UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Newsletter

Send all comments, criticisms and contributions to the editor: T. W. Lanzatella
      University Computer Center, 2520 Broadway Drive, Lauderdale, MN   55113

TABLE OF CONTENTS

NOTICE OF CHANGES TO THE SYSTEM

Tim Salo completed work on the DELAY QUEUE portion of the LOWRATE feature.
The following programs were modified:

1) Program 2TJ now processes a DELAY parameter on the job card.

2) Program 1BA, which initiates input files, now adds entries to the IQFT
    file. This is the file used to store delayed jobs.

3) Program 1SU (SUPIO's dedicated PP program) now calls 1BA in order to
    release an input file to the queue.

4) Programs SUPIO now recognizes the DELAY parameter on the job card.

5) Program QFM now releases a submitted file to the input queue if there is a
    DELAY parameter on the job card.

Tim also added two new ports to SUPIO.

N. L. Reddy modified EXPORT to recognize a DELAY parameter on the job card.
Marisa Riviere altered RFM to use its master validation from user number LIBRARY
instead of from Marisa's user number. This change was necessary to run a common
system.

Bob Zalusky added several changes to the system.

1) The control card SUN (set user number) no longer sets validations in the
    control point area. This makes the command act just like SUI.

2) The WARN command, when used to disable a previously entered WARNing no longer results in a garbage line in the B display. This was a bug in DSD.

3) Program MODVAL can now handle asterisks in passwords (see DSN 2, 15p2).

4) The PASSWOR command can now be entered by a master user with CSOJ without specifying the old password (see DSN 2, 15p2).

5) Bob added a new UFM function (function 6) which returns the number of local files assigned to a job.

Bill Sackett (along with Bob Zalusky and Tim Salo) has installed the protected permanent file scheme proposed in DSN 2, 13p6. All permanent file commands now support a new parameter FP after the slash (/) on the command. The FP parameter is an equivalenced parameter and takes the form FP=ON or FP=OFF. The form FP=ON implies that the user must specify the file password (PW) in order to access the file. The CATLIST report indicates that a file is protected by placing an asterisk in the same position as was previously used to indicate file security. Bill's modifications deactivate a large portion of the file security code. Use of the FP parameter is a validated option (CPPF in the access word) and will be given only to classroom user numbers.

Kevin Matthews discovered a critical problem in some local modifications to PFM which caused a fast attach permanent file to be left permanently busy anytime a CHANGE request was executed on the file.

Bill Elliott supplied the following collection of modifications. Several of these modifications were made to support the activation of the TAPES utility on this deadstart tape. The primary effects of this utility are that; a) Users with different user numbers who store tapes must now permit their tapes to each other. b) The FI parameter is no longer used for tape security.

1) The external documentation to COMCBKP was enhanced.

2) Program RESEX now performs a local file limit check on ASSIGN, LABEL and VSN operations.

3) To access a removable pack from time sharing origin, a user must now have CSOJ.

4) Bill enhanced the E,P display to indicate when LOWRATE and AUTODIVERT are disabled.

5) Program CATLIST now performs correctly when a user attempts to CATLIST a removable pack which is not mounted.

6) The LABEL command now accommodates a PW parameter for password.

7) Since the file identifier, FI, is no longer used for tape security, this parameter is no longer blanked out in the dayfile.

8) Program MAGNET was modified to perform comment string updating (CS) − see WRITEUP (TAPES).

9) One form of the LABEL card parameter W, W=OLDFI, is being phased out and will initially result in an informative diagnostic. In January, 1977, this form will be completely disallowed.

10) Program BLANK will no longer require the UN parameter.

11) The reel access check or multi-reel tapes has been moved from 1MT into RESEX. This was done because of the increased complexity of the reel access check now that FA=A (owner-only) tapes can be permitted to alternate users with the TAPES utility.

Bob Williams repaired the TELEX name code in 1TD (see DSN 2, 15p3) so that the system name is built from the NAME and VERSION lines in the CMRDECK. Bob also fixed COMPSEI (skip to EOI) to check for an empty file. This keeps empty files from showing up on the ENQUIRE,F command report. Additionally, Bob fixed 1TD to process time limits in units of 1 second instead of 10B seconds and supplied a common version of the system procedure UTILITY.

Jeff Drummond completed work on the combined version of XMIT/SEND.

1) We now have a new common deck, COMSXMT. This deck defines all system symbols used by XMIT.

2) Program XMT checks MID in order to determine the legality of an XMIT request. Such requests are not allowed on the CYBER 74. Also, XMT now uses the REWM and WEWM ECS monitor functions.

3) Program XMTVAL was changed to use the new CXMT bit position in the access word and to validate maximum direct access file size allowed on the 6400.

4) Program SEND checks MID in order to prohibit SEND requests on the 6400.

5) The QFM SEND function number (42B) was changed to 41B as part of a long awaited QFM clean-up.

6) Programs SFM and 1SP were changed to disallow XMIT requests on the CYBER 74 via a MID check.

7) PPCOM was modified to define the XMIT status word (XMTL) in low core and the ECSXFER/XMIT bits in SSTL. Similarly, XMIT priority, XMPS, and XMIT origin, XMOT, were added to PPCOM.

8) Program SET was modified to initialize the XMTL word in low core.

9) The XMIT macro was added to COMCMAC.

Jeff also installed a MID check in DISPOSE to disallow DISPOSE requests on the 6400.

Jim Mundstock repaired several problems in WRITEUP page control processing. Jim also changed message processing in CALLPRG so that time sharing users receive messages on file OUTPUT rather than on the dayfile. Additionally, CALLPRG calls CPM to ensure that memory is cleared after CALLPRG has finished.

PROPOSED CHANGES TO THE SYSTEM

I Do, I Do (on behalf of the SSC) - by R. A. Williams

In our haste to eliminate features of the MERITSS system that appeared to duplicate existing Cyber 74 system features, we did away with DO in favor of

automatically called procedure files facilitated by CALLPRG. We proceeded with the consolidation of the systems, intending to make MERITSS DO procedures automatically callable. Unfortunately, it was not realized until recently that some procedures are written and supported by UCC while others are maintained by individual departments. The former are also usually better documented and of more general interest, we hope.

Recognizing this distinction, the System Strategy Committee decided that the most logical way to handle procedure file calls is to maintain the MERITSS DO control card for non-UCC procedure files that exist on MERITSS. UCC supported files would be automatically callable through CALLPRG. In this way, users would not be required to change their methods of calling procedures, only to have to change again when we determine how to handle the problem. (They may not need to change at all if we decide that DO is a good solution.)

So, to restate the basic problem, we are looking for a simple way for the uninitiated user to call a non-UCC supported procedure (e.g., statistics students call a regression procedure written by the statistics department).

//////////

PERMANENT FILE DUMPING - by K. C. Matthews

We currently have on the system a program called PDUMP. This program can be called only from the console, and it generates the other control cards needed to do a permanent file dump. Bob Hursh has suggested that we add a new entry point to PDUMP, called PDUMP7, which will generate control cards to dump permanent files to a seven-track tape. Bob is currently writing a procedure which will be used to dump permanent files in case the 9-track drives cannot be used.

//////////

FUTURE COMPASS - by K. C. Matthews

Our current version of DSD has 64 overlays. It turns out that COMPASS will not allow us to add any more. This is because the number of USE blocks allowed per assembly is limited to 256 blocks. Three blocks are declared implicitly by COMPASS for each DSD overlay, and a fourth is declared explicitly by the DSD overlay macro. Since $64*4=256$, we have reached the limit.

The check for 256 USE blocks is made when a new block is declared. If there are already 256 blocks present, COMPASS gives an -F- type error. I changed the test so that 512 USE blocks can be declared. This makes it possible to assemble a larger DSD successfully.

Unfortunately, I do not understand the inner workings of the COMPASS assembler I don't know if increasing the test limit will cause other problems. For example, if someone comes along with a big relocatable program with 300 blocks declared, my version of COMPASS will not generate F type errors. I don't know if the relocatable code generated will be correct. I do know that there is a 9-bit field in the symbol table for the use block pointer, so 512 is certainly an upper bound on the number of blocks. But I am still suspicious. Since the USE block table is dynamic, why is the limit 256 instead of 512?

Because of my doubts, I cannot put this version of COMPASS on the system. I have installed it as the FUTURE version of COMPASS. If someone can determine that this change will cause no other problems, we can put it up as the current COMPASS. Any volunteers?

SYSTEM MAINTENANCE: People and Procedures

MACHINE USE BY SYSTEMS GROUP - by T. W. Lanzatella

Often during system time, a piece of equipment breaks down or a tape breaks while on a tape drive. System staff members who witness such an event should fill out an EOR form (located in the drawer of the table behind the console) and be sure the form gets to Operations personnel. This is the only way Operations personnel can tell whether to call the CE's. It has happened that a broken tape has sat on a drive for a day and a half because Operations thought that Systems had informed the CE's.

//////////

LAST WEEK'S SYSTEMS GROUP MEETING - by T. W. Lanzatella

The following proposals were approved or disapproved.

1) Marisa Riviere's proposed NR parameter on SYSEDIT (No Rewind of binary file) was approved.

2) John Larsen's proposed new form for the PASSWOR command (see DSN 2, 15p2) was approved with the stipulation that a master user must have CSOJ in order to use the new form of the command.

3) Bob Zalusky's proposal to allow MODVAL to handle asterisks in passwords was approved (see DSN 2, 15p2).

4) Bob Zalusky's proposed DSD command (ENABLE/DISABLE) READ was approved based on the following changes (see DSN 2, 15p3).

   a) The command should be changed to (ENABLE/DISABLE) INPUT. Similarly, when we add a command to disallow jobs from leaving the OUTPUT queue, the command will be (ENABLE/DISABLE) OUTPUT.

   b) All (ENABLE/DISABLE) INPUT/OUTPUT commands will be entered into the ERROR LOG. Bill Elliott will fix the program NORM, the ERROR LOG analyzer, so that its report includes ENABLE/DISABLE commands.

   c) Subsystems and utilities affected by the INPUT command will be: SUPIO, EXPORT, SUBMIT and XMIT. Program BATCHIO and jobs submitted from system origin will not be affected by the (ENABLE/DISABLE) INPUT command.

5) T. W. Lanzatella's proposal for CALLPRG file usage statistics was defeated for being too expensive time-wise in the loader. The entire issue of gathering statistics in the loader has become an issue now that the 6400 is running our System. The loader has showed up as one of the worst bottlenecks in the System. The system group will propose that all statistics gathering in the loader be altered so that gathering can be turned on or off with a CMRDECK command.

6) Bob William's proposal to return to the CDC standard method of displaying the system name was approved. We also agreed to change the system name to UNIVERSITY OF MINNESOTA.

7) Marisa Riviere's proposal to abandon the CYBER 74 version of RUN and use the 6400 RUN23 as the standard version was approved.

///////////

"We've Only Just Begun," "Last Night I Didn't Get to Sleep at All," or

SYSTEM CONSOLIDATION STATUS - by R. A. Williams

When we embarked on the consolidation of the 6400 and Cyber 74 Operating Systems we faced a task that promised little exciting design work, much tedious mod rework, numerous documentation and education efforts, and seemingly countless organizational and logistical problems. The benefits of the effort were masked by the prospect of a less efficient system containing code having as its only function to "make it work on both machines." The task had to be accomplished within a system environment encompassing several other large development projects, and over a relatively short period of time.

Despite these factors, many of the UCC staff worked diligently, and well over a full work week, repeatedly, to reach the goal of bringing the benefits of the project (often long-term and not readily apparent) to the users of both systems at a minimum cost.

There are still problems; the system is slower; there are some bugs to fix; there will be system crashes. But much has been done and I would like to say "thanks" to those that did it.

Problems still existing:

1) Several LIBRARY programs do not work. JLL/TDH

2) MNF listing when using K option yields "Y OF MINNESOTA". EJM

3) The TELEX system name often prints out extra ":." RAW

4) LIST,XXX,F=XXX,R gives illegal control card. TWL

5) Writeups on LIBRARY programs are not ready. TDH

6) CALLPRG packages are still not complete. CALLPRG KEEPERS

7) Maintenance jobs run past user time limit due to SSJ. RAW

8) MAP,S. is deleted and perhaps should be restored. TWL/BH/RAW

9) TSF always rewinds the binary file, even if B= is used. EJM

10) The TELEX MA parameter works incorrectly. RAW

11) TEKLIB advanced graphing does not work correctly. MJF

12) 026 gets a mode 1 when dropped. RAW

13) If user gets "PRU UMIT" and then does "CALL,X", result is "X NOT FOUND." KCM

14) Loaders leave execute only file in core. BH

15) MNF/TSF occasionally gets a mode 1 when program is large. EJM

16) A DISTC from a program in a procedure remains for the whole procedure. JJD/BZ

17) TALK needs some work. JDD

18) There is no accounting available on the 6400 yet. RAW/BJF

19) ACCSTAT is not ready. BJF

20) NOTIFY does not work. It gets a BUFFER ARGUMENT ERROR. WCW

21) When a carriage return is entered to get terminal status, the next output is preceded by a ":." WTS

22) The system is 20% slower than level 7. Removal of loader statistics and purchase of a cray 1 might correct this. RAW/WTS

23) CALLPRG XMIT requests still need work. EJM

24) RUN23 still is not consolidated. MR/RAW

25) If end-of-tape is hit while dumping the SYSTEMX catalog track, the job hangs in I status, presumably waiting for one of the RESEX files. WJE

26) COMPASS needs far more core to assemble than under level 7. This may be partially corrected by splitting up the CP and PP portions. WTS

27) TSF binary writes still do not work properly. EJM

28) Use of MNF with K option and intermixed COMPASS without line numbers yields "NO SEQ #" errors. EJM

29) EXCST does not work for odd addresses. This and other level 7 bugs have not yet been fixed. RAW

30) WRITEUP removes column 1 of text files. EJM

31) EDATE/ETIME macros call EDT, not =XEDT making their use in relocatable programs difficult. KCM

32) FUTURE, COMPASS yields some kind of XMIT but never seems to succeed. EJM

33) I/O sequence errors appear on PFDUMP's. WTS/KCM

34) PFDUMP does not yet use control words. KCM

35) CALLPRG destroys local files with the same name as control cards, even if preceeded by a $. EJM

36) Several CDC TWX's have not been installed. TWL

37) Some compilers, at least COBOL, do not put LDSET LIBRARY requests on their binaries. EJM

CALLPRG - LIBRARY TAPE CHANGES - M. Riviere

On August 14 a new version of TSF was provided by J. Mundstock. In this version
James corrected a problem with binary I/O. This version was used as the Telex
version of MNF since August 16.

On August 14 the following changes took place among the CALLPRG packages:
R. Zalusky introduced a system debugging program, PP, as a Fetch type package;
K. Matthews provided a new version of COMPASS Level 12, modified to avoid table
overflows when processing large blocks. This version is available as FUTURE,
COMPASS and will eventually replace the current one. H. Kurs introduced a new
version of TRIAL as FUTURE, TRIAL.

On August 22, I changed SYSLIB and FORTRAN on the Library Tape. SYSLIB was
updated to include the relocatable version of the new common deck COMCBKP. ,
FORTRAN was replaced by FUTURE, FORTRAN. This is a level 12 library and
includes all the local modifications made during the summer quarter. FTN,
however remains at level 11, due to a problem in level 12 with the GO parameter.
Also on August 22, B. Zalusky introduced the documentation for PP on the
Fetch Type file PPDOC. On the same date I replaced PAST, FTN (FTN3) on CALLPRG.
I recompiled FTN3 in order to make it load its overlays from a local file instead
of from the System.

Also on August 22, SNOBOLC, PASCAL and SORT/MERGE were placed on the Library
Tape. These versions of PASCAL and SORT/MERGE are identical to the current ones
which were available as CALLPRG files but they have been recompiled in order
to be loaded from the System. On August 26, the current version of MNF on the
Library Tape will be replaced by the version that is now available as Future, MNF.

6400 CALLPRG INDEX - M. Riviere

The CALLPPG packages listed below are available from the 6400 section of the
CALLPRG index and therefore reside in 6400 disk files.

ABCLIST	APLCYB	APLUM	CATLSYS	CHANGER
CPL	EISPACK	GETSAV	IMSL (PAST CYBER VERSION)	
ISIS	LISP	LOADER	OMNITAB	PURGER
REFORM	SYMPLX	STRATEN	S2000	TEKLIB (PAST CYBER VERSION)

The Cyber 74 files associated with these products were transferred to the 6400 in
order to make them available to users during the testing times before the merging
date (August 22). The maintenance of the 6400 CALLPRG files is now the responsibility
of each of the package owners.

Anyone that has objections to this arrangement should contact M. Skow, B. Williams
or myself.

The 6400 section of the CALLPRG index includes other packages which are not available
on the Cyber 74. These packages are several already existing 6400 Library products
such as BICENT, PRECOB, REFORM, and a section maintained by E. Schleske that contains
the packages X, CAI, INDENT, MIL, NEWMIL, MILTA, PAGE, TXTLIST and BUG (BUG is
FETCH TYPE). The E. Schleske section is an initial arrangement to accommodate
products that are already available on the 6400. Eventually a decision should
be made about a final set up for these products.