UNIVERSITY COMPUTER CENTER

UNIVERSITY COMPUTER CENTER, UNIVERSITY OF MINNESOTA-TWIN CITIES, MINNEAPOLIS, MINNESOTA

CONTENTS

NEED SUMMER HELP? SEE 'BULLETINS'

BULLETINS

New Interpreter

A Zeta Data interpreter will be available in Room 130 Experimental Engineering on or about the first of June, 1977. This machine is a high speed interpreter. Any comments or suggestions from users about this machine would be appreciated.

****

Looking For Summer Help?

Programmers are looking for summer jobs; if you need any assistance with your projects over the summer, keep in mind that we have a modest list of programmers (most are extremely competent) available. For information, call 373-7744 and ask for copies of our 'free-lance' list.

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News From MECC

On May 4, 1977, the MECC Board of Governors approved the MECC staff recommendation to award Control Data Corporation a five-year contract for the procurement of a 300 port all-purpose instructional timesharing computer. CDC will provide a Cyber 73 Model 26 dual CPU computer utilizing the KRONOS operating system. This system will be similar to the MECC/MERITSS system. However, the BASIC compiler that will be on this new system is a newer release with more advanced features than the BASIC compiler currently on the MERITSS system.

The MECC Instructional Coordinators and the CDC Programming Staff will be working on program conversion over the summer to smooth the transition to the new system. MECC users are urged to contact their MECC instructional coordinator if they forsee any special difficulties in this conversion.

(abstracted from USERS, the MECC Timesharing Newsletter, May, 1977)

UCC newsletter
VOLUME 11 NUMBER 6 JUNE, 1977

Director: Peter C. Patton
Editor : A. Koepke

Comments about the content of this newsletter, or suggestions for changes may be directed to the editor, 235a Experimental Engineering, 373-7744.

equipment

New Equipment

An additional disk controller was added in April to the MERITSS (6400) system. This was installed to improve the response time.

An additional 669-4 tape unit was added to the Cyber 74 in April. There has been an increased demand for 9-track tapes and this additional unit will alleviate the slow turnaround seen in the past few months. In terms of mounts per month per unit, the statistics are as follows:

	March 1976	April 1977
(7) 607	936	900
(2) 669	588	1250

Disk space use, which decreased from December through February, has again been increasing rapidly. Users have seen this as TRACK LIMITS if their jobs requested large amounts of file storage. In late June, we will add 6 additional double density drives along with an additional disk controller. The storage capacity (in millions of characters) now is:

9 double density: 1989
4 single density: 440

In late June, after the addition of the new drives, the capacity will be:

15 double density: 3315
4 single density: 440

We would also like to acknowledge, at this time, the effort many users have made to help us conserve resources and supplies. We would like to mention here the effort you've made in the conservation of paper supplies. This table demonstrates the ecological effort you made after the paper panic of '74:

	1972-73	1973-74	1974-75	1975-76
jobs	486,193	568,842	584,764	795,819
Pages printed	8,835K	9,083K	7,981K	8,789K
cards punched	6,380K	6,598K	5,427K	5,502K

We would also like to thank you for making an effort to use labeled tapes for your jobs. As a percentage of total mounts, the increase is impressive:

August 1974 5%
April 1976 55%
March 1977 65%

We realize that there are still a large number of old unlabeled tapes around. However, if each new tape or rewritten tape has a label, the system will continue to give better throughput.

L. Liddiard, 373-5239

New Plotter Ordered

We have ordered a new Varian Statos plotter to replace the one now in use. This new plotter will be the same width (about 14 inches) but the print will be much darker and will allow 200 dot-per-inch plotting. We expect that it will plot dark areas more consistently and hope to have fewer maintenance problems because of its improved design. Delivery of the plotter is planned for the July-September, 1977 period.

M.J. Frisch, 376-1636

S S & C

Project Control and Accounting

The accounting system which tracks user expenditures on the Cyber 74 is essentially a heavily modified version of that which was designed and implemented under our former operating system, MOMS. While the current system performs efficiently and accurately, it is evident from the requests made within UCC and to UCC by users that a major revision may be necessary. Some of the global needs that have been expressed are:

1) Immediate access by users to accounting data to enable determination of resources used.

2) Project or sub-accouting under a single user number to enable resource usage tracking at a detail level by user number.

3) Project control validation for resource usage, time of day system usage, etc.

4) Compatible accounting systems on the Cyber 74 and the 6400.

5) Single account numbers for timesharing and batch.

Since immediate access to accounting data is the highest demand item, we plan to implement this feature before any major accounting revision takes place. This will enable us to provide this feature by September 1, 1977, on both systems. Details of the implementation will be published in the July newsletter.

The larger project, a complete revision of the system, has started with a needs study. We have surveyed other installations to determine the functions provided to users. The Administrative Systems Division of UCC is completing a needs statement. This statement will undergo review by an internal UCC committee and by an accounting advisory committee comprised of members representing various classes of users of both the Cyber 74 and the 6400.

Comments, suggestions, or complaints on accounting and project control should be directed to Andre Bremanis or Steve Nachtsheim. Since the target date for redesign (but not implementation) is mid-September, users are encouraged to express their needs as soon as possible.

S.P. Nachtsheim, 373-7878

Separate Batch and Timesharing Account Numbers

We have received complaints from users who log into MIRJE and then want to access their files on their batch user number. Some users have asked that they be given user numbers with both MIRJE and batch access permissions. We have explained that we cannot do this because the limits (or validations) available to the batch user are not permitted to a timesharing account.

However, many users have solved this problem by getting permission to 'account over' to their batch number after logging into TELEX with a MIRJE number. The files saved under the batch number are then available without the UN= parameter; these files may be maintained as private files. Usage is charged to the login user number while storage costs of these files saved under the batch number continue to be charged to the batch number. The user avoids the awkwardness of remembering (or

forgetting) to save the file with CT=S or CT=PU or of using a PERMIT on the file. For example:

Login to MIRJE with:

```
AAA6901,pswrd1              MIRJE user number.
READY.
X,ACCOUNT,AAA6001,pswrd2    Account over to batch
                            user number.
READY.
OLD,filename                File has been saved as a
                            private file under the
                            batch number.
READY.
```

Note that the validations (CM allowance, no tape usage, etc.) for this session will be those of AAA6901, the original login user number in the example.

The user who maintains many different MIRJE numbers in order to keep accounts separate for different projects may find it feasible to maintain all files on one batch number. Each of the users could then be taught to 'account over' to the batch number after logging on. Later, the batch storage charges could be equally divided among the users; their usage charges will already be correctly allocated to individual MIRJE numbers by the accounting system.

T.D. Hodge, 373-4599

loader change

ABSOLUTE PROGRAM FIELD LENGTH

At the end of second summer session, we will make a change in the way field length is managed for absolute binaries (overlay programs). The change should not affect most users and will more efficiently manage the available central memory. However, those of you who use more blank common than is declared in the program must be aware of this forthcoming change.

For relocatable programs, the two loaders (LINK and CYBER) try to ensure that the proper amount of field length is available to run the program. Each loader will reduce the field length if the program needs less core than declared on the last RFL (running field length) card or jobcard. The CYBER loader will even increase above the RFL value. The loaders can do these things because they can calculate the amount of core the program requires. This required memory is also written in the binary version of absolute programs created by the loaders.

When we installed the CYBER loader as an optional loader in Spring, 1976, we disabled one standard CDC feature. The CYBER loader did look at the memory required for absolute binaries, and adjusted the job field length. We made the CYBER loader compatible with LINK in this case; absolute binaries always ran at the RFL card value. This was done to make it convenient for certain programs which do use more blank common storage than is declared in the program. The usual trick is for the program to check the amount of memory assigned when it begins execution. Since blank common is located after everything else in the load to memory, the 'effective' amount of blank common can be determined by the running program. Users can call the program with more or less RFL, depending on the size of the current problem. Several packages that we maintain (most of the UMST programs) use this technique.

The change that will be made on August 21 alters the behavior of the loaders. Both LINK and the CYBER loader will, by default, adjust the field length to the required field length declared in the absolute binary program. Of course, there must be ways to get around this for those programs which use the variable amount of blank common trick. The first way to avoid the field length reduction is to use the REDUCE(-) card. This statement tells the loaders to run the binary program at the user declared RFL field length. A second technique will be to include a special entry point, called MFL=, into the binary of the program. The MFL= entry point is currently used in system programs to specify the minimum field length required by certain programs. For example, the COMPASS assembler on the system library requires a minimum of 50000B words of memory, but if the user has a larger RFL declared for a larger assembly, COMPASS will run with that larger field length value. The MFL= entry point in absolute binaries generated by the loaders will operate in the same manner. It will specify a minimum field length required by the program, but a larger RFL or jobcard field length value will be used if specified.

We expect that the MFL= entry point will be used mainly by UCC programmers for maintaining packages like the UMST system, but it will be available for anyone who wishes to try it. We expect most users, affected by the loader change, to use the REDUCE(-) card. Note that we are making the action of the loaders compatible with the original CDC design. So if you have to place REDUCE(-) cards in some control card sequences because you have binaries which use the extra blank common technique, you can at least be consoled by the fact that the control card sequence is now compatible with other KRONOS installations. Finally, we will produce a WRITEUP during the summer which will describe how the MFL= entry point may be created. Remember that if you choose to do this, your binary program will still need a REDUCE(-) card if run at another KRONOS installation.

In summary, the loaders are being changed to honor the field length required as declared in absolute binary overlays. We will change our few programs which use the extra blank common technique to include an MFL= entry point. Thus, users of these packages should notice no difference. The only users who should be affected by the change are those who generate overlays which use more blank common than is declared in the program. For them, a REDUCE(-) card will probably be needed when executing the overlays.

K.C. Matthews, 376-5605

statistics Packages

SPSS

Version 6.5 of SPSS will become the current version at the beginning of the summer session. The effective date will be announced as a system note. At that time, SPSS 6.0 will still be available via PAST,SPSS under the batch system, and PAST,SPSSONL under the timesharing system.

The reference manual for this version, SPSS 6.5, is available from the Minnesota Book Center in Williamson Hall for a price of $5.50 each.

IMP

IMP is an Interactive Mathematical Package developed at the University of Texas. It is intended to be as easy to use and as powerful as OMNITAB. Users should be aware of the change of the control statement required to access IMP. At the beginning of summer session, the control statement will be:

```
IMP
```

instead of

```
ATTACH,OMNITAB/UN=LIBRARY
OMNITAB
```

S.P. Yen, 373-4886

new versions/products

A New BASIC Compiler

As announced in the March 1977 newsletter, the BASIC compiler will eventually be changed to a new version that will allow only 72-character line strings instead of the 80 character strings permitted by the current compiler. We now have, as a FUTURE product, a temporary version of BASIC with the 72-character mode. This new version will detect the strings that are longer than 72 characters and can be helpful in accomplishing the conversion task. This version of the compiler can be obtained as a local file, called BASIC, and used as such instead of using the system's BASIC compiler. To use this new version, obtain the compiler with this command:

```
X,FUTURE,BASIC
```

before compiling any programs. Also, be careful not to drop the local file called BASIC when obtaining primary files. Primary files should be obtained before acquiring the future compiler, or the ND parameter should be used when defining them with the OLD, NEW, or LIB commands. For example,

```
OLD,MYPROG
BASIC
X,FUTURE,BASIC
RUN (or RNH)
```

or

```
BASIC
X,FUTURE,BASIC
NEW,MYPROG/ND
     .
     .
(new BASIC program)
     .
     .
RUN (or RNH)
```

or

```
OLD,MYPROG1
BASIC
X,FUTURE,BASIC
RUN (or RNH)
OLD,MYPROG2/ND
RUN (or RNH)
```

M. Riviere, 376-5606

New Utility Products

KWIC

A NEW VERSION OF KWIC, a keyword in context index program, has been installed and is available. It can be accessed as follows:

```
FUTURE,KWIC.
KWIC.
```

The KWIC program permutes and lists information alphabetically by key words. This new version allows up to 400 characters per record processing whereas the current version permits only up to 80 characters per record.

FORM

A currrent and a new version of the FORM utility have been installed and are available. The current version is accessed with the control statement:

```
FORM.
```

and the newer version as follows:

```
FUTURE,FORM.
FORM.
```

FORM (File Organizer and Record Manager) is a CDC file management utility used to manipulate records and reorganize files in the same or different format as the originals. If you have problems with either of these utilities, please call

H. Kurs, 376-1762

New Versions of FTN and FORTRAN Libraries

The FUTURE versions of FTN 4, FORTRAN, and SYSIO (level 13) will replace the current versions (level 11) at the end of Spring Quarter. These level 13 products are improvements since several known bugs have been fixed on them. Refer to WRITEUP,PTRFORT for information about improvements and information about the still standing problems.

Until they are made the current versions, you may access these products by placing a

```
FUTURE,FTN.
```

control statement in your deck before making any reference to FTN. This statement retrieves, in addition to the level 13 FTN, the new versions of FORTRAN and SYSIO. These new libraries may also be independently accessed by using:

```
FUTURE,FORTRAN.
```

and

```
FUTURE,SYSIO.
```

control statements.

M. Riviere, 376-5606

COBOL, SORT/MERGE, and RECORD MANAGER

During the quarter break, new Version 4 COBOL, SORT/MERGE, and RECORD MANAGER products will be installed and made available. These new products will be at PSR439, Level 13. The current versions of these products will be at PSR420, Level 12. The previous current versions (PSR401, Level 10) will be removed.

By specifying the following control cards, you may access the desired versions of these products:

FUTURE(name) Provides the latest version.

name. Provides the current version.

FETCH(name) Provides the current version of the library specified by 'name' or may provide a special version of the product.

The products and libraries available are:

BBT06RM	Blocked binary conversion routine.
CB4LIB	COBOL library routines.
COBOL	COBOL compiler.
COPY8P	8-bit subroutine utility to copy IBM to CDC print files.
COPYCL	Utility to create a COBOL source library.
ESTMATE	Record Manager utility routine for index sequential files.
FORM	Utility to manipulate records and reorganize files.
IXGEN	Record Manager utility routines for multiple index files.
KWIC	Utility to permute and list information alphabetically by key words.
RANCONV	Random file conversion routine.
SISTAT	Record Manager statistical utility routine for index sequential files.
SMTEXT	SORT/MERGE text for SORT/MERGE COMPASS routines.
SORTMRG	SORT/MERGE processor.
SRTLIB	SORT/MERGE library.
SYSIO	Record Manager library routines.

SORTMRG (V4,Level 12:PSR420), SRTLIB (V4,Level 12:PSR420), and SYSIO (V4,Level 13:PSR439) reside in the system library. When accessed, all the libraries (SYSIO, CB4LIB, and SRTLIB) need only be used when binary programs are to be executed. When the COBOL compiler and the SORTMRG processor are accessed, all the necessary libraries and utilities are provided automatically. The utility products (BBT06RM, COPYCL, COPY8P, ESTMATE, FORM, IXGEN, KWIC, RANCONV, and SISTAT) need to be individually accessed. SMTEXT contains the SORT/MERGE macro texts used for COMPASS sort programs. To determine how to access these products, see the table appended at the end of this article.

Documentation for these products can be found in the following manuals and writeups:

1) BBT06RM, RANCONV:
Version 3 to Version 4 Data File Conversion Guide (UCC, 1975).

2) COBOL, CB4LIB, and COPYCL:
COBOL Version 4 Reference Manual (CDC No. 60384100) and COBOL 3 to COBOL 4 Conversion Guide (UCC, 1975).

3) ESTMATE, IXGEN, SISTAT, and SYSIO:
Record Manager User's Guides (CDC No. 60359600, No. 60385200, and No. 60385300).

4) SORTMRG, SMTEXT, and SRTLIB:
SORT/MERGE Versions 4 and 1 Reference Manual (CDC No. 60343900) and SORT/MERGE 3.0 to SORT/MERGE 4.0 Conversion Guide (UCC, 1975).

5) COPY8P:
8-bit Subroutines Version 1 Reference Manual (CDC No. 60359400).

6) FORM:
FORM Reference Manual (CDC No. 60307000).

7) KWIC:
6000 KWIC (CDC No. 60137700).

K. Kurs, 376-1762

The following table describes the level of products to be accessed when using FUTURE, current, or FETCH versions:

Product	FUTURE	Current	FETCH
BBT06RM	NA	BBT06RM	NA
CB4LIB	V4,Level 13:PSR439	NA	V4,Level 12:PSR420
COBOL	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
COPYCL	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
COPY3P	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
ESTMATE	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
FORM	FORM	FORM	NA
IXGEN	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
KWIC	KWIC	KWIC	NA
RANCONV	NA	RANCONV	NA
SISTAT	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
SMTEXT	V4,Level 13:PSR439	NA	V4,Level 12:PSR420
SORTMRG	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
SRTLIB	V4,Level 13:PSR439	V4,Level 12:PSR420	NA
SYSIO	NA	V4,Level 13:PSR439	V4,Level 12:PSR420

NA means not applicable

New Version of SYSTEM 2000

A new version of System 2000, the generalized data base management system, will be installed on both the 6400 and the Cyber 74 on June 14, 1977. This version (2.60) will become the FUTURE version of the software (FUTURE,S2000). Version 2.40 will continue to be available as the current version.

Features

Version 2.60 is a major feature release of System 2000. In addition to features providing new capabilities to users, extensive modifications have been made to the product to enhance internal processing and thus reduce computer resource usage. Some of the new features are:

1) New INDEX commands to change key elements to non-key elements and vise-versa.

2) Optimized multi-level indexing for key values.

3) Enhanced padding options for the multiple occurrence and unique value tables.

4) Enhanced error diagnostic capability.

5) Networking capability via the LINK command in PLI.

6) The ability to perform natural language commands from FORTRAN or COBOL programs.

Documentation

Several new documents will be useful to 2.60 users:

1) System 2000 User Aid # 5, 2.40 to 2.60 Conversion Guide (a free UCC publication).

2) System 2000 Procedural Language Interface Feature Reference Manual (a new chapter of the MRI Reference Manual).

3) System 2000 Version 2.60 Newsletter (an MRI publication).

All of these publications are available through the UCC Reference Room.

Conversion Courses

UCC will offer a 2.40 to 2.60 conversion short course. This course will

1) Highlight the new features of Version 2.60.

2) Point out the differences between 2.40 and 2.60.

3) Offer hints and procedures to enable users to make a smooth transition from Version 2.40 to Version 2.60.

The course will be offered in 113 Space Science Center at 2:15 PM on June 28 and July 7, 1977.

WARNINGS

1) 2.40 data bases are upward compatible with Version 2.60; however, once a data base has been accessed with Version 2.60, it may not be used with Version 2.40 software.

2) Version 2.60 has the following (increased) central memory requirements:

	2.40	2.60
Natural Language	47100	52000
Report Writer	55000	57000
Audit Module	55000	57000
PLI portion:		
FORTRAN/COBOL programs	47100	53250

3) All PLI programs must be precompiled with Version 2.60.

4) Local file names for the data bases (formerly TA TABLE through TU TABLE) are now TA<hash code> through TU<hash code> where hash code is the five character unique character string used for the data base permanent file names.

5) Special conversion steps must be taken to use a data base which has an indirect update file assumed.

6) All Report Writer user exit programs must be loaded using 2.60 procedures.

Questions or comments should be directed to John Cosgrove (376-1761) or

S.P. Nachtsheim, 373-7878

A New Version of XEDIT

A new version of XEDIT, version 3.0.0, is now available on both systems as a FUTURE product. A number of changes, deletions, and additions have been made in this new version. This article contains only the major non-upward compatible modifications; we strongly urge you to read the new writeup for complete descriptions of all changes. WRITEUP(XEDIT=FUTURE) is the new document for XEDIT, and WRITEUP(XEDIT=V300) contains the changes occuring between versions 2.1.7 and 3.0.0.

More efficient utilization of the CPU is just one of the benefits of the newest version of XEDIT. Other changes include an attempt to standardize many of the parameters used, standardize error processing, and to add many of features requested by various users.

The most sweeping change made to XEDIT is the removal of the width command. XEDIT now always processes 160 character lines (truncating to that length if necessary). There is no automatic truncation of lines less than 160 characters in length. This change is responsible for the 1500% increase in speed in a number of commands. However, files can still be truncated; three related commands have been added: RMARGIN, FINDLL, and TRUNCATE.

Other removals (both command and control card parameters) include:

1. W= control card parameter (see width discussion, above).

2. FINDLN (the 'LN' form of the command has been retained).

Other non-upward compatible changes which should affect few users include:

1. The + prefix character is now required to

obtain input data from the input source when INSERT, REPLACE, MODIFY, and ADD commands are used with a Y/Z command sequence.

2. XEDIT now checks for LOCKed (that is, files not in write mode) files when ending or quiting XEDIT.

3. XEDIT now overrides the repetition count by using a null carriage return when using INSERT, REPLACE, MODIFY, and ADD commands.

4. A count parameter has been added on the DLBLANKS command. This will require the * parameter to process an entire file.

These are the major non-upward compatible changes. However, other modifications have been made; included in the new version is the ability to have a default set of initial commands, direct access file capability, 'windowing' on string searches, and many other additions.

To access the future version of XEDIT, use the following in timesharing:

```
X,FUTURE,XEDIT
X,XEDIT (note the X)
```

and from a batch job:

```
FUTURE,XEDIT.
XEDIT.
```

B. Wells, 373-4573

MPOS Update

A new version of the multi-purpose optimization system, MPOS, will be installed on the Cyber 74 at the end of Spring Quarter. This version includes some corrections of previously existing bugs as well as modifications to the BBMIT, DUAL, and BEALE algorithms. After this end of quarter change, this new version of MPOS will be executed using this control statement:

```
MPOS.
```

You will still be able to access the older version of MPOS (version 3.1) with the following sequence of control statements:

```
PAST,MPOS.
MPOS.
```

If you have any questions, please call
K. Fjelsted, 373-5780

user libraries

Library Changes

In the middle of June, the following programs/packages will be removed from the system:

PSTPRC and CHEAP31
Varian Statos 31 electrostatic plotter postprocessors (use PLOT31, instead).

SSP
IBM Scientific Subroutine Package (use IMSL or the Minnesota Subprogram Library, instead; or call Mike Frisch if you need further help).

TYPESET/UN=LIBRARY
Past version of TYPESET text-formatting program (use the current version by typing TYPESET,parameters).

M.J. Frisch, 376-1636

EISPACK and IMSL Updates

A new version of EISPACK 2 (Version 8) has been installed on the Cyber 74. Several of the existing algorithms have been modified to correct known bugs. Some small program coding errors have also been corrected.

Due to an MNF compiler feature, we have found it necessary to make some changes to the MNF version of the IMSL library. Changes have been made to the following routines:

EQRH1F	EQRH3F	ELRH2C	FFTT
FFTR	LINV3F	VCONVO	VCVTCH
VCVTHC	ZPOLR		

If you have any problems in using any routines in the EISPACK or IMSL libraries, please call
K. Fjelsted, 373-5780

[illegible]

PLEASE ADD AN ALTERNATE USER NUMBER PARAMETER TO DUMPPF/ARCHIVE. THIS WOULD BE VERY USEFUL FOR PEOPLE WITH MASTER USER NUMBERS TO DUMP ALL OF THE FILES OF A SUBORDINATE USER NUMBER. IT IS NECESSARY TO DUMP FROM THE MASTER USER NUMBER BECAUSE THAT IS THE ONLY PLACE WHERE THE PASSWORDS TO PROTECTED FILES ARE AVAILABLE. CURRENTLY THE ONLY WAY TO DUMP PROTECTED FILES IS TO ACCOUNT TO THE NUMBER, AND THEN UNPROTECT THE FILES.

B.B.:17FEB77

There is a user number directive in ARCHIVE, but it will not (now) handle the master user/secured file case correctly. No such change will be made to DUMPPF since no improvements are going to be made to DUMPPF; we recommend ARCHIVE.

K. Matthews

LIFE WOULD BE EASIER IF THE AUTO DIVERT WOULD CHECK FOR A PAGE LIMIT.

J.L.:11MAR77

At the time the file is put into the queue, there is only one way of telling how many pages it will print. The system has to read and process the entire file to count the number of pages. It is further complicated by the fact that the page count will be different for the different types of printers, like the CDC 501 or UT200 or Univac 1004 printers. The new CDC 580 programmable printer lets the user have format control over the carriage control characters, making the thing too complex and the system overhead consequently too high.

N. Reddy

THE FOLLOWING ARE CHANGES THAT I BELIEVE SHOULD BE MADE TO WRITEUP,XEDIT.

ELABORATE ON THE B OPTION, AND GIVE SOME EXAMPLES ON HOW IT MIGHT BE USED.

THE GENERAL COMMAND STRUCTURE OF "PREFIX LINE COMMAND" SHOULD BE EMPHASIZED.

THE COMMAND, $, THE ALTERNATE FORM OF FINDLN SHOULD BE EMPHASIZED.

SOMEWHERE IN THE XEDIT WRITEUP SHOULD BE THE LISTING PRODUCED BY THE XEDIT COMMAND HELP.

I SUGGEST THAT EITHER THE COMMAND ADDLNS BE DELETED, OR THE COMMAND DELETELNS BE REINSTATED, SINCE THE TWO ARE PAIRED, LIKE ALN AND DLN. (WHY WAS DLNS REMOVED, ANYWAY?)

W.M.:11MAR77

B option denotes batch origin and is used primarily for debugging purposes. Among other items, it will cause XEDIT to abort on empty carriage returns and syntax errors. In addition, ASCII will not be processed. It is useful if you are preparing an XEDIT run for use from batch origin.

The form "prefix line command" will be seen more often in the upcoming writeup.

The $ form will be emphasized, in fact, the FINDLN form of the command is being removed.

The output generated by "HELP" is formulated at assembly time and is thus always up to date (even when the writeup is not). We will consider this however.

After checking the history of XEDIT, it was found that the DLNS command never existed (thus never removed). Incidentally, the DLNS command can be simulated by the sequence:

```
?? DLN
?? WM,1,1
?? XCW/ //*
```

if you use the FUTURE version of XEDIT.

B. Wells

WHY IS THE 1004 CHARACTER SET DIFFERENT FROM THAT OF EXP ENG OR WEST BANK?

W.M.:21MAR77

Correctly stated, this question would be "Why doesn't UNIVAC make equipment to be compatible with CDC and/or IBM and/or HONEYWELL and/or etc?" The answer is: I don't know.

R. Franta

WHEN XEDITING A FILE, IT IS POSSIBLE TO DELETE AN ENTIRE RECORD (OF A MULTI-RECORD FILE), ENDING UP WITH A RECORD OF ZERO LENGTH. THIS CAN BE VERY INCONVENIENT AT TIMES, ESPECIALLY WHEN TRYING TO COMPILE A FILE WHOSE FIRST RECORD IS DELETED. (I REALIZE THAT IN THIS CASE, AT LEAST, THE COPY UTILITY PACKAGE SHOULD BE USED). I SUGGEST THAT XEDIT INFORM THE USER WHENEVER IT CREATES AND/OR SENSES (DETECTS) A ZERO LENGTH RECORD.

W.M.:18MAR77

We will consider this. However, since XEDIT presently is not aware of empty records (as compared to non-empty ones) this may involve considerable changes. it is possible for you to detect leading empty records by noting that the message "EOR" is being issued immediately after "END OF FILE". Leading record marks can be deleted by the sequence:

```
?? TN
?? DEOR
?? ^D
```

B. Wells

I WOULD LIKE TO SEE MORE HELP AVAILABLE FOR PROGRAMMING PROBLEMS.

K.S.:14APR77

If you are looking for consulting assistance in debugging a program that you are writing, we provide consultants as follows:

140 Exp Eng Monday-Friday, 9am - 5 pm
Monday-Thursday, 7pm - 9pm
Saturday, 10am - 2pm
Sunday 7pm - 9pm

Lauderdale Users Room
Monday-Friday, 1:30 - 3:30pm
Monday-Thursday, 7:30 - 9:30pm

Remote users may call the HELPLINE (612) 376-5592. In addition, local departments and schools provide consulting at some of the sites listed elsewhere in this Newsletter. Schedules are posted locally. If you are looking for programming assistance, our Professional Services Department has computer specialists available for use in system development, system analysis, programming and training. The cost of an individual project depends on its scope and complexity, and therefore is negotiated with the client. There is also some assistance available, on a fee basis, for very short term projects, perhaps lasting only several hours. For further information on contract programming, call Jim Johnson at 376-1764.

J. Johnson, T. Hodge

MAKE AN ADDITION TO KCL THAT ALLOWS A NUMERIC PARAMETER TO BE OF THE FORM (RI). THIS WOULD THEN PASS TO THE CALLED PROGRAM THE VALUE IN REGISTER RI.

WHERE IS THE DOCUMENTATION FOR LDC?

WHERE MAY I OBTAIN A LISTING OF DAYFILE, AS ADVISED IN THE KRONOS 2.1 REFERENCE MANUAL, VOL. 2, UNDER THE DOCUMENTATION FOR THE DAYFILE MACRO?

A.H.:11APR77

This would be a worthwhile change to KCL. However, we are not making any changes to KCL at the present. We want to be compatible with any future control language developed by CDC. An expanded control language is certainly one of the things we maintain an interest in.

LDC is a program currently used only by TELEX for loading the BASIC compiler. It will be removed from the system by the end of the summer.

CDC copyrighted software may not be released by UCC to users.

K. Matthews

PRODUCTION USAGE SUMMARIES

	April, 1977	April, 1976
CDC Cyber 74		
Number of jobs run plus MIRJE sessions	84,955 (98,630)	78,881 (83,154)
Central processor hours	162 (222)	140 (173)
Mass storage transfers (KPR)	205,038 (278,977)	129,455 (171,431)
Magnetic tape transfers (KPR)	6,423 (8,406)	4,781 (6,503)
Pages printed	763,045 (862,491)	798,414 (898,049)
Cards punched	436,448 (481,029)	444,092 (473,207)
Microfilm frames produced	28,182 (278,433)	19,437 (212,469)
Tapes mounted	8,696	7,944
Average file storage (1547M available)	1,076.1 million char	596.8 million char
Mean time between failures	34.5 hours	6.8 hours
Percentage available during scheduled hours	99.5 percent	96.3 percent
SUPIO availability during scheduled hours	percent	-
(totals include staff development, accounting, and maintenance runs)		
CDC 6400		
Number of jobs run	133,358	113,426
Central processor hours	103	89
Terminal hours	20,691	18,338
Number of terminal sessions	41,961	40,423
Maximum number of simultaneous users	109	96
Average file storage	203.7 million char	200.6 million char
Mean time between failures	67.0 hours	46.9 hours
Percentage available during scheduled hours	99.5 percent	99.2 percent

CYBER 74 DOWNTIME SUMMARY : May, 1977

	Monday-Friday 0800-1300	other	total
Total possible scheduled uptime hours	210.	314.	524.
Total downtime hours (see Schedule A)	0.4	0.3	0.7
Total uptime hours	209.6	317.7	523.3
Uptime percentage	99.8 percent	99.9 percent	99.9 percent
Average downtime per occurrence	7.7 minutes	6.7 minutes	7.2 minutes
Mean time between failures	69.9 hours	104.6 hours	87.1 hours
Subsystem failures			
SUPIO*	14	15	29
TELEX	1	0	1
EXPORT	2	2	4

Schedule A: downtime hours

	Number	Total hours	Average minutes
(1) Preventive maintenance over-runs	0	0.0	0.0
(2) Software related problems	3	0.3	6.7
(3) Hardware related problems	0	0.0	0.0
(4) Indeterminate software/hardware problems	3	0.4	7.7
(5) External Problems	0	0.0	0.0

*On 4 separate occasions, SUPIO failures extended for more than 1 hour due to hardware problems.

SUBMISSION SITE USAGE SUMMARY: TELEX EXCLUDED : May, 1977

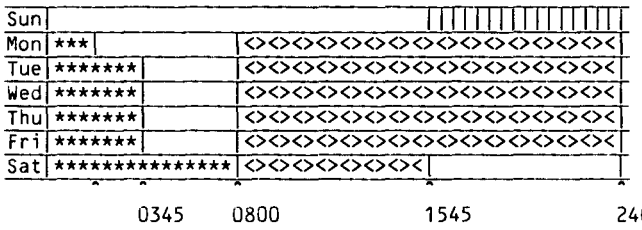
submitted from	total jobs	%	pages printed	%	cards read	%
Lauderdale	3,719	4.7	314,684	23.7	1,943,550	14.0
ExpEng	9,112	11.5	246,829	18.6	2,837,131	20.5
West Bank	10,933	13.8	172,547	13.0	1,780,662	12.9
6400	1,481	1.9				
SUPIO	54,093	68.2	594,725	44.8	7,291,994	52.6
TOTALS	79,343		1,328,785		13,853,337	

SUMMER 1977 — UNIVERSITY COMPUTER CENTER SHORT COURSES — SUMMER 1977

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY
13 June	14 June	15 June	16 June Introduction to UCC	17 June
20 June Pascal Introd to S2000	21 June KRONOS Control Cards PLOTPAC	22 June Pascal Intro to S2000 PLOTPAC	23 June KRONOS Control Cards PLOTPAC	24 June Pascal Intro to S2000
27 June Pascal Intro to S2000	28 June KRONOS Control Cards System 2000 Conversion	29 June Pascal Intro to S2000	30 June KRONOS Control Cards	1 July Pascal Intro to S2000
4 July Pascal	5 July KRONOS Control Cards	6 July Pascal	7 July KRONOS Control Cards System 2000 Conversion	8 July Pascal
11 July System 2000/PLI	12 July KRONOS Control Cards	13 July System 2000/PLI	14 July KRONOS Control Cards	15 July System 2000/PLI
18 July	19 July	20 July	21 July Introduction to UCC	22 July
25 July System 2000/RW Beginning COMPASS	26 July Intro to Timesharing	27 July System 2000/RW Beginning COMPASS	28 July Intro to Timesharing	29 July System 2000/RW Beginning COMPASS
1 August Beginning COMPASS SPSS (Very beginning) COBOL	2 August SPSS (Beginning)	3 August Beginning COMPASS SPSS (Intermediate) COBOL	4 August SPSS (Intermediate)	5 August Beginning COMPASS SPSS ON/LINE COBOL
8 August COBOL	9 August Intermediate FORTRAN	10 August COBOL	11 August Intermediate FORTRAN	12 August COBOL
15 August COBOL	16 August Intermediate FORTRAN	17 August COBOL	18 August Intermediate FORTRAN	19 August COBOL
22 August	23 August Intermediate FORTRAN	24 August	25 August Intermediate FORTRAN	26 August
29 August	30 August Intermediate FORTRAN	31 August	1 September Intermediate FORTRAN	

Introduction to UCC : th, 2:15-4pm, 16 June, Mech E 221
Pascal : mwf, 1:15-3pm, 20 June - 8 July, Lind H 54
System 2000 Conversion: t, 2:15-4pm, 28 June, Space Sci. 113
Intro. to System 2000 : mwf, 2:15-4pm, 20 June - 1 July, Chem E 40
Kronos Control Cards : tth, 2:15-4pm, 21 June - 14 July, Chem E 54
PLOTPAC : twth, 7:00-9pm, 21-23 June, Lauderdale Conf Rm
System 2000 Conversion: th, 2:15-4pm, 7 July, Space Sci. 113
System 2000/PLI : mwf, 2:15-4pm, 11-15 July, Lind H 4
Introduction to UCC : th, 6:00-8pm, 21 July, Mech E 221
System 2000/RW : mwf, 2:15-4pm, 25-29 July, Chem E 158
Beginning COMPASS : mwf, 2:15-4pm, 25 July - 5 August, Lind H 54
Intro. to Timesharing : tth, 2:15-4pm, 26-28 July, Chem E 40
SPSS (very beginning) : m, 2:15-3:30pm, 1 August, Mech E 221
SPSS (beginning) : t, 2:15-3:30pm, 2 August, Mech E 221
SPSS (intermediate) : wth, 2:15-3:30pm, 3-4 August, Mech E 221
SPSS ON-LINE : f, 2:15-3:30pm, 5 August, Mech E 221
COBOL : mwf, 2:15-4pm, 1-19 August, Lind H 4
Intermediate FORTRAN : tth, 2:15-4pm, 9 August - 1 September, Chem E 54

CYBER 74 OPERATING HOURS



******** Lauderdale only
|||||||| Lauderdale, ExpEng
<><><>< Lauderdale, ExpEng, West Bank

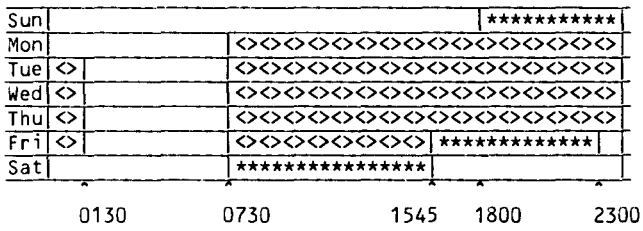
SUPIO (RJE terminals) comes up 1/2 hour after operation begins and closes down 1/2 hour before operation ends.
TELEX (MIRJE terminals): the operator will issue a 10 minute warning before TELEX is dropped.

TWIN CITIES CAMPUS REMOTE JOB ENTRY SITES

Site	ID	supervisor	phone	keypunches*
East Bank				
ElectE 38	4V	J. Guentzel M. Cook	373-5404 373-3895	2
ElthH N640	4W	D. Anderson	373-5456	2
ExpEng 130	4B	Shift Supervisor	373-4596	7
KolthH S191	4Z	N. Mullaney	373-2348	4
HS-A 1-752	4C	L. Ellis	373-0331	1
MinMet 321	41	R. Brown	373-2308	3
Physics 69	44	R. Scarlett D. Olson	373-0243 373-5320	3
SpaSci 134	43	R. Weinberg	373-7881	1
TerrH W106	4I	R. Baker	373-3567	1
Zoology 314	4J	E. Cushing	373-2232	1
West Bank				
SocSci 167	4X	R. Dykstra B. Shattuck	373-3608 373-3608	2
SocSci 1009	4K	R. Dykstra	373-3608	1
St. Paul				
BioSci 257A	47	R. Comstock P. Kaufman	373-0979 373-0927	1
ClaOff 125G	48	C. Bingham S. Weisberg Consultant Consultant	373-0988 373-1068 373-0829 376-3846	3
CofH 415	21	D. Nelson T. Ehlen	376-7003 376-7003	1
NorH 24	40	J. Colten	373-0990	2
Lauderdale				
User's Room	49	Secretary	373-4912	5

*additional keypunches in 131 ExpEng(1), 86 BlegH(11) and 90 BlegH(1).

CDC 6400 OPERATING HOURS



****** up, not attended
<><><> up, attended

TWIN CITIES CAMPUS INSTRUCTIONAL COMPUTER LABORATORIES

Site	Supervisor	phone	equipment
East Bank			
CentH	R. Rickgarn	373-2289	TTY(1)
ElthH 121,125	D. Anderson	373-5456	TTY(6) CRT(5) Printer(1)
Ex 140	T. Hodge	373-4599	CRT(3)
HS-A 1-752	L. Ellis	373-0331	TTY(6) CRT(2)
LindH 136A	M. Schneider	373-7582	CRT(6) Decwriter(2) Printer(1)
MechE 308	A. Erdman	373-2977	TTY(10) CRT(2)
TerrH	R. Baker	373-3567	TTY(1)
VincentH 4	W. Stenberg	376-7529	TTY(11) CRT(2)
WaLib 204*	R. Estelle	373-5195	Decwriter(10) CRT(4)
West Bank			
MdbH	W. Bakkenist	373-9818	TTY(1)
SocSci 167	R. Dykstra	373-3608	TTY(8) CRT(4) Decwriter(1)
SocSci 1009	R. Dykstra	373-3608	TTY(3) CRT(2)
St. Paul			
ClaOff 125	S. Weisberg	373-1068	TTY(9) CRT(3) Decwriter(2) DI/AN(1)

*for CAI use only

ONCE MORE, PLEASE SET UP THE CHARGING ALGORITHM SO THAT IT WARNS USERS THAT THEIR ACCOUNTS ARE 90% USED UP; THIS WOULD ALLOW A DAY OR SO FOR US TO APPLY FOR MORE FUNDS.

D.R.:16APR77

The automatic message "Less than 10% of funds remaining" will not be reinstated in the near future. However, beginning Fall Quarter 1977, users will have access to their accounting data through batch or timesharing on both the 6400 and the Cyber 74. (See article elsewhere in this newsletter.)

S. Nachtsheim

MNF(E=0), WHY ISN'T X=1 DIAGNOSED?

D.E.:26APR77

The compiler is correct. X=1 should not be diagnosed, it is a perfectly legitimate standard FORTRAN statement.

J. Mundstock

WHEN A JOB IS SUBMITTED VIA TIMESHARING AND THE USER NUMBER OR PASSWORD IS IN ERROR, THERE IS NO INDICATION THAT THE JOB HAS NOT RUN; IT SIMPLY DISAPPEARS WITHOUT A TRACE. WHY NO MESSAGE WHEN THIS HAPPENS?

N.W.:24JAN77

Good suggestion, we will consider it.

K. Matthews

WE ARE OPERATING A HIGH VOLUME DATA PROCESSING SYSTEM WHICH REQUIRES THE SUBMISSION OF JOBS WITH TIME PARAMETERS OFTEN IN EXCESS OF T300. WHEN INSERTING NEW DATA SETS INTO S2K DATABASES, A CERTAIN AMOUNT OF MASS STORAGE TRANSFER IS EXPECTED BUT WHEN A JOB GOES OFF THE RAILS WE ARE LEFT WIDE OPEN TO VAST AMOUNTS OF MS TRANSFER AND HAVE RUN UP COSTS OF MORE THAN $500 IN A SINGLE RUN. WE HAVE BEEN ADVISED TO LOWER OUR TIME PARAMETER AS THIS INDIRECTLY REDUCES MS TRANSFER, BUT THIS CRIPPLES OUR REGULAR OPERATION. IT WOULD BE BENEFICIAL TO US IF WE COULD PLACE A CEILING ON MASS STORAGE TRANSFERS AS WE NOW PLACE A CEILING ON TIME AND SPACE.

P.J.:26JAN77

RETURN TO
UNIVERSITY COMPUTER CENTER
227 EXPERIMENTAL ENGINEERING
UNIVERSITY OF MINNESOTA
203 UNION STREET SE
MINNEAPOLIS, MINNESOTA 55455

We consider this to be a good idea. Over the summer we will experiment with different methods for lowering various resource limits. We would like to have the user explicitly ask for an unlimited amount of some resources before unlimited access is granted; then high resource costs due to an error will have to be the result of a specific request.

K. Matthews

brief notes

Spring Quarter Users Meeting

Approximately 30 users attended the Spring Quarter General User's Meeting on May 19 to hear discussion and commentary on the following topics:

1. Report on MECC, presented by P.C. Patton, Director of UCC.
2. General Systems Report, presented by L.A. Liddiard, Associate Director for Systems and Operations.
3. Notes from Operations, presented by J. Larson, Operations Services Supervisor.
4. Information Systems Group, presented by S.P. Nachtsheim, Assistant Director for ISG.
5. Timesharing Report: A new version of XEDIT, presented by Bill Wells.
6 Report on User Libraries, presented by M.J. Frisch, Manager of User Libraries.
7. Graphics Lab report, presented by Rudi Weinberg, Graduate Research Fellow (SICL)

Most users remained through the afternoon to participate in general and individual discussions.

The next general meeting will be scheduled for Fall Quarter and will be announced in this newsletter and in WRITEUP,NOTE.

A Computer Chess Newsletter

A computer chess newsletter is available; any chess buffs may write:

Computer Chess News
Doug Penrod
1445 LaCima Road
Santa Barbara, California 93101

and enclose 26 cents in postage for the first issue. Future issues (price, size, frequency) will depend upon the response to this first issue.