the file name **ACSS$WRITEUP:GENCORD.LIS**. You can print a copy of this file with this command:

```
$ PRINT /CHAR=PSTD /NAME=site.bin ACSS$WRITEUP:GENCORD.LIS
```

wherein ***site*** stands for the location code indicating where the file will be delivered (for example, EA for Lind Hall 128B) and ***bin*** stands for the number of the bin where your file will be waiting. (Example: **NAME=EA.430** stands for Lind Hall 128B, bin 430).

SPSS^{X} 3.1.1 Default on VX

Bruce A. Center
BAC@UMNACVX

On August 6, SPSS^{x} 3.1.1 will become the default, and the only version of SPSS^{x} on VX. On this date, all older versions will be removed from the system. SPSS^{x} 3.1.1 is virtually identical to the current version (3.1) except that it includes *Data Entry*. Data Entry provides facilities for interactive data entry, data editing, and data cleaning.

Data Entry may be called directly from within SPSS^{x} by typing **DATA ENTRY** or from the DCL command line by typing **SPSSDE**.

Sharon Krmpotich described Data Entry in a May 1989 *Newsletter* article. There is also on-line documentation on Data Entry within SPSS^{x}, and a new manual called *SPSS^{x} Data Entry for VAX/VMS*. The manual is available for reference in the Computing Information Center, Lind Hall, 128A.

Until August 6, you can reference SPSS^{x} 3.1.1 by typing **SPSSX32**.

Minitab 7 on VX

Bruce A. Center
BAC@UMNACVX

Minitab, available on our VMS system, the VAX VX, is perhaps the best of the general-purpose interactive statistical packages for instructional users. It is straightforward, easy to use, tolerant of errors, and provides the user with broad data manipulation capabilities as well as the ability to retain many intermediate statistical results for subsequent analysis.

While Minitab does not have the breadth or depth or sheer power of research-oriented packages such as SPSS[x] or SAS, it does contain:

- an excellent, easily understandable reference manual: *Minitab Reference Manual*, release 7 (State College, PA: Minitab Inc., 1989).
- an even better *Minitab Handbook*, second edition, eds. Ryan, Joiner, and Ryan (Boston: PWS-Kent Publishing, 1985). This handbook is designed as a supplementary text for introductory statistics students. The handbook includes numerous examples and exercises that show, step by step, how to examine different types of data using Minitab.
- twenty-five example data sets, so instructors need not create their own for instructional purposes.
- a good section, in the documentation, on Tukey's elementary, unconventional Exploratory Data Analysis techniques[1]. The quality of Minitab's documentation is consistently high.
- a new capability to provide "statistical process control charts" (i.e., Shewhart charts).
- A simple, straightforward command structure for saving Minitab work sheets, creating macros, and using stored Minitab instructions within an interactive session.

Using Minitab

To invoke Minitab 7.1 interactively on the VAX, type

```
$ MINITAB7
```

or

```
$ MINITAB7 inputfile outputfile[2]
```

You can also specify

```
$ MINITAB7/STARTUP=filename
```

which will execute the commands in ***filename*** first, and then return control to the terminal. This is especially useful for defining macros or setting up classroom files.

By default Minitab will use the file STARTUP.MTB, if it exists, as a startup file. Typing

```
$ MINITAB7/NOSTARTUP
```

will prevent the initial execution of STARTUP.MTB.

The on-line document **HELP MINITAB7** will also explain how to use Minitab in batch mode.

Incompatibilities with Minitab 5.1

Minitab 7 is a superset of Minitab 5; all Minitab 5 commands should continue to work.

Minitab 7 can read Minitab 5 work sheets. But alphabetic variables stored in Minitab 5 worksheets have to be converted to Minitab 7 format. Use the **ALPHA** command:

```
ALPHA C ... C
```

where *C* is an alphabetic variable.

Improvements in Version 7

A number of new statistical procedures have been added, along with increased flexibility in data manipulation and Minitab utilities. New procedures include:

GLM, a general analysis of variance and covariance with unequal cell sizes, and **ANOVA** and **ANCOVA**, respectively analyses of variance and covariance on balanced designs (i.e., equal or proportional cell sizes).

BREG, which performs a "best subsets regression" by maximizing R^2 and **RREG**, which does a "robust regression" based on ranks.

several **non-parametric procedures**, including the Mood median test; **FRIEDMAN**, a non-parametric two way analysis of variance; **WDIFF**, all possible sets of differences, i.e., all $(x_i - y_j)$, useful for nonparametric tests and confidence intervals; and **WSLOPE**, robust estimates of the slope of a line.

DISCRIMINANT, multivariate discriminant analysis, and **PCA**, principal components analysis.

Shewhart Charts, a section on statistical process control that can print charts of sample means, standard deviation and ranges, charts of moving averages, exponentially weighted moving averages and moving ranges, as well as charts for number or proportion of nonconformities and for Poisson counts, or Poisson counts per unit.

Other new features include:

an **expanded alphabetic data capability**. All input and output commands now handle alphabetic data fields up to 80 characters (A80).

LET now accepts the comparison and logical operators **EQ, LT, LE, GT, GE, AND, OR,** and **NOT**.

Macros can be made conversational by allowing for yes/no questions to be asked.

SORT now permits multiple columns, descending sorts, and sorts of alphabetic variables.

Portable files that can be transported to any other computer running Minitab 7 and **RETRIEVE**d.

If you have questions about using Minitab 7, call the Statistics HELP-Line, 626-1887, between 1 and 3 pm Monday through Friday.

[1] Tukey's techniques are also documented in Velleman and Hoaglin's *ABCs of Exploratory Data Analysis* (Boston: Duxbury Press, 1981). The senior author, Paul Velleman, is both a student of Tukey's and the author of Data Desk for the Macintosh. Unlike nearly all Macintosh programmers, he is a statistician first and a programmer second. He also possesses the extremely rare ability to write simply and absolutely accurately about statistical concepts and techniques.

[2] You cannot specify an output file without an input file. Use

```
OUTFILE filename
```

from within Minitab, just as you did in Minitab 5.1.

New ACM Algorithms on VX

Michael J. Frisch
MJFRISCH@UMNACVX

We have installed the ACM collected algorithms on our VAX VX machine and, from now on, VX will be the most up-to-date on the ACM algorithms. The older algorithms are also on the CYBER CA. The collected ACM algorithms have been published in the journal *ACM Transactions on Mathematical Software* (*TOMS*), starting with algorithm 493 from March 1975.

To help you access the algorithms on VX, we have written a program called CALGOPL that copies a single algorithm to your designated file. The command is:

```
$ CALGOPL number file
```

where ***number*** is the algorithm number from 493 through 668 and ***file*** is the name of the file to which the algorithm will be copied. The default file type for ***file*** is .LIS and, if you don't supply a file name, the default name is **ALG*number*.LIS**.

For example,

```
$ CALGOPL 668 SAM
```

writes algorithm 668 on file SAM.LIS and

```
$ CALGOPL 500
```

writes algorithm 500 on file ALG500.LIS.

We have added the line

```
ALGnumber
```

to the beginning of each algorithm to make it easier to check which algorithm you copied.

Rather than provide a directory for you to copy from, we wrote the CALGOPL program so that, if some day we move the algorithms to a cheaper medium than disk, as is likely, you won't have to change the way you access the algorithms. For example, if we move them to tape, CALGOPL would submit a batch job to read the tape and copy it for you.

We recently added algorithms 665 to 668, published in the December 1988 *TOMS*. They are:

ALG665	MACHAR: A Subroutine to Dynamically Determine Machine Parameters
ALG666	CHABIS: A Mathematical Software Package for Locating and Evaluating Roots of Systems of Nonlinear Equations
ALG667	SIGMA: A Stochastic-Integration Global Minimization Algorithm
ALG668	H2PEC: Sampling from the Hypergeometric Distribution

For more information about CALGOPL, see the on-line document obtained with the VX command

```
$ MOREHELP LIBRARIES CALGOPL
```

The journal *ACM Transactions on Mathematical Software* is available in the Computing Information Center, 128A Lind Hall.

Disk Storage Now at Bulk Rates

Peter Oberg
PJO@UMNACVX

Do you have large data sets on NV, UX, and VX that you want to store on disk as inexpensively as possible? Have you thought of an easy way to backup your 20-, 30-, or 40-megabyte hard disk for your Macintosh or PC without using 40 diskettes? Do you need large data set storage on-line for either a limited or extended period?

Starting August 1, you can obtain disk storage on the NV, UX, and VX systems in large quantity. These are the features of our new disk storage service:

- The minimum amount you can request on these systems is 50 megabytes with increases of at least 1-megabyte increments from that point.
- The cost is $0.07/megabyte/day or a minimum of $3.50 a day for 50 megabytes.
- The storage can be shared across subaccounts billed to the same number.
- You can increase or decrease the storage as needed for your account.

This charge is considerably less than our current $0.27/megabyte/day rate except that it is a flat fee for the entire amount you request and not for what is used under normal rates. Thus, if you average over 15 megabytes per day, it would be more cost-efficient to work under the bulk rate.

You can request bulk storage at any time and it is covered under the $1000 computing research grants available to faculty and graduate researchers for a $50 fee. If you want to set up bulk storage, send your request to user name CONSULT on NV, UX, or VX and include the following information:

- Your name, department, and phone number.
- Your user number and the user number to be billed.
- The computer system you want to use.

It is not possible to use the same bulk storage across more than one system. One request is needed per system. If you have questions regarding this service, please contact Peter Oberg at 626-0200 or send mail to CONSULT@UMNACX.

Labor Day Hours

Arvid Vangsness

In observance of Labor Day, ACSS systems—the CYBER 855 (CA), the VAX 8650 (VX), the ENCORE (UX), and the CYBER 830 (NV)—will run in unattended mode from 12 midnight Monday, September 4, until 6 am Tuesday, September 5.

It is unlikely that any tape requests or printing will be processed during these hours. Normal operations on all systems will resume at 6 am Tuesday, September 5.

CONVENTIONS

Throughout this and other ACSS publications, we have adopted these conventions:

- Messages and prompts from the ACSS computers appear in `plain type, like this.`
- Words that the computer systems replace with a specific name, value, or other information appear in *`italic type, like this.`*
- Commands you type at your terminal keyboard appear in **`bold face type, like this.`**
- Words that must be replaced by a specific name, value, or command that you type in appear in ***`bold italic type, like this.`***
- Comments to interactive sessions and program files are enclosed in { curly braces, like this }.

Here's an example:

SAVE,*filename*

is a command you type in. You type SAVE and replace ***filename*** with the name of your file. The system may respond with the message

`filename` `ALREADY PERMANENT` { An example of a system message. }

where *`filename`* will be replaced by the name of the file you attempted to save.

- The symbol **<CR>** refers to the carriage return (or RETURN) key on the terminal. The **<CR>** serves as a terminator for commands you type at your terminal. In most cases we do not show **<CR>**; we assume you know to type it after every command.

ACSS

PHONES/HOURS/LABS

ACSS PHONE NUMBERS

Administrative Office: 626-1600

HELP-Line 626-5592

Access:	
ACSS systems (CA,NV,UX,VX)	
3/12/2400 bps + 7/E/1	**626-1630**
12/2400 bps + 8/N/1	**626-1631**
LUMINA	**626-2206**
Accounts:	
CYBER CA, CYBER NV, ENCORE , VAX	625-1511
Computer Hours (recorded message)	626-1819
Computing Information Center	625-7397
Contract Services	625-2303
East Bank I/O, 128B Lind Hall	625-5082
Engineering Services	625-1595
Equipment Maintenance/Repair	625-1595
Graphics Software	626-5592
Information, Lauderdale	626-1600
Lauderdale Computer Room/Services	626-0550
LUMINA	626-2206
LUMINA Consultant	626-2272
Magnetic Tape Librarian	626-1838
Math and Engineering Packages	625-5830
Microcomputer HelpLine	626-4276
Newsletter Subscription	625-7397
Permanent File Restoration	626-0595
Project Assist	626-1090
Public Labs (Managed by ACSS)	
170 Anderson Hall	624-6526
140 Blegen Hall	624-5278
135 Classroom Office Bldg.	624-9226
121 Elliott Hall	624-0866
14 Folwell Hall	625-4896
306B Lind Hall	625-9032
B2 OMWL	626-2205
130 Physics	625-6820
9 Walter Library	626-1899
Lab Manager (14 Folwell Hall)	625-7850
Publications Information	626-1093
Short Course Registration	625-7397
Shuttle Bus Service	625-9525
System Status (recorded message)	626-1819
West Bank Computing Services	624-0877

For the phone numbers of consulting services, see the Help Page.

PUBLIC LABS TWIN CITIES CAMPUS

	Central System Printing	Interactive	Micro
East Bank			
ApH 117			X
Arch 148			X
CenH		X	
ComH		X	
DiehlH 207, 270	L	X	X
EddyH Annex 54			X
EltH 121	I	X	X
FolH 14, 14a	L	X	X
FronH		X	
LindH1	I	X	
LindH 26	Closed for remodeling		
LindH 128B	L	X	
LindH 306B			X
MasCanCtr M39		X	
MechE 308	I	X	
MoosT 8-425			X
Phys 130	L	X	X
PioH		X	
SanH		X	
TerrH		X	
VinH 203			X
WaLib 9	L	X	X
West Bank			
AndH 170	L		X
BlegH 140	I	X	
MdbH		X	
OMWL B2			X
St. Paul			
BaH		X	
CentLib B40	I	X	
CentLib B50			X
ClaOff 135			X
McNH 69	L		X
Vet 436			X

I - Impact line printers.
L - Laser printers.

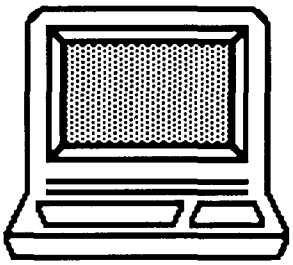
SYSTEM OPERATING HOURS

The CYBER CA, the CYBER NV, the ENCORE UX, and the VAX VX systems run continuously from 6 pm Sunday until 6 am the following Sunday. The systems are in unattended production mode each night from midnight until 6 am. It is unlikely that any tape requests or printing will be processed during these hours. Normal operations resume at 6 am each day except Sunday.

On the first and third Fridays of each month from 5 am to 7 am the CYBER CA and NV systems are unavailable. Low-rate hours are from 8 pm to 8 am Monday through Friday, and all operating hours on Saturday and Sunday.

Computing Information Center

128A Lind Hall
625-7397
8:00 am – noon, 1:00 - 4:30 pm, Monday through Friday



Vendor-published documentation

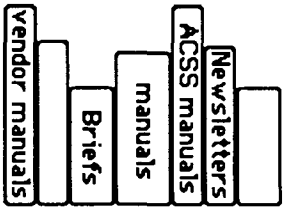
Free documentation

Computing newsletters

Computing account and Grant applications

Short course enrollment

Newsletter subscriptions



Reference manuals

ACSS NEWSLETTER

Academic Computing Services and Systems

Technical Publications
100 Lauderdale CF
University of Minnesota
2520 Broadway Drive
Lauderdale, Minnesota 55113

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