

networknews

UNIVERSITY OF MINNESOTA COMPUTER CENTER • 227 EXPERIMENTAL ENGINEERING • MINNEAPOLIS, MINNESOTA 55455 • (612) 373-7744

KRONOS

Several user test periods are coming up in August. As announced in the July newsletter (and again in this one), the new MERITSS operating system will be up for testing on August 8 and 15 from Noon to 4:00 PM. These test periods are free; we welcome your help in checking out the new system.

In addition to the MERITSS free test periods, we will also be offering free time to users to test the modified Cyber 74 operating system. Exact schedules have not yet been determined but they will probably be the 8th and 15th of August (Sunday); exact times and dates will be announced in a SYSNOTE.

Perhaps this would be a good place to reiterate our policies as regards changes in the user environment:

- (1) We announce and document all changes in advance of the change.
- (2) Whenever possible, we make changes during slack periods, for example, during quarter break when we cause no disruption to classroom users.
- (3) We make every effort to permit user testing before a change is made.

MNF

--by J. Mundstock & L. Liddiard

The following changes have been made to the MNF coded I/O routines:

- (1) The new routines no longer convert 00 codes to blanks on the A and R format output. This allows colons to be printed at a timesharing terminal.
- (2) Addition of the = in the format. The = can appear anywhere a number appears in a format. It will take the next list item

(continued on page 4)

contents

KRONOS Test Periods.....Page 1
 MNF Changes.....Page 1
 MERITSS Changes.....Page 2
 ARCHIVED Permanent Files....Page 4
 System 2000 Update.....Page 4
 COBOL, SORT/MERGE, RECORD
 MANAGER.....Page 4
 Delayed rate jobs.....Page 4
 The Suggestion Box.....Page 5
 Usage Summaries.....Page 8
 Documentation.....Page 9
 Operations page.....Page 10

apologies

The recent MNF changes (see column 1) created some problems for a number of users since we failed to follow our normal policy of announcing and documenting changes in advance.

We apologize for the disruptions we caused and promise to tighten our procedures so that this sort of unexpected change does not occur again.

\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
 \$
 \$ BE SURE TO USE THIS \$
 \$ CATLIST,PN=PF01. \$
 \$
 \$ NOW AND THEN IF YOU \$
 \$ HAVE EVER USED THIS \$
 \$ DEVICE. IF YOU \$
 \$ FORGET A LARGE FILE \$
 \$ ON A SPECIAL DEVICE, \$
 \$ YOUR BILL COULD BE \$
 \$ QUITE SURPRISING! \$
 \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$

EDITOR: A. Koepke
 235a ExpEng
 612/373-7744

373-4548 Account Clerk
 373-4360 Administrative Offices
 376-3963 Educational Services
 373-4596 ExpEng I/O station
 376-7067 Field Engineering
 373-2521 Keypunch Supervisor
 373-4940 Lauderdale Shift Coordinator
 373-4995 Microfilm Operator
 373-5907 Program Librarian
 373-4994 Recorded message: ExpEng I/O
 373-1798 Recorded message: MERITSS
 373-7744 Reference Room
 376-3963 RJE Services (R. Franta)
 373-5754 RJE Services (G. Jensen)
 373-9751 Secretary - Graphics Lab
 373-4912 Secretary - Lauderdale
 373-4995 Tape Librarian
 376-5592 Telephone consulting: MIRJE
 373-5753 Telephone consulting: MERITSS
 373-4599 User Services (T. Hodge)
 373-4921 User's Room; Lauderdale
 373-3608 West Bank Computer Center

--by R. Williams

As previously announced, the University Computer Center will be integrating the operating system software for the 6400 (MERITSS) and the Cyber 74 (MIRJE). This is being done to provide systems offering more features for users and to make more efficient use of UCC staff. This integration has been continuously occurring on the Cyber 74; the 6400 operating system will be changed permanently on August 22, 1976 (the date was changed so as not to disrupt summer session classes). Test periods for the MERITSS system have been scheduled on Sunday afternoons from Noon to 4 PM.

BASIC

- (1) The BASIC compiler will be upgraded and will require, at most, 400 octal words of memory above current needs.
- (2) Program statement lines of over 72 characters will not be permitted (this change will not take place until December, however).
- (3) SYSMISC will be the new name of the BASIC library, rather than BASLIB. Most users will not be affected since it will be called automatically.

TSRUN

The TSRUN compiler will be eliminated. The FORTRAN subsystem will now call TSF (timesharing MNF). We feel that MNF is a better compiler. The FTNS subsystem will also call TSF.

MNF

- (1) Two new versions of MNF will be available; MNF will be the BATCH version and TSF will be the time-sharing version. TSF will be automatically called from the MNF subsystem and will need less memory than MNF. For TSF, the R (cross reference) parameter will be illegal and certain optimization procedures will not be performed (causing slightly slower executions). TSF will require from 500 to 3000 octal words less than required by the current MERITSS MNF.
- (2) Both MNF and TSF will use the FTN subroutine calling sequence rather than the RUN23 calling sequence. The control card parameter, C=RUN, may be used with both MNF and TSF to use the RUN23 calling sequence.
- (3) The new version of MNF (BATCH subsystem) will require significantly more memory than the current MERITSS MNF.
- (4) Both MNF compilers will print embedded 00 characters in a word

of output instead of converting them to blanks (55 octal). See LIBRARY file FORT for more details.

(5) Subroutines for MNF and TSF will be on FT3LIB and will include current MNF routines with a few exceptions:

(a) READB, WRITEB, RTIME, TLXA, and USERNUM will not be available; replace them by calls to routines in the PROCPAC package (see LIBRARY file PROCPAC or WRITEUP, PROCPAC for information).

(b) SETSCT, SAVSCT, and RANIO will be eliminated.

(c) DATER and ISHIFT will be renamed DATE and LRSHT. The routine SHIFT may also be used to replace ISHIFT.

(d) Certain random access subroutines will change, calling for reformatting of files and conversion of calls (call 373-5753 for details).

(e) GET, ATTACH, etc. will remain as is.

(f) Routine TIME will change in that instead of values being put in the dayfile, they will be sent to OUTPUT.

(g) Blocking of binary files (with routine FTNBIN) will be in effect by default. To disable binary blocking and read files previously created, a

CALL FTNBIN(0,0)

should be inserted at the start of a program.

(6) The V parameter (to request the old version of MNF) will be eliminated. The BATCH command, PAST, MNF or PAST, TSF, will request the old versions. Initially, the old versions will be the current MERITSS version of MNF (with the RUN23 calling sequence). Externals will be satisfied from the old SYSLIB automatically. A PAST, SYSLIB will be needed to run old MERITSS binaries as well as new binaries created with the old MNF, except when loaded at compilation time.

(7) TSF will request re-entry of invalid free-format input entries.

RUN23

RUN23 and RUN will remain as they are, except that externals will be available on the old SYSLIB (current MERITSS SYSLIB). This SYSLIB will be gotten automatically on compilation but existing binaries will need the PAST, SYSLIB statement entered prior to running.

COBOL

The COBOL compiler will remain unchanged but should be called by the name COBOLX when in the BATCH subsystem; the file name COBOL will be reserved for its use (i.e., any bcal file COBOL will be returned on running COBOL).

PASCAL

The PASCAL compiler will be upgraded to use the library PASCLIB in place of PSCLIB. The field length required by the compiler itself is reduced, run-time tests are now applied to pointer references, and the restriction on comparison of strings (requiring them to be a multiple of 10 characters) has been removed.

LISP

The LISP compiler will be upgraded to version 4.0 (from 3.0). New features include improved interactive facilities, virtual storage for functions and data, new system variables (atoms), and new command options. The standard control card will be:

LISP,C,Q,Z

See LIBRARY file LISINFO or WRITEUP, LISP for details.

ALGOL

ALGOL (available in the BATCH subsystem) will be upgraded to level 3.0 and modifications allowing time-sharing interaction will be added. Programs should be re-compiled.

APL

The APL command will be changed to APLUM (abbreviated APL in other than the BATCH subsystem) and will call the APLUM compiler. APL*CYBER will remain available as APLCYB in BATCH. For APLUM information and a conversion program, see LIBRARY file APLUM

SORT/MERGE

SORTMRG level 4.0 will be the available version.

COMPASS

(1) COMPASS programs may need 1000 or so more octal words to assemble due to the consolidation of central processor related symbols (SYSTEXT) and peripheral processor related symbols (MACETXT) into a single SYSTEXT.

(2) The file CPL, containing OPL versions of KRONOS common decks, will be on user number LIBRARY rather than SYS. The file can also be accessed with FETCH, CPL.

(3) Reccatable versions of the KRONOS common decks will be available on SYSLIB and have been assembled with B1=1 as default, meaning all programs that call these routines should preset B1 to 1 (with the exception of the SNAPSHOT routines). Do a WRITEUP, SYSLIB for more information.

LOADER

(1) The memory needed to run programs will increase in amount, varying by compiler and program. For example TSF programs may need 400 more

(continued on page 3)

octal words, or may need up to 5000 or more octal words to run. This is due to relocatable library routine length increases.

(2) The default loader will be LINK (the current one) rather than the new CYBER loader. The BATCH statements, LOADER, LINK or LOADER, CYBER allow loader selection.

(3) The default loader, LINK, will require 1500 octal words more than currently needed to load programs on the average (this is in addition to the increase in field length required to run).

(4) The CYBER loader does not reduce field length for absolute overlay loads.

(5) The CYBER loader will not work with MNF or PASCAL.

PERMANENT FILES

Ultra-private files will no longer be a category. Instead, use the FP parameter on the SAVE, DEFINE, or CHANGE commands. With this in effect, any access of the file requires that a password be specified; this password will not be available from a CATLIST. Protection may be removed with the use of the NP parameter on CHANGE: the use of CHANGE requires that the password be specified. Thus SAVE, X/FP, PW=JOE

means that any access to X requires that the password JOE be specified, even if from the creating user number. Note that before protecting files, they may be PERMITTED and can be of any catalog type (PU, SP, etc.).

INTERNAL PROGRAMMING CHANGES

(1) The subsystem ordinals will be changed. All existing files will be corrected by MERITSS staff; users who use absolute numerical ordinals representing subsystems when saving files from programs should be aware of this change.

(2) The 15 and 16 I/O control bytes (ON and OFF ASCII) will be deleted, since these functions are available with MACRO calls like CSET.

(3) Many file and origin types will change; all programs depending on these values should be re-assembled or modified.

(4) The definition of the file environment table (FET) will be changed in that an extra word is added to allow additional parameters.

(5) Terminal I/O control bytes issued by programs must be in the top of the word, except for the end-of-block bytes (0001 and 0002). These must be followed by end-of-line bytes.

TIMESHARING COMMANDS

(1) The MA parameter on the RUN and RNH commands will only allow increases in field length, not decreases.

(2) The little used LRUN command will be removed.

(3) The DO control statement will be replaced by automatically called system procedure file capability. This means that all DO procedure files will be available by simply entering their name in BATCH (or with X,name). Thus,

X,DO,CATLSYS

will become

X,CATLSYS.

(4) The S parameter of CATLIST will be changed to the BR parameter for consistency with other command formats.

(5) The INFORM routine will be replaced by WRITEUP but information about LIBRARY programs and some FORTRAN subroutines will not be available initially. Also, the ability to list information added or changed since a given date will not exist, nor will the interactive style of access. This means that a good deal of information about the system will be available as test files on user number LIBRARY and that WRITEUP will also provide this information. Do a WRITEUP, INDEX for a list of available writeups and then do a WRITEUP, name to list that particular writeup.

(6) The USE accounting utility will not be available; it will be replaced by a similar routine at a later time.

(7) The PF STORAGE EXCEEDS LIMIT message will not be operational.

(8) Timed event rollouts must be for 8 seconds or more.

(9) A number of new user validation limits will be introduced. None of these should cause problems for the normal user, except that the maximum time limit is now 176 octal instead of 200 octal.

(10) The dayfile command will be modified and expanded. The first parameter will continue to be the file name to receive the dayfile but other parameters will be:

(a) P (for purge dayfile after listing so only subsequent messages are available).

(b) TI=xxxxxx (where xxxxxx is the initial time to list the dayfile from; TI may be abbreviated T).

(c) TF=xxxxxx (where xxxxxx is the completion time to list).

(11) The LIBRARY command will be deleted and replaced with LIB.

(12) The new command, ENQUIRE (or E), will replace STATUS. ENQUIRE has more features.

(13) A new command, PRIMARY, will be added to allow a file to be designated the primary file. This is the converse of the SECOND command.

(14) The OLD, NEW, GET, PRIMARY, etc. commands are no longer processed completely by the timesharing executive, TELEX. This means that OLD and NEW may be used in procedure files and SAVE from a procedure file will save the primary file. This also means that operations occur under the log-in user number or last ACCOUNT card user number at all times.

(15) The NODROP command will be dropped. Replace with an ND parameter on the OLD, NEW, LIB, and GAME commands.

(16) The FORTRAN, FTNTS, and MNF subsystems will use TSF to compile programs.

(17) The default character set will be TTYD (the 61 character set now in use) rather than the KRONOS 2.1.2 standard TTY (63/64 character set). This means that the CONVERT command will not be relevant.

(18) The ACCSF (access control statement file) MACRO will no longer be available to the general user.

(19) LENGTH will be a BATCH statement in addition to being a TELEX command, so the length of a file may be requested in a procedure file.

(20) Several new commands and BATCH subsystem statements have been added to provide users with information on the use of system resources. These include the STIME and SUMMARY statements. (Note that many of these packages return information on the use of system resource units (SRU). These combine central processor time, mass storage activity, magnetic tape activity, and permanent file activity into a single unit; they are not used by MERITSS accounting.)

(21) The ASCII command now affects output as well as input.

(22) The UNSAVE command has been eliminated, use PURGE instead.

SPECIAL PACKAGES

ISIS, IMSL, S2000, OMNITAB, TEKLIB, and TYPESET will all continue to be available on user number LIBRARY as they are now. New versions will be obtained by entering the routine name in the BATCH subsystem (or X,name) except for IMSL and TEKLIB which must be acquired with FETCH. Thus, in BATCH, ISIS will yield a new version, while

ATTACH, ISIS/UN=LIBRARY
ISIS

will give the old version.

ATTACH, IMSL/UN=LIBRARY
will produce the old (RUN23 calling
(continued on page 4)

MERITSS MERITSS MERITSS

sequence version and FETCH,IMSL will give the new (FTN calling sequence) version.

In addition to the WRITEUP and LIBRARY information files mentioned in this article, use the following general references for information:

- (1) UCC newsletter, December '75
- (2) KRONOS 2.1 Reference Manual, Volume 1 (CDC # 60407000D)
- (3) KRONOS 2.1 Timesharing User's Reference Manual (CDC # 60407600D)

archiving

--by R. Hursh

Permanent files that have not been accessed for a certain period of time (now set at 30 days) are written to tape and removed from the disks. This procedure, called archiving, is done on or about the first of each month. The tapes containing these archived files are stored for one year and then re-used. Any user who wishes to keep an archived file should be aware that he has only 12 months in which to rescue it.

Lists of archived files are posted in 140 ExpEng, the West Bank I/O area, and the Lauderdale User's Room. These lists are also available via WRITEUP: the control card:

```
WRITEUP,AFmmyy.
```

where mmm is the month and yy is the year will produce a list of files not used during that month and therefore archived after that 30-day period. For example, a list of the files not used in June and therefore archived on July 2, can be obtained with the control card:

```
WRITEUP,AFJUN76.
```

Please note that WRITEUP,ARCHIVE. no longer gives the most recent archived listing.

Files that have been archived can be restored and forms are available at the high-speed stations to request this. A \$5.00 charge is made for each file that is restored.

Questions relating to archived permanent files may be directed to Bob Hursh, 376-5605.

S2K

--by H. Kurs

System 2000, version 2.40, has been updated to level L from level A, on both the Cyber 74 (MIRJE) and the ICDC 6400 (MERITSS) computer systems.

The following changes have been made by this update:

- (1) GET1 SCHEMA PRESENT no longer generates system error code 16.
- (2) If System Option 4 is selected (tape requests are illegal), then System 2000 TP can now be used.
- (3) LOAD of a very small data base no longer issues system error code 16.
- (4) 'REWIND<LFN>': will now reset FET pointers to indicate an empty file when <LFN> is a command or data file.
- (5) An execution of Report Writer no longer issues system error code 1023.
- (6) System 2000 no longer loops on printing the error message 'TOO MANY CHARACTERS IN VALUE OR NAME'.
- (7) 9-track tape requests no longer produce system error code 1055.
- (8) Tape requests no longer abort if KEEP or APPLY command is issued and the labeled tape option is in effect.
- (9) Corrections have been made to timing routines.

NEW products

--by H. Kurs

Updated versions of COBOL 4, SORT/MERGE 4, and Record Manager (with its utility products) are now available for use. These products exist as FUTURE products at Level 12: PSR 420. Current versions of these products will remain at Level 10: PSR 401.

DELAY

Beginning July 1, 1976, UCC instituted an off-hour CPU rate. This lower rate is charged for jobs run on the weekend (Friday, Midnight through Monday 2:00 AM) and from Midnight to 4:00 AM on weekdays.

To benefit from this lower rate, a job must start running during this low rate period. If a job begins execution during the normal charge period and continues into the low rate period, it will be charged at the normal rate.

To ensure that a job does not start execution until the low rate time, a user may either submit the job after the time period starts or use the DELAY parameter on the job card. For example,

```
JOB,CM70000,DELAY,T500.
```

would ensure that the job would not start execution until the low-rate period, even if it were submitted at

an earlier time. The DELAY parameter is order independent; as are the CM and T parameters on the job card. (For timesharing users, the CPU rate is based on the log-in time.)

If a user has a fairly big job, one that might not complete its run before 4:00 AM, he should defer the job until the weekend (operators may have to drop unfinished jobs during weekday hours).

The DELAY parameter is not yet implemented; watch SYSNOTES for the most recent information. Until it is implemented, users may delay their jobs by submitting them with a note instructing the operator to run them after the low rate period starts.

WRITEUP,DELAY contains the most recent information on the use of this job option. When fully implemented, DELAY will permit users to list the jobs in the delayed input queue and purge jobs (their own, of course) from this queue.

MNF...continued from page 1

for a number and use it; e.g.,
for a number and use it; e.g.,
1 FORMAT(=E.=)

will take the next 3 list items for the repeat count, field width, and number of digits, allowing some dynamic change of formats at run time.

(3) Addition of the V field. The V field will use the bottom 6 bits of the next list item as the next format field. The *, H, and ' cannot be specified in a V field.

(4) Addition of a : field. This field will stop format scan at end of list; otherwise it does nothing. For example

```
I=5  
PRINT 1,1
```

```
1 FORMAT(*I=*,11,*,*NOT LISTED*)
```

will produce

```
I=5
```

(5) Several bugs have been fixed, including the occasional extra prompt at program end and garbled error messages.

(6) Iw.d field puts out at least d digits, using leading zeros if necessary.

(7) Z field puts a number out in hexadecimal.

This change occurred on July 18 and was made to keep MNF compatible with FTN 4 and the 6400 character set.

? I suggest you answer suggestions. It has been two months since the user's meeting and account statistics are still not available. ENQUIRE should be modified to allow a 7-character job name for the ENQUIRE, JN=name command. This is necessary to trace XMIT jobs. 26 APRIL 1976

A User Services is working on a more efficient procedure for handling forms. The change you suggest for ENQUIRE is being considered; when changes are made they will be announced in the newsletter. (R. Franta)

? How about a short course on operating and programming the PDP-11? 28 APRIL 1976

A We do not have the manpower to offer a class on PDP-11 usage or programming, nor do we have a PDP-11 system available to be used to run classroom problems. Computer Science does have a PDP-11. Call 373-0137 for information. (R. Franta)

? Sunday: 7:30 PM: there is no consultant on duty at ExpEng but your schedule says there should be one from 7-9 PM. Why? 17 MAY 1976

A The employee who was scheduled for that shift did not show -- a replacement was on duty at 7:35 PM. (M. Kramer)

? I would like to suggest the addition of a NA parameter to the SECOND card. The SECOND card will generate a control card error condition with the issuance of the message "FILE NOT FOUND" if there is currently no primary file. The proposed NA parameter would unconditionally cancel these occasionally undesirable responses. Also, it would be a good idea if the error message were changed to "NO PRIMARY FILE" since the present one is identical to the one issued when a permanent file request fails and is therefore an ambiguous diagnostic. A.S., 10 MAY 1976

A This seems like a good suggestion and we will consider it. (K. Matthews)

? I would like to suggest the creation of a new control card, NODROP, which would specify that the files named in the parameter list (local files) will NOT be dropped in response to CLEAR, NEW, OLD, or LIB commands. The file must be explicitly returned or unloaded. The NODROP status of a

? file would be cleared if it were specified in a GET, NEW, OLD, or LIB command. A.S., 10 MAY 1976

A These suggestions are being considered by the Systems Group. There are other things that would have to be done to implement these cards correctly. The DROP/NODROP status should be shown in the E,F display. Also, there should be something like a DROP command to rescind the effect of NODROP. These considerations will affect if and how this suggestion can be implemented. (K. Matthews)

? We would like a dayfile message that says "your storage of this file is now costing you more than \$..... per day" when a file has been stored longer than a certain period. J.dew., 18 JUNE 1976

A I'm not sure I understand. Is the message to be based on how long a file has been stored, or its size? Remember that a file could be stored as one sector for months and then suddenly climb to be a very long file. In any case, it may be difficult to add such messages that depend on a specific file. We might be able to add messages for:
(1) warning users that an individual direct access file is very long and expensive.
(2) add a message at the beginning of a job saying that the user's catalog is very long. (K. Matthews)

? Why doesn't Bill Elliott teach a short course on tape use? R.L.W., 06 JULY 1976

A Mr. Elliott has finally bent to the pressure and will give a seminar (question/answer session) on tapes; date and time to be announced. (R. Franta)

? Make the special request slips slightly smaller than, rather than slightly larger than, a deck of cards. Then you won't crunch them with the rubber band! E.P., 25 JUNE 1976

A We make the slips slightly larger than the decks to prevent the slips from going, un-noticed, into the card reader. This, in all likelihood, would jam the reader, causing us grief and possibly damaging your deck. (J. Larson)

? What ever happened to the 15 minute parking limit in the front row at Lauderdale? There's a sign on the door but people ignore it.

A I understand your concern; many people seem to pay little attention to signs, but then many signs deserve it. Our intention regarding front row parking was to seek the voluntary cooperation of users and staff so that this area could be reserved for people stopping to deliver/pick up materials. We wanted to discourage people from parking in front of the building (a posted "no parking" area).

A current proposal is that the Lauderdale parking lot be improved and managed by University Parking Services. They would then be responsible for enforcing their regulations. (R. Folden)

? I have just seen your smoking notice designating the conference room and the vending area as the legal smoking areas. Be realistic, couldn't you designate the four single tables in the user room as non-smoking as they were before? T.M., 14 APRIL 1976

A Your suggestion that additional smoking areas are needed is the only one I have received so far. "NO SMOKING" signs were recently put up in the work area after complaints were received from people allergic to smoke and unable to work in areas where smoking was permitted. (R. Folden)

? What good are all the large boxes of used printer ribbons that are taking up shelf space at Lauderdale? 5 APRIL 1976

A Most of these were waiting for a system of reusing/recycling the nylon fabric. Some were saved to be used in special ribbon tests to determine the award of ribbon contracts. Most have now been removed. (R. Folden)

? Please create the equivalent of the suggestion box for use on MIRJE. It could be in the form of an APPEND-only file. D.L.M., 17 JUNE 1976

A Prior experience on the MERITSS system indicates that simply an append-only file is not the best method to receive suggestions from timesharing users because of frequent attempts to append mammoth amounts of data. We are investigating the possibility of writing a special program to process timesharing users' suggestions. (T. Lanzatella)

- ? Once again some users' permanent files have been lost, stolen, or strayed. Yet, as of 12:30 on 27APR76, there is no hint of this at ExpEng. Having PF's destroyed can be a major disaster, particularly if the user doesn't know about it! D.H., 28 APRIL 1976
- A The ExpEng operations people must rely on operations and systems personnel at Lauderdale; if the information isn't forwarded, it can't be posted. We have since taken steps to ensure that ExpEng I/O personnel are systematically informed of system problems that impact users so that they can post notices when appropriate. (J. Larson)
- ? Could you automatically clean transient tapes? You need not clean them every time they come in but why not clean them the first time and affix a "tape cleaned on yy/mm/dd" sticker? D.H., 13 APRIL 1976
- A We believe that cleaning transient tapes is a good idea; however, we feel that the user is in the best position to determine when this should be done. All you have to do is submit a request slip. Since our present program of cleaning tapes is usually scheduled in advance, "automatic cleaning" may well delay the completion of a program if cleaning is requested before a job is run. Consider this when requesting cleaning at the same time you submit a tape with a job. (R. Folden)
- ? Execute only file acquired from another account cannot be copied, renamed and copied, etc. GOOD. WHY CAN THEY BE DISPOSED? 7 APRIL 1976
- A This has been corrected. (N. Reddy)
- ? Print the number of PRU's a job disposes on the dayfile of the disposing job. 10 MARCH 1976
- A This is being implemented. (N. Reddy)
- ? Enforce the 200 PRU limit on print length for the 1004. 10 MARCH 1976
- A This will be taken care of with the implementation of the auto divert feature. (N. Reddy)
- ? Is there statistical consulting in FORTRAN in the evenings or on weekends during summer? B.B., 15 JULY 1976
- A Statistical package consulting is offered; ExpEng 140 (East Bank) from Noon to 4 PM Monday through Thursday and from Noon to 3 PM on Friday. SocSci 167b (West Bank) from 10 AM to Noon, Monday through Friday. ClaOff 125 (St. Paul) also has a consulting schedule posted. (T. Hodge)
- ? The tape user's writeup is very confusing in that it calls labeled tapes "KRONOS labeled;" we had a labeled stranger tape and had all sorts of trouble before we found that KRONOS labeled LB=KL applied for any labeled tape, not just a tape labeled by the KRONOS system. Could this be changed? M.C., 15 JULY 1976
- A Your suggestion will be implemented in the next revision of TAPEUSE; this should be available about the first of next year. (W. Elliott)
- ? Given the ludicrous turnaround time during the day, why isn't a terminal, indicating job status, provided at Lauderdale? Some of us do have more important things to do than wait around. D.J.M., 27 MAY 1976
- A Short field length and time limit jobs run very quickly through the system on any day; very long jobs are returned more slowly. For example, on a recent day, forty-five 500-second jobs (6.3 hours real time) took 12 hours to clear through the system on the round robin scheduling algorithm of KRONOS. People using the SUP10-driven RJE stations (these supply 65% of UCC's jobs) can obtain job status easily. We will investigate to see if the 6% of total jobs submitted at Lauderdale can have their status returned on the 1004 at Lauderdale. (L. Liddiard)
- ? About your Saturday hours: start later and end later, for example, open at 10:00 AM and close at 6:00 PM. 26 APRIL 1976
- A We have only one period of production time that is longer than 20 hours; this is from 8 AM Friday to 4 PM Saturday. This 32 hour period, uninterrupted by maintenance or systems work, allows us to complete all remaining work by the weekend and ensures that delay-type jobs have a specific time each week for completion. UCC systems time is currently scheduled from 4 - 8 AM Tuesday and Thursday, 4 PM Saturday to 2 AM Sunday, and 12 Noon to 4 PM Sunday. (Contrast this to many other universities that schedule system time from 8-9 AM, from Noon to 1 PM, or from 6-8 PM daily.) To provide proper service, we must have systems time; therefore we do not plan to change our Saturday hours. (L. Liddiard)
- ? I would like to suggest that the MNF PARAMETER statement be enhanced to accommodate simple linear expressions in addition to constants. When optimizing program storage, one often finds that array sizes are coupled and that several constants in PARAMETER statements need adjustment in a systematic manner. If nothing else, it would be a much more error-free procedure to have the compiler make the needed computations rather than the user/programmer. A.S., 15 JULY 1976
- A The PARAMETER statement was implemented exactly as in IBM FORTRAN and as contemplated in the new ANSI standard. The new standard tries to answer your question by allowing "dimension bound" expressions in the array declarations to couple array sizes. MNF implementors dislike the PARAMETER statement in that it has a "ZERO LEVEL EQUAL" (i.e., an = not within parentheses) and thus is in the same class as an assignment statement which means the compiler spends unnecessary time in recognizing the assignment statement; which accounts for 45% of the statements in a typical FORTRAN source deck. (L. Liddiard)
- ? Acquire and install another card interpreter. M.B., 15 JULY 1976
- A We realize that large decks do tie up the interpreter for long periods of time. We also realize that the volume of work done on these machines fluctuates greatly during the quarter. As an example, interpreters are usually available in the mornings and on weekends at both ExpEng and Lauderdale. We will continue to monitor the use of these machines and will recommend that additional ones be acquired if necessary. (R. Fleagle)
- ? I would like to see an extension to KCL: a symbolic name "RR" whose value is TRUE if the current job is re-running; FALSE otherwise. 24 MARCH 1976

A This seems like a good idea; it has been referred to committee for consideration.

(K. Matthews)

? Change system commands to work in the same number system. It's very difficult to remember that SETTL, ECS, RFL are octal. The SETTL is especially bad since the job card is in decimal and SETTL is in octal. R.S., 15 JULY 1976

A The KRONOS Reference Manual states that RFL and SETTL have octal arguments by default (pp 1-6-14, 15). The ECS control card specifies the number of 1000 (octal) blocks of ECS to be allocated, so that specifying its argument in octal seemed, to us, quite natural. To change the default argument base on any of these control cards would be unwise since any user with SETTL, RFL, or ECS cards in a deck or procedure file would be affected. The same consideration applies to removing the inconsistency between the time limit on the job card and the SETTL card.

(K. Matthews)

? Make John Strait's ARCHIVE program available to the general public. DUMPPF is a pain to use and is not reliable. Since the program exists, little additional work should be necessary. R.S., 15 JULY 1976

A I have no objections to putting ARCHIVE on the system and I also have no great love for DUMPPF. However, DUMPPF/LOADPF must remain for those who use these products. There are DUMPPF/LOADPF users who do not want to use ARCHIVE. If we made ARCHIVE available, we would have to maintain both (there is precedent for this).

Your suggestion has merit and has been forwarded to the appropriate Systems committee.

(K. Matthews)

? As well as GOF0, you need a GOBA (for go backward). A user who tries:

```
SET(R1=3)
CALL(COPYIT, (FILE=SAM))
SET(R1=2)
CALL(COPYIT, (FILE=GEO))
where COPYIT is:
COPYIT.
REWIND, FILE.
CCF, FILE, OUTPUT.
SET(R1=R1-1)
IF(R1.GT.0)GOTO,REWIND.
```

is not likely to be pleased with his output. Whereas if GOBA searched from "here" backwards, COPYIT would be a useful

sequence. 19 APRIL 1976

A Each transfer of control in KCL requires the control card file to be examined. To implement a GOBA statement requires that the entire control statement file be examined to find the required statement closest to the original statement. Then the control statement file must be positioned at that place. The overhead involved is probably too heavy to warrant implementing this feature.

(K. Matthews)

? Is there a command that can be used on MIRJE, analogous to the *B card one can use from a 1004 terminal? If not, why? It would be useful to be able to find out how much CP time has been used by a job. J.H., 15 JULY 1976

A At present, there is no command on MIRJE that is analogous to the *B command on SUP10. We are considering extending the B-display capability to the USERS utility but this extension depends on the effects on password security. If CP time expended is all you desire, then the ENQUIRE command

```
E,OP=T
```

will suffice.

(T. Lanzatella)

? Long jobs used to be diverted to Lauderdale and returned to ExpEng by the driver. Turnaround was usually 1-2 hours. Now, long jobs sit waiting to be printed all day. Why can't they be diverted and returned like they used to be? 7 JUNE 1976

A This will be taken care of with the implementation of the auto divert feature.

(N. Reddy)

? When the operators put out a message to the 1004 terminal such as "shutting down at 3:45" the job currently printing is terminated; no more lines of output, not even a dayfile. This is not because SUP10 has been shut down because I have run more jobs after this message. They usually put out the message at least 15 minutes early to give us fair warning. Can this be fixed? 17 MAY 1976

A This will be corrected.

(N. Reddy)

? Please put COMCZFN back on CPL. 24 MARCH 1976

A COMCZFN was a common deck we added to change all 00 codes to the display code for a blank (558).

This was necessary because of the change made by Control Data in COMCSFN when we went to level 11 of KRONOS. The level 11 COMCSFN does not change embedded 00's to blanks since they might represent colons (:). Anyway, about a week after COMCZFN was put on the system, we realized that Control Data had supplied a common deck, COMCZTB, which does the same thing as COMCZFN. We therefore removed COMCZFN (which only existed for a week) and left COMCZTB intact. So the answer is, use COMCZTB.

(K. Matthews)

? Why is unit record length limited to < 150 characters for FORTRAN formatted words? Why not have REBLOCK re-structure records in such a way that all unit records need not be the same length? 24 MARCH 1976

A A good idea but low on our priority list. Note that FTN4 allows the manipulation of records longer than 150 characters.

(L. Liddiard)

PRODUCTION USAGE SUMMARIES

CDC Cyber 74

	June, 1976	June, 1975
Number of jobs run	70,164 (78,562)	56,011 (65,341)
Central processor hours	151 (201)	135 (156)
Mass storage transfers (KPR)	153,980 (213,514)	-
Magnetic tape transfers (KPR)	4,110 (6,137)	-
Pages printed	800,370 (907,724)	725,796 (858,676)
Cards punched	455,619 (496,286)	622,732 (693,939)
Microfilm frames produced	5,787 (252,106)	49,455 (202,223)
Tapes mounted	8,732	7,991
Average file storage	658.4 million characters	471.2 million characters
Mean time between failures	10.3 hours	-
Percentage available during scheduled hours	97.0 percent	-

CDC 6400

Number of jobs run	101,927	119,743
Central processor hours	93	70
Terminal hours	12,667	14,049
Number of terminal sessions	24,865	27,894
Maximum number of simultaneous users	75	111
Average file storage	178.6 million characters	185.3 million characters
Mean time between failures	79.1 hours	37.8 hours
Percentage available during scheduled hours	99.6 percent	97.6 percent

(total including staff development, accounting, and maintenance runs)

CYBER 74 DOWNTIME SUMMARY -- JUNE 28 - JULY 27, 1976

	Monday-Friday 0800 - 1800	other	total
Total possible scheduled uptime hours	210	294	504
Total downtime hours (see schedule A)	3.5	2.8	6.3
Total uptime hours	206.5	291.1	497.7
Uptime percentage	98.3 percent	99.0 percent	98.8 percent
Average downtime per occurrence	7.4 minutes	9.9 minutes	8.3 minutes
Mean time between failures	7.4 hours	17.1 hours	11.1 hours
Subsystem failures			
SUPIO	2	1	3
TELEX	4	2	6
EXPORT	9	0	9

Schedule A: downtime hours

	Number of occurrences	total hours down	average minutes downtime
1) Preventive maintenance over-runs	0	0	0
2) Software related problems	17	2.6	9.0
3) Hardware related problems	2	.2	5.5
4) Indeterminate software/hardware problems	25	2.5	5.9
5) External problems	1	1.1	63.0

SUBMISSION SITE USAGE SUMMARY (TELEX EXCLUDED): JUNE, 1976

submitted from	total jobs	% of jobs	pages printed	% pages	cards read	% of cards
Lauderdale	3,690	7.0	230,023	24.4	1,886,618	17.2
ExpEng 1/0	9,071	17.1	208,198	22.1	2,880,678	26.2
West Bank	4,785	9.0	113,646	12.1	1,317,739	12.0
6400	801	1.5	-	-	-	-
SUPIO	34,681	65.4	390,718	41.5	4,912,280	44.7
TOTALS	53,028		942,585		10,997,315	

WRITEUP documents

130CT75 ABCLIST Extended CATLIST utility (1 page)
 03MAR75 AMEND Unit record manager (4 pages)
 12NOV75 BLANK Initial label writing (2 pages)
 05JAN76 BLOCKER Write blocked stranger tape (3 pages)
 20FEB76 CALLPFM FTN4 PF routines (7 pages)
 26FEB76 CALLPRG Library search extension (7 pages)
 19JAN75 CATALOG Catalog a file (2 pages)
 01MAR75 CATLIST Catalog a permanent file (3 pages)
 10MAR76 CATLSYS Extended CATLIST utility (1 page)
 23JUN75 CCINDEX Index to documentation (6 pages)
 130CT75 CHANGER Extended CHANGE utility (1 page)
 160CT75 CIMSPLI CIMS PL/1 User Guide (34 pages)
 07MAY76 CKSPSS SPSS utility (5 pages)
 26MAY76 CONTROL Control card descriptions (variable)
 quarter CONSULT Consulting sites and hours (1 page)
 11DEC75 COPYU Copy unit record (6 pages)
 18JAN75 COST Calculate job cost (1 page)
 →26JUL76 DELAY Delayed-input description (1 page)
 16JUN75 DISPOSE DISPOSE control card (9 pages)
 13MAR75 DMPCOR CM dump routine (1 page)
 01MAR75 DMPECS ECS dump routine (1 page)
 quarter DOCLIST Documentation list (4 pages)
 01MAR75 DRESS Prepare MODIFY/UPDATE source (13 pages)
 27SEP75 DUMPPF PF dump/load utility (7 pages)
 11FEB75 ERRMESS Dayfile error messages (15 pages)
 26FEB76 EXAMINE Determine mag tape contents (5 pages)
 30MAR76 FILES Local file manipulator (4 pages)
 08JUL76 FMT Text formatting program
 130CT75 GETSAVE PF transfer utility (1 page)
 26MAR76 HASH User index/job name scrambler
 30MAR74 ISIS Interactive statistics (45 pages)
 05MAY76 KCL Control card processor (9 pages)
 18JAN75 LIBEDIT Library editing program (3 pages)
 10MAR76 LISP LISP information (1 page)
 18JAN75 MODIFY Source library editing (11 pages)
 14APR76 MODUP MODIFY/UPDATE conversion (1 page)
 03MAR75 PACKMS Pack random file (1 page)
 22SEP75 PASCAL PASCAL information (26 pages)
 28SEP75 PFGUIDE PF User's Guide (60 pages)
 21MAY76 PFILES PF request processor (7 pages)
 01MAR75 PREVIEW Preview display dump (1 page)
 →24JUL76 PROCPAC System routines
 PTRFORT FORTRAN bugs
 PTRKR Operating system bugs
 PTRMISC Miscellaneous software bugs
 PTRSTAT Statistics packages bugs
 PTRS2K System 2000 bugs
 130CT75 PURGER Extended PURGE utility (1 page)
 19NOV75 REBLOCK Tape converter (6 pages)
 18DEC75 REFORM Sequence/desequence t/s source
 daily RJDSTAT Daily SUP10 statistics
 26JUN75 RJECOM RJE commands (4 pages)
 monthly RJEMTOT Monthly SUP10 statistics
 cum. RJMSTAT Cumulative SUP10 statistics
 14APR76 SEND Send files to 6400 (2 pages)
 11DEC75 SITEBIN Output shelf locations (2 pages)
 15APR75 SNOINFO CAL 6000 SNOBOL (24 pages)
 09APR75 SNPSHOT Write/restore registers (5 pages)
 09SEP75 STRATEN Straighten COMPASS source (4 pages)
 01APR75 SYSLIB SYSLIB documentation (3 pages)
 SYSMODS Latest system changes
 →15JUL76 TAPES Tape library manager
 05JAN76 TAPEUSE Tape user's guide (70 pages)
 30MAR76 TDUMP File dump (1 page)
 →30JUN76 TEKLIB Tektronix library description
 03JUL75 TESTCR Card reader test (1 page)
 16JUN75 TESTLP Line printer test (2 pages)
 01MAR75 TIDY Tidy FORTRAN source (7 pages)
 daily TSTATS Tape mounting statistics
 23JUN74 TYPESET Text reform program (12 pages)
 12MAR75 UNPAGE Carriage control char editor

12MAR75 UNPAGE Carriage control char editor (6 pg)
 →10JUN76 XEDIT Extended text editor (14 pages)
 26DEC75 1004INS U1004 operating instructions (3 pg)
 03JUL75 1004SET U1004 character set conversion (4 pg)

Get copies of the WRITEUP documents with a deck like this:
 Jobcard with T1 and CM10000
 ACCOUNT card
 WRITEUP, name.
 (6-7-8-9 card)
 or enter the command
 X,WRITEUP, name

Reference manuals

ALGOL V3 (CDC 60323900 D)
 →APL*CYBER (CDC 19980400 D)
 →APLUM (U Mass, 1975)
 →BASIC 2.1 (CDC 19980300 C)
 BMD (UCLA, 1973)
 BMDP (UCLA, 1975)
 COBOL V4 (CDC 60384100 F)
 →COMPASS V3 (CDC 60360900 F)
 Cyber 74 Vol. 1 (CDC 60347400 L)
 Cyber 74 Vol. 2 (CDC 60347300 J)
 Cyber 74 Vol. 3 (CDC 60347100 E)
 FTN V4 (CDC 60305601 K)
 FTN DEBUG (60329400 B)
 GPSS (CDC 84003900 D)
 →IMSL, Lib 3 Ed 5 (IMSL, 1975)
 →KRONOS Vol. 1 (CDC 60407000 D)
 →KRONOS Vol. 2 (CDC 60448200 D)
 →KRONOS Timesharing (CDC 60407600 D)
 LOADER (CDC 60344200 J)
 →MNF (UCC, 1974)
 →MODIFY (CDC 60281700 G)
 OMNITAB II (NBS, 1970)
 OMNITAB Introduction (UCC, 1974)
 →PASCAL USER MANUAL & REPORT (S-V, 1975)
 PERT/TIME (CDC 60133600 E)
 RECORD MANAGER USERS GUIDE (CDC 60359600 C)
 RECORD MANAGER / COBOL (CDC 60385300)
 RECORD MANAGER / FTN (CDC 60385200)
 SIMSCRIPT (CDC 60358500 E)
 SIMULA (CDC 60234800 F)
 →SNOBOL 4 PRIMER (P-H, 1975)
 SORT/MERGE (CDC 60343900 J)
 SPSS (Mc-H, 1975)
 SPSS 6.0 (UCC, 1975)
 SYSTEM 2000 (MRI, 1975)
 →TEXT EDITOR (CDC 60408200 C)
 UMST (UCC, 1971)
 UPDATE (CDC 60342500 F)
 8-bit Subroutines (CDC 60359400 C)
 →XEDIT (CDC 76071000 A)

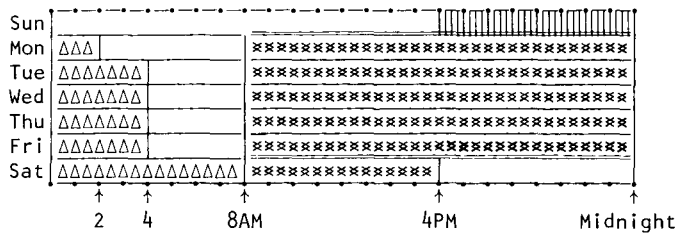
→Timesharing Instructional Computer Laboratories

Copies for reference are available at the RJE sites and in the user rooms; see WRITEUP, DOCLIST for sources and prices if you want personal copies.

Free publications

Beginner's Guide to Timesharing Computing (1975)
 Student Guide to Batch Computing (1975)
 Instructor's Guide to Batch Computing (1975)
 Index to Cyber 74 User Software (1975)
 Univac 1004 Operating Instructions (1975)
 System 2000 User Aids (1,2,3,4)
 →UCC Instant (replaces Pocket Guide)
 MINN subprogram writeups (see "INDEX")
 ISIS User's Manual (1976)
 IMP - An OMNITAB Mimic (1976)
 SNOBOL4 at the University of Minnesota (1976)

CYBER 74 OPERATING HOURS*



▲▲▲▲▲▲ Lauderdale only
 ||||| Lauderdale, ExpEng
 ***** Lauderdale, ExpEng, West Bank
 [] standard rates apply

*These are machine hours. UCC operators stop accepting jobs about 15 minutes before operations end to enable the queues to clear on time.

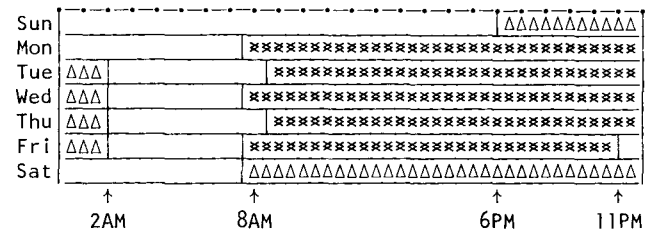
SUPIO (RJE medium speed terminals) comes up 1/2 hour after operation begins and closes down 1/2 hour before operation ends.

TELEX (MIRJE terminals): the operator will issue a 10 minute warning before TELEX is dropped.

UOFM-TWIN CITIES RJE SITES

site	ID	supervisor(s)
<i>East Bank</i>		
ElectE 38	4V	J. Guentzel 373-5404 M. Cook 373-3985
Elth N640	4W	J. DeWitt 376-7377 D. Anderson 373-5456
ExpEng 130	4B	Shift Supervisor 373-4596
KoltH S191	4Z	G. Jensen 373-5754
MasonH M39	4C	L. Croatt 373-7714
MinMet 321	4I	C. Swanson 373-5475 R. Brown 373-2308
Physics 69	44	R. Scarlett 373-0243 D. Olson 376-7175 R. Hendrickson 373-3361
SpaSci 134	43	R. Weinberg 373-7881
TerrH W106	4I	R. Baker 373-3567
<i>West Bank</i>		
SocSci 167	4X	J. Shea 373-3608
SocSci 1009	4K	R. Anderson 373-0168
<i>St. Paul</i>		
BioSci 257	47	R. Comstock 373-0979
ClaOff 125g	48	C. Bingham 373-0988 S. Weisberg 373-1068 Consultant 373-0829 Consultant 376-3846
CofH 415	2I	D. Nelson 376-7003 T. Ehlen 376-7003
NorH 24	40	J. Colten 373-0990
<i>Lauderdale</i>		
User's Room	49	Shift Coordinator 373-4940

CDC 6400 OPERATING HOURS



***** up, attended
 ▲▲▲▲▲▲ up, not attended

UOFM-TWIN CITIES INSTRUCTIONAL TIMESHARING LABS

site	supervisor
<i>East Bank</i>	
CentH Computer Room	R. Richgarn 373-2289
Elth 121 & 124	D. Anderson 373-5456
ExpEng 140	T. Hodge 373-4599
HealthSciA 1-752	L. Ellis 373-0331
LindH 136a	G. Schneider 373-7582
MechE 308	A. Erdman 373-2977
TerrH Computer Room	R. Baker 373-3567
VincentH 4	W. Stenberg 376-7529
WaLib 204	R. Estelle 373-5195
<i>West Bank</i>	
MdbH Computer Room	N. Bakkenist 373-9818
SocSci 167	J. Shea 373-3608
SocSci 1009	R. Anderson 373-0168
<i>St. Paul</i>	
ClaOff 125	S. Weisberg 373-1068

KEYPUNCH SITES

<i>East Bank</i>	
ElectE 38	(1)
Elth N640	(2)
ExpEng 130	(2)
ExpEng 131	(1)
ExpEng 208	(14, including 029 and interpreting punch)
KoltH S191	(1)
MinMet 321	(2)
Physics 69	(1)
TerrH W106	(1)
<i>West Bank</i>	
BlegH 86	(11)
BlegH 90	(1)
SocSci 167	(2, including interpreting punch)
SocSci 1009	(1)
<i>St. Paul</i>	
ClaOff 125	(2)
CofH 415	(1)
NorH 24	(2)
<i>Lauderdale</i>	
User's Room	(5, including 029 and interpreting punch)

THE SUGGESTION BOX:

IN ADDITION TO THE CARDS NEAR THE SUGGESTION BOXES AT THE HIGH SPEED SITES, YOU MAY ALSO USE THIS PAGE TO SUBMIT QUESTIONS/SUGGESTIONS/WHATEVER TO UCC.

NAME:

ADDRESS:

TELEPHONE:

?

RETURN TO:

THE SUGGESTION BOX
UNIVERSITY COMPUTER CENTER
227 EXPERIMENTAL ENGINEERING
UNIVERSITY OF MINNESOTA - TWIN CITIES
MINNEAPOLIS, MINNESOTA 55455

DEADLINE FOR THE SEPTEMBER ISSUE OF THIS NEWSLETTER IS AUGUST 24. READER COMMENT IS INVITED.

RETURN TO:
UNIVERSITY COMPUTER CENTER
227 EXPERIMENTAL ENGINEERING
UNIVERSITY OF MINNESOTA
MINNEAPOLIS, MN 55455