UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Newsletter

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NOTICE OF CHANGES TO THE SYSTEM

Kevin Matthews contributed the following changes.

a. Kevin's proposed change which allows the SYSTEM= CMRDECK directive to be placed
    permanently in the CMRDECK was installed (see DSN 3, 17 p. 4).

b. The proposed change which allows the INITIALIZE CMRDECK directive to be placed
    permanently in the CMRDECK was installed (see DSN 3, 17 p. 3).

c. A recent effort to disable all ECS usage through IPRDECK entries revealed that
    ECSXFER and XMIT could not be disabled in this fashion. Kevin provided a
    change which allows new IPRDECK commands ECSXFER and XMIT which toggle the
    ENABLE/DISABLE status of these functions.

d. Deadstart dump processing was altered so that maximum ECS size is automatically
    selected.   OPERATORS NOTE!

e. An old 1CK mod was resurrected which checks the integrity of TRT's before per-
    forming a checkpoint and hangs the PP if anything's amiss.

f. Kevin also repaired a devious interlock problem in MSM.

Tim Salo installed the following changes.

a. Program 1BA was corrected so that files are no longer lost after being requeued after an equipment or controller malfunction.

b. The formatting of 1004 probe messages was moved from SUPIO into 1SU. This should save some CPU time spent allocating and releasing CM buffers in SUPIO. This is probably the most common reason for allocating a buffer. Allocating and releasing CM buffers takes 17% of SUPIO's CPU utilization.

c. The *RELEASED filename filetype* message issued by COMPWRM was altered to always issue the proper filetype.

d. Program 1DS was corrected so that the AEPQ message is issued for all file types with correct origin. This should prevent a few jobs from disappearing from the account file.

e. The special file names OUTPUTB and P9 were removed (see DSN 3, 18 p. 2).

f. For the JPL adroits - mod NEWFIL was split into two parts - NEWFIL contains only file type declarations, FILGEN contains code and macros.

On the last DSN, I thoughtlessly forgot to mention four new common decks contributed by John Strait.

a. COMSPAS - Pascal 6000 run-time equivalences.

b. COMMSBM - a collection of string buffer macros. The name of this deck will be changed as COMM decks are reserved for mass storage equivalences.

c. COMCSSB - spaces to string buffer.

d. COMCUAB - unpack alfa to string buffer.

The last three are called by USERS/DSD. Additionally, John's proposed changes to PFM from DSN 3, 13 p. 4, 5 were installed.

Brian Hanson installed three loader related changes.

a. A bug in LINK was corrected where LINK would incorrectly round the field length if FL required to load was an exact multiple of 100B.

b. LINK was enhanced to perform its own field length management in order to complete a load.

c. LDSET processing was altered to allow preset with address to set the sign bit. This was necessary to accommodate MANTRAP.

Jim Mundstock repaired two problems in BATCHM. Program BATCHM now returns all library files in addition to local files and correctly checks for the presence of ECS.

Leo May installed an enhancement to DUMPPDP which provides a partial analysis of the dump.

Don Mears installed the following changes.

a. Several new kludges were added to PDP-11 processing in 1TD to cope with a malfunctioning link.

b. A bug in 1TD processing of PDP-11 data which caused a 74 or 76 escape code to be ignored if they were the last character of a pot chain was corrected.

c. If a time sharing user consumes zero CP time, the logout message will no longer indicate colons for CP time.

d. Program 1CD was corrected to avoid a bad page count if 1CD received a function reject on a page eject request. (This happens frequently on our 512.)

e. Plotter error processing in 1IO was cleaned up.

Hesung Byun contributed the following changes.

a. Program LISTVAL was corrected to properly treat both octal and decimal values on the LISTVAL report. Previously all values were octal.

b. A micro substitution error was corrected in COMCMAI and in the maintenance routines.

c. DSD was altered to indicate the ENABLE/DISABLE status of the MAINTENANCE subsystem in the E,P display.

d. The DSD N-Display was corrected as follows: A - key when viewing the BOI (first sector) leaves the display at the BOI; a + key when viewing the EOI (last sector) leaves the display at the EOI.

Bill Elliott installed the following changes.

a. Program TAPES was altered to check for the CSTF bit in the access word rather than for a YZE prefix on the user number.

b. Program EXPLIB was altered to inform the tape librarian when an off-site backup exists when removing a tape from the library.

c. Program EXAMINE was altered to properly treat a tape on which the first thing after the load point is a EOF.

d. Program EXAMINE was occasionally reporting an incorrect tape format in the EXAMINE summary. EXAMINE now reports the first recognizable format.

Jeff Drummond contributed the following flurry of changes.

a. Instances where word zero was assumed to be zero were corrected to use the symbol ZERL in XMT, 1RO, SFP, REC, SET, PFM, LFM and DIS.

b. Fields were defined in the system sector for submitting user index and machine ID.

c. Programs MAGNET, STIMULA and SCRSIM were altered to run from system origin only.

d. PURGALL processing was altered to purge all protected permanent files if the request was made from system origin.

e. Program 1IO was altered to ensure a terminator on BATCHIO *IDLE* messages. This corrects some unaesthetic USER/DSD displays.

f. Jeff installed an as yet unproposed change to MODVAL received from MECC. The change installs two new commands ON and OFF. These commands are used to set or clear bits in the access word. The form of the command is ON/OFF=mnemonic or bit number.

g. Overflow checking in 1CJ was corrected. The current check is in error and an actual overflow is not detected.

h. XMIT and SEND processing was altered throughout the system to allow hooks for the coming TRANSIT subsystem.

i. The TRANSIT subsystem is now recognized as a IPRDECK directive. All IPRDECKs were changed to include a TRANSIT directive which disables this subsystem. The TRANSIT subsystem is displacing the CYBERLINK subsystem.

j. ROUTE processing in 1CJ was altered to include hooks for treatment of submit dayfiles--part of TRANSIT.

k. COMSEFR was altered to define some additional bits in the ECS flag register-- part of TRANSIT.

l. A new common deck COMPSIT was installed. This is for TRANSIT and is used to signal intermachine traffic.

m. A new common deck COMSTRN was installed which defines various equivalences for the TRANSIT subsystem.

n. A new common deck COMPSSS was installed for use by the new XMIT/SEND to write system sector information.

o. The subroutine SSR was removed from COMPUSS and placed in a separate common deck COMPSSR. This is so that COMPSSS (among others) can call it. (This change is distasteful to several Lauderdale staffers and will undoubtedly change - ed.)

A source version of NOTICE/NOTIFY was placed on WPL.

PROPOSED CHANGES TO THE SYSTEM

A Proposal for the Tapes and XMIT Sections of Callprg - by M. Riviere

After working for a while making modifications to the Callprg program, I feel that some extended modification is needed in the program areas which handle the XMIT-SEND procedures and the TAPE-COPY process.

I have already fixed several problems with the XMIT-SEND sections of Callprg which are described in previous issues of the DSN.

While working at these problems, I noticed that:

1. There is a long waiting time for the XMIT-SEND procedures to take place.

2. Very frequent usage of the XMIT-SEND procedures contribute to a wasteful use of ECS.

3. The XMIT-SEND procedures leave the 6400 disk space extremely vulnerable by creating public files in write-mode on the Callprg working account number.

4.   The XMIT-SEND procedures commit UCC staff to ensuring that if a package is used frequently it will be placed on the 6400 as a Callprg file. This is very difficult to anticipate.

5.   The XMIT-SEND procedures create a need for rush modifications to the Callprg index when a given XMIT type package's use increases rapidly in order to install it on the 6400.

I suggest modifying the XMIT-SEND procedures in order that when a file is retrieved and placed on the 6400 Callprg working account number that it will be left there as a public permanent file in read-only mode.

Whenever Callprg is requested to retrieve an XMIT type package it will first attempt to obtain the files from the working account number catalog. When files are not available there, it will then proceed to its XMIT-SEND section.

In order to keep infrequently used XMIT type packages from clogging the disks on the 6400, I propose to implement a bouncing entry in the Callprg program itself. This entry will be a short section which issues clean-up jobs to purge files which have not been used for a predetermined amount of time. This program will be in the rollout queue, rolling in at fixed intervals of time.

The implementation of this modification will imply two restrictions on the XMIT type files:

1.   Only files which reside on the Callprg account number on the Cyber will be retrieved.

2.   There will be a name restriction for XMIT type files. The restriction will be that their names should not start with the characters 99.

Both restrictions are due to the fact that the file searches on the 6400 Callprg working account number will be made by permanent file name as the files are listed on the index, that is, by the permanent file name which they have on the Callprg account number on the SP pack on the Cyber.

To avoid file name conflicts, I will need to handle files from only a single account number and disk pack.

The "99" prefix will be used to identify interlock type files. These interlock type files prevent a user from aborting many successive requests which could proceed to transfer all the Cyber Callprg permanent files to the 6400 at once. I think that the restrictions are not very major compared to the benefits which the modification can bring.

The behavior of the interrupt-abort recovery section (that is, to purge the retrieved files from an interrupted job once they arrive at the 6400) should not have to be modified since files retrieved for interrupted requests can also end up consuming a lot of wasteful disk space.

I have not yet been explicitly working with the TAPE-COPY section of Callprg, but I am familiar with most of the parts which are common to TAPES and XMIT. I suggest an extension of the XMIT type modification to the TAPE-COPY section.

It is difficult to predict tape resident program usage frequency increases. The time used for the tape mounting and tape copy and the procedures to deal with the problem of a given tape being mounted too often (by making rush modifications to the index) are as inconvenient as the ones which I already described for the XMIT-SEND packages.

For the TAPES-COPY section I suggest preprocessing the CYBER index at installation time adding an extra parameter for tape products. This parameter will be a list of file names that will be assigned, when needed, to each tape record, on the working account permanent file catalog. A tape index entry will have the following forms after being preprocessed:

PRODUCT,TF=F1+F2,MT=LBNN+RECORD1+RECORD2,...

where F1 and F2 are the names to be used for record names RECORD1 and RECORD2 of LBNN when they are kept as permanent files in the working account number catalog.

A modification to the index entries for tape resident packages will imply a need for cleaning the working account catalog by purging all the existing files, since the new file names assigned to the tape products may also be changed. This purging is already done now at every deadstart.

When Callprg needs a record from a tape it will attach the corresponding file if it is already available. Otherwise it will proceed to the TAPE-COPY section, obtain the product and leave it as a public permanent file in read mode using the file name assigned in the index. The files on this working account number should also be checked and purged by a bouncer type program as I already described for the 6400.

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Removal of COMP3$ - by T.W. Lanzatella

Currently, the deadstart tape contains four (4) COMPASS overlays: COMP3$, COMP3$A, COMP4$ and COMP4$A. The current version of COMPASS calls COMP4$ and COMP4$A. I would like to remove COMP3$ and COMP3$A from the deadstart tape. All COMPASS overlays which are used by very old products are kept on the library tape. New products like FTN call the COMP4 overlays. I am not aware of any products which use the COMP3 overlays but if any staff member knows of such a package, let us know or this proposal will be approved.

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Enhanced HELP Utility - by T.W. Lanzatella

As most staff members are now aware, Rich Franta has produced an excellent writeup named CONTROL which provides brief information on every control statement in the system. I have nearly finished reworking the HELP CMDFILE into a CONTROL like format. Rich and I would like to make the HELP utility access both the CMDFILE and the CONTROL file. The file structures are identical so that the change to HELP is trivial. Tim Hoffmann has agreed to produce the necessary code. This change has the advantage that the user will have access to information on an immense number of legal control statements. The user will be informed when a statement has a double meaning like MNF or EXECUTE. This change also helps to decrease the size of the CMDFILE since many commands on the CMDFILE are amply documented on the CONTROL file.

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MODVAL Proposal - by J.J. Drummond

I would like to propose the addition of "ON" and "OFF" commands to MODVAL that would allow the specification of bit mnemonics. For example:

ON=CSOJ.
OFF=CLPF.

The ON/OFF commands would function almost identically with the AW command except that instead of toggling the specified bit, it would be set or cleared.

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The Magnetic Marvel - by J.J. Drummond

I propose to make MAGNET a "dynamic subsystem" by allowing it to drop out when there's nothing for it to do and to be scheduled automatically when the need arises. The motivations for this are several fold:

1. There are periods of time (especially on the 6400) when there is no tape-related activity. By allowing MAGNET to drop out, its memory and CPU cycles become available to user jobs.

2. Users would not be confronted by the cryptic message: MAGNET NOT ACTIVE. Instead, their request would either cause MAGNET to come up (if enabled) or else cause their job to be rolled out (if disabled) until MAGNET was brought up.

3. Operators (on the 6400) would not have to remember to drop MAGNET (when they were through using tapes) and therefore would be less likely to drop other subsystems accidentally.

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The Inquiring User Returns - by T.J. Hoffman

Now that NODROP is here, it would be nice if one could find out which files are NODROPped and which are not. I propose that the characters ND be suffixed on the ENQUIRE,F output. By shortening the status from READ or WRITE to RD or WR, the ND can be added without adding extra characters.

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Interactive, Informative Dumps - by T.J. Hoffmann

The normal exchange package and following core dump is often either unneeded or not informative enough. To increase the usefulness of abort dumps, I would like to modify CPMEM as follows.

For all non-control statement calls of CPMEM which have the file OUTPUT assigned to a TT unit, the B-display message would be printed (causing the error message that is forcing the dump to be sent to the user immediately). If the user is not in BRIEF mode, a two line message is printed:

> YOUR PROGRAM HAS HALTED ABNORMALLY.
> ENTER COMMANDS OR TYPE HELP FOR INFO.

At this point, the command loop is entered, allowing the user to selectively dump different parts of memory (i.e. FETS, buffers, etc.) either to the terminal (DMP, DMD) or to a local file (WBR, PBC). For EXECUTE-ONLY programs, or any program that has the CLEAR CORE bit set in SOBW, no dump would occur other than the error message being printed. A current bug in CPMEM allows error dumps of these types of files. This will be corrected shortly (abend dumps will not be printed). Following is an example output for the HELP command.

COMMAND	DESCRIPTION
ENABLE	Enable the effect of the S, I, and break keys
DISABLE	Disable the effect of the S, I, and break keys
B	Print the current B-Display message

COMMAND	DESCRIPTION
DMD	Dump memory to -OUTPUT- (display and alpha)
DMP	Dump memory to -OUTPUT- (only display code)
PBC	Dump memory to file -PUNCHB-
WBR	Write memory to local file
DXP	Dump the exchange package to -OUTPUT-
Q, XQ, END	End the dump without aborting
QUIT, E	
STOP	Abort the dump (jump to exit card)
FILE	Send the output to an alternate file
HELP	Short listing and description of commands

For DMD, DMP, and WBR, the command format is identical to all of the legal control statement formats (i.e. DMP,110,130.)

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New Account File Message - by T.J. Salo

I propose that the *SBSP,id   yy/mm/dd   usernum* message should be changed to

         QAIO, id, ft, p,s,d,usernum, yy/mm/dd.

where id = origin the job is outputting at,
     ft = file type of output file,
     p = non-null if file is primary output file,
     s = non-null if file was disposed,
     d = non-null if file was diverted,
     usernum = usernumber creating file,
     yy/mm/dd = date job terminated.

This message will be issued as output of a file is initiated. This message will contain the additional information requested for analysis of job statistics. The Q first character indicates that this is a message relating to queue files. This prevents any conflicts with pre-existing messages. (Accounting tentatively agreed to the idea of ﹀Q messages.)

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The State of the Assembler - by J.J. Drummond

While installing my proposed changes to compass (see DSN 3, No. 17) I discovered that the mods to create the version of COMPASS we have on the system no longer exist.

Therefore, I have had to go over the set of mods that NLR left and try to determine which mods, if any, should be preserved. Thus, I have attempted to re-evaluate all local mods to COMPASS in order to construct a working assembler and install my proposed changes.

The local mods do (or attempt to do) the following:

1. Install the *U* (MACTEXT) option. I have documented this parameter internally and would suggest that it be retained.

2. Change the default filename for the *X* option from OLDPL to OPL. Apparently this was never proposed, but I would like to propose it now so that it has a hearing and also to notify users that it's been changed.

3. Add the *LN* (line number) option. This is a mod to print the line number on the right side of the listing. Apparently this was never proposed and since it doesn't work, is not documented, and adds to the size of listing files (especially those without sequencing information) I would like to suggest removing it.

4. Change the COMPASS overlay base name to COMP4$. I do not know why this was done. If there are no reasons to retain it, I would like to change it back to COMP3$.

In addition, I would like to propose that the COMPASS version be changed from ≡3.3-XXX≡ (where XXX is the PSR level) to ≡3.YYYYY≡ where YYYYY is the date the assembler was assembled. This will allow staff and users to know when the assembler changes.

When the new version of COMPASS goes on the system, I will prepare a sysnote and documentation detailing the changes. The current version of COMPASS could be made available as past if demand warrants.

SYSTEM MAINTENANCE: People and Procedures

Last Week's Systems Group Meeting - by T.W. Lanzatella

The following proposals were rejected or accepted.

1. The discussion of Don Mears' proposed changes to Systems Group Meeting procedures produced the following resolutions:

   a. Though TWL does not now read the proposals verbatim, he will refrain from reading them verbatim in the future.

   b. Though never explicitly stated, a proposer always has the option of presenting his/her own proposal.

   c. Placing a time limit on the amount of discussion time which a given proposal will receive is very difficult, especially when an agreement seems ensuing. From now on, we will be less hesitant about putting off until the next meeting discussion of any proposal which cannot be agreed upon.

   d. Proposals will not be discussed if the proposer is not present.

   e. To alleviate the problem of inaccuracy in the reasons for acceptance or rejection of a previously presented proposal, Systems Group Meetings will be taped.

   f. TWL will make a concerted effort to write more pertinent information on the blackboard during proposal discussions.

2. Don Mears' proposal to install an expanded U-display was accepted on the condition that the facility be placed in DSDSIM rather than in a program named EXUD. This proposal sets a precedent and we can expect further K-display options in DSDSIM(USERS/DSD) (see DSN 3, 18 p. 4).

3. Don Mears' PT equipment was accepted and has been installed (see DSN 3, 18 p. 4).

4. Don Mears' PDP record type proposal was accepted (see DSN 3, 18 p. 4).

5. Don Mears' proposal to add PDP-11 programs to WPL was accepted (see DSN 3, 18 p. 5).

6. Don Mears' proposal to install a functional link test utility was accepted (see DSN 3, 18 p. 5).

Larry Liddiard discussed briefly the recent MNF conversion. Users using FILE commands cannot use the new MSUIO, they must fetch CDCIO.

Everyone reported on the status of their summer projects. With the exception of ongoing maintenance duties, most projects are complete or nearly complete (see DSN 3, 10 p. 9). A new Systems Group project survey will be circulated soon.

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A New Writeup - by J. Fairweather

I am collecting information for a writeup on CALLPRG's fetch, future and past packages. I will be contacting the person responsible for each package for specific information on it.

Also, I am looking for suggestions for the name for the writeup. "VERSION" is its current name, but any other name implying substitute or alternate would be appreciated. Just call me at 373-5608.

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Unused Files on the Callprg Account Number - by M. Riviere

The Callprg files included in the following list have not been accessed in the last three months, and therefore they should be removed from the Callprg permanent file catalog. File sizes are given in sectors.

The index entries associated with those files, if any, should also be removed, or replaced by tape entries.

The SP pack is quite full and it is important not to waste space.

FILE NAME	SIZE	FILE NAME	SIZE	FILE NAME	SIZE	FILE NAME	SIZE
SMXLIB	74	PSTPRC	141	BASIC3	284	UMTIMER	169
UPRIGHT	90	PLM80	454	TX6RM13	87	IXGEN13	326
SMTEXT	25	CPY8P13	107	RWEXIT6	6	ESTMT13	192
NEWFORM	319	PL1CIMA	1165	PL1LIBA	151	NBMDOSV	153
LOADSD	22	OPLEDIT	53	ARTPL3D	24	ARTPR66	264
GRASPE	212	GRASPFN	48	MIMICF	175	MIMIC	186
MNFN	252	MNFFCL	249	PFMTEST	10	FCL13A	1258
ARTHUR	1288	DMPECS	96	SNOBOLC2	117	SPSS60	3832
NBMDO8V	481	BMDPIV	443	BMD13S	36	BMD12D	56
BMD12V	470	BMD7R	40	BMD05S	217	CTAB	264
NUMST58	204	MODS	1	MODSB	17	S2KESTM	10
SISLIBK	208	PSTPRC	141				

Please obtain an RFCAT list of Callprg to see which files belong to you and take some action about it such as moving them to Callprg tapes if they are still needed or permanently destroy them otherwise.

A full catalog of the Callprg files produced by RFM can be obtained by the control statement: RFCAT(UN=CALLPRG,PN=SP,L=LIST(optional),R). A partial catalog for selected account numbers can be obtained by the control statement: RFCAT(UN=CALLPRG,PN=SP,L=LIST(optional),I) providing as input a list of account numbers, one account by input line, left adjusted.

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XMIT Type Packages for the 6400 in the Callprg Index - by M. Riviere

It has been brought to my attention by Michael Skow that some Cyber System's packages are not applicable on the 6400 and he would like to have those packages not available for 6400 users. Michael's concern is mainly related to memory needs, documentation and PTR lists.

Some of the Cyber System's packages that Michael is concerned with are included in the Deadstart Tape and he agrees that they will be left as they are since the overhead of removing them may be bigger than the benefit.

Some other packages that Michael is concerned with may be included on the Library Tape and I will be working closely with him and Bob Williams to review the tape's contents.

If any package needs to be changed on the Library Tape, it will not imply any large overhead problem since the tape is already divided in three sections (Cyber-6400 common section, 6400 only section and Cyber only section). The rest of the packages are included on the Callprg Cyber index and these are the ones I am mainly referring to in this article.

In the July 13, 1976, DSN (Vol. 2, No. 13), I described the organization of the 6400 Callprg index to be used in the 6400 computer for our merged System. Basically the description if the following:

The first section of the 6400 index contains entries for packages which reside as 6400 disk files. The second section is the Cyber index which contains pointers to packages that reside as Cyber disk files. This second section is preceded by a default parameter stating to the Callprg program that all the following packages have to be retrieved from the Cyber. Whenever the Callprg program does not find an entry in the 6400 section of the index it proceeds to scan the Cyber section. It is rather easy to stop retrieval of Cyber Callprg packages to the 6400 by using either one of the following two configurations on the 6400 Callprg index:

1. Insert in the 6400 section an entry for the non-applicable package of the form:

    PACKAGE,...MS=$ NOT AVAILABLE$.

    This will be enough to stop the Callprg program from further scanning.

2. Add a no XMIT parameter (NX) on the Cyber index entry.

Michael Skow, Bob Williams and myself will be looking at the actual Callprg index and suggesting to programmers who will be maintaining 6400 non-applicable packages, the use of any one of the two described non-XMIT set-ups.

The number of packages involved in this review is very small for the time being, but that is based only on Michael's and my point of view. Michael, Bob and myself would appreciate however, that if anyone finds, by reviewing his Cyber index section, that s/he is maintaining 6400 non-applicable packages, to call our attention to them. We would also appreciate for any future introduced packages some collaboration from everyone in remembering that if nothing is explicitly stated in the index, a Cyber Callprg package is 6400 XMIT type as default. When in doubt about new packages either Michael, Bob or myself will be asking if the proposed package is really meant to be used in both computers.

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Callprg and Library Tape News - by M. Riviere

Besides the already announced modifications, on September 22, James Mundstock changed the version of TSF on the Library Tape for a new one where an error was corrected.

On September 22, S. Yen replaced MULTREG on the Cyber section of Callprg with an updated version, Kevin Fjelsted made the current version of GPSS past and the future version current. Kevin also changed the set-up of IMSL, EISPACK and SIMPLX on the 6400 section of the index to make the current (Fetch type) versions of these products the ones that are compatible with the new version of MNF.

On September 24, the Library Tape libraries FORTRAN and MNFCLIB were modified by Michael Frisch. The modifications consisted of the removal of an old binary of a common deck (CPUCPM) from Michael's arithmetic section of the library and the addition of four new ones (RELCLFM, RELCOVL, RELCPFM and RELCCPM) taken from SYSLIB. This modification was made in order to avoid loader non-fatal error messages about duplicate entry points when SYSLIB is scanned to satisfy externals. According to Michael, all the SYSLIB decks referenced by FORTRAN or MNFCLIB routines are now included in those libraries and therefore the duplicate entry point messages should not be showing any longer. This modification was badly needed to avoid users' confusion on loader messages, but it is likely to create some internal confusion on library organization. Michael is planning, however, a library review in order to avoid, if possible, the existence of binaries installed in different libraries.

On September 29, Bill Sackett introduced BASIC 3 as a future package. This version of BASIC can be used as a time sharing compiler as well as a batch one. This change of the future BASIC compiler caused the one offered up to now as future to be dropped. BASIC 3 is planned to become the current BASIC in both computers in the near future.

On September 29, James Mundstock replaced the future version of MNF with one including a new debugging feature, MANTRAP. This feature produces maps and trace information for programs that end their execution in error. At that time, James removed the FUTURE,MNF entry of the index from the 6400. This index modification made future MNF become an XMIT type package on the 6400.

On October 11, Andy Mickel will switch the Callprg index entries for MAC80 from Kevin Fjelsted's section to his own, and also will add a new fetch type package, SIM8080. SIM8080 is a microprocessor simulator. Andy and Peter Zechmeister are now maintaining those two products.

Also on October 18, several no longer needed index entries for PP, PPDOC, NBASIC, FUTURE COMPASS and FUTURE CATALOG will be removed.

On the same date a Library Tape product, COMP2$ (COMPASS level 10, (1,0) overlay) will be removed, since the compilers linked with it are no longer in use.

Also on October 18, Brian Hanson will be introducing a new Callprg package, COPYMF. COPYMF is a utility which makes multifile tape copies preserving the majority of the header labels of each file. COPYMF will be control card callable. The documentation for COPYMF will be on WRITEUP.

The next Callprg and Library Tape modifications will be taking place on November 1. Modifications should be submitted no later than noon, September 19.

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Cyber 74 Deadstart Dump Analysis - by K.C. Matthews

From Sunday, 5 September to Sunday, 9 October

Monday, 5 September

There were three unscheduled deadstarts, as well as many SUPIO aborts. The problem turned out to be an effect of the ECS mod which allows the many ECS usage options to be enabled and disabled at deadstart time or from DSD. The 6400 was running with ECS down all Labor Day weekend, and since the ECS options were all enabled, it used the lower portion of ECS for storage move. The problem was fixed by disabling the correct ECS options in the 6400 ECS down IPRDECK.

Friday, 9 September

10:57   Person ran into mainframe with a cart and the scopes went blank. Level 3.

19:40   System hung; could not access console. Level 3.

19:49   1CJ hung trying to drop tracks on EQ16. A level 3, with TEMP files taken off EQ16. The problem in both cases was an attempt by someone to DISPOSE a file of disposition code AA (the new ASCII print disposition). The problem was in ODV when it attempted to examine the file for possible diverting. The problem has been fixed.

Friday, 16 September

08:40   EXPORT hung while processing a disk error. Level 3.

Monday, 19 September

18:31   CPUMTR error exit. A level 0 had to be performed. Analysis revealed that an exchange jump from PP 0 (MTR) was processed at the same time as a CPU program was getting a mode error. The error condition was transferred, somehow, to the CPUMTR exchange package. This caused the error. It happened once làst year also. The timing is pretty critical, but someday someone should try to get a test case to fail consistently for the engineers.

Thursday, 22 September

This day was so bad that we didn't charge for any jobs run between 8:00 and 18:55. The two machines had been powered down for several hours in the morning while some plumbing work was done. When the Cyber came up, it began acting wildly. Many jobs were aborting with mode errors. The engineers ran diagnostics several times, and found nothing. The problem seemed to come and disappear quickly. Then at 16:05, the power went down for a second or so. All three machines (MECC's too) were down. Because of water problems, it took two hours to get the 6400 and the Cyber powered up. When they came up, the Cyber problem stayed solid. It was repaired (a broken wire) and the machine behaved well after that.

Monday, 26 September

At 16:41 CU1 failed; CU1 was running as part of the MAINTENANCE subsystem. We re-ran it and it failed again. Then all the maintenance jobs were run together, and CT1 failed also. We warned the users and brought the system down at 17:00. The SMM tape revealed a solid divide problem, which was corrected at 20:50.

Tuesday, 27 September

12:02   EXPORT hung and would not drop. Level 3.

Wednesday, 28 September

The drive for pack STF powered off and would not come up to speed. We moved the pack to the one normally used for pack SYSTEM. We had to change some things in memory. Unfortunately, I cleared out the EST entry for what had been the SYSTEM equipment. This caused problems when a level 3 recovery was performed. Deadstart is confused on a level 3 when the number of mass storage EST entries does not correspond to the number of mass storage tables (the TRT's).

19:13   System hung. It turned out that 1SJ had hung on a central read instruction. No other PP's were hung, though. This caused a level 3 deadstart, which caused other problems.

19:58   CMS hung because it was confused by the MST for the last mass storage equipment, which had been messed up by the level 3. In analyzing these crashes we found that a mod which prevents clearly absurd TRT's from being written to the disk had been lost. Also, CMS was requesting a system interlock with the disk channel reserved, which is a bad practice in case it has to wait for the interlock. These two problems are corrected on the current deadstart tape.

21:38   System hung because of the bad MST, we think.

21:50   Same as above.

01:45   CPUMTR error exit.

02:21   Same. Caused by an error in RSB. Fortunately, special permission is needed to use RSB, so most users cannot cause this error. RSB is the Read Subsystem Block RA+1 request.

Friday, 30 September

17:05   Tape channel 33 hung. A level 3 recovery was required. Usually these kinds of problems can be handled without a deadstart.

Sunday, 2 October

The machine was late coming up because the disk drive for DN13 wouldn't power up, and the pack on the drive wouldn't come off. The device had to be reloaded on a scratch pack on the drive for UCC.

17:31   ECS failed. The engineers were called in. ECS fixed by 18:50. The 6400 had been deadstarted with ECS down by this time.

19:30   The scopes blanked. Several PP areas and exchange packages were wrecked. We have not been able to find a cause.

21:44   Core wrecked by MTR writing garbage all over. Again no cause has been discovered. We thought it could have been a side effect of the 6400 being down, like on 5 September. But subsequent tests never could duplicate the problem. Nothing went wrong after XMIT and ECSXFER were disabled from the 6400 console, but I think this is just coincidence. In any case, we have added code to disable XMIT and ECSXFER at deadstart time, when required.

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6400 Dump Analysis - by R.A. Williams

Date	Description	Tape
770922	A power failure was followed by a loss of water pressure.	Fixed
770926	The system came up late when TELEX hung on one of the mux channels. A hardware problem is suspected.	N.A.
770926	The scopes went blank for unknown reasons. The deadstart dump put out a message that the operator couldn't understand (this should be fixed) so no dump was taken. (The EDD message probably meant no write ring was present.)	N.A.
770929	1RO hung on disk channel 7 in empty status. While the cause is unclear, the CE's are going to replace the card they moved from the channel 6 controller in hopes that it is the same problem.	DDT-17
770929	C10 hung not pausing for storage move for unknown reasons.	DDT-16