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NOTICE OF CHANGES TO THE SYSTEM

Bob Zalusky contributed a parting flourish of changes.

1. Users may no longer read an execute-only file with the DSD/USERS READ command.

2. The DSD/USERS R-display is functioning properly again after a change to SUPIO
    relocated a common data area.

3. The SETVAL utility was altered to allow only 7-character mnemonic data rather
    than 8.

4. The secure-entry-of-passwords feature was extended to the SEND utility.

Marisa Riviere repaired an error in WRITEUP wherein certain writeups were ignored
if the WRITEUP command was of a format where a simple writeup was specified fol-
lowing an indexed writeup as in: WRITEUP(CODING,XEDIT=V300,XMIT).

Don Mears corrected several time-sharing related problems.

1. Program 1TD was altered to correctly leave the PDP-11 channel unreserved if
    the PDP-11 fails during initialization.

2. NOTICE/NOTIFY processing in TELEX was altered to prevent a hung port if a user
    hangs up the phone during log-in processing.

3. PDP-11 time-sharing front-end users will no longer have terminal parity
    switched when setting terminal type.

Jeff Drummond installed several useful changes to the STAGE utility.

1. Several errors in the STAGE K-display were corrected.

2. STAGE memory requirements were reduced considerably.

3. STAGE can now generate a local copy (as opposed to only common) of the file.

4. STAGE can only be called by a system origin job.

Additionally, Jeff installed a new console game LUNAR. This game is from CERL and performs a lunar landing simulation. Although the objectives of this game are identical to those of LEM, the play is quite different.

Hesung Byun corrected the new MAINTENANCE subsystem to insure a complete initialization in SET.

Tim Hoffmann produced two changes for the new version of UNPAGE. The first allows more characters to be used within the page separator line. The second corrects a problem with the binder option.

Brian Hanson fixed NODROP processing to avoid attempting to lock a direct access permanent file.

Kevin Matthews submitted the following collection of modifications.

1. Kevin corrected 1AJ which caused several crashes last week. The crashes were all caused by the same user submitting the same job from the 6400. The user had inadvertently forgotten to include a record separator between control cards and program. The crash occurred when 1AJ attempted to find the end of the control card stream. The bug was isolated in COMPRCS. The fix firms up the check for end-of-control-card stream.

2. Related to the above problem, 1AJ was changed so that if the problem were to occur again, 1AJ could easily be unhung.

3. Time limit error processing in 1AJ was changed so that a user can only be reprieved once from a time limit error. This feature had been installed once before level 9 but was lost during a level conversion.

4. Kevin installed the proposed multiple copy option to COPY and COPYEI (see DSN 3, 11 p. 2 and DSN 3, 12 p. 6).

5. The final vestiges of permanent file security (FS=SC) were removed from the system. This change affects only PFLOAD, PFCAT and DUMPPF.

E.J. Mundstock was obliged to change control card stream processing in BATCHM after the above change was installed in COMPRCS.

Tim Salo takes this month's award for most valuable programmer. Tim squashed the notorious bug which has been depositing zero words into users' input, output or punch files intermittently for several months. The bug lived in 1PQ and struck out with a zero word to BATCHIO's field length whenever a plot file terminated. Additionally, Tim contributed the following mound of changes.

1. SUPIO was resequenced after 41 modsets.

2. 1SU was altered to produce an input file system sector at the time of file creation rather than later. This change is in preparation for a new program 1WF.

3. Job sequence numbers are now handled in 1SU rather than by SUPIO.

4. The UCCR account file messages are now handled by 1BA rather than by 1SU, saving 1SU some mass storage I/O.

5. The banner page was repaired for jobs diverted from high-speed terminals to Lauderdale.

6. Minicomputer users can now receive binary output files and use several additional commands.

7. SUPIO now calls common routines to allocate and release large ECS buffers.

8. LPT was enhanced as requested by operations and CE's. Column numbering was changed to begin with 1 rather than with 2. A format channel test and a wave pattern test were also added.

9. A final (!) fix to CDC modset QREC2 was installed.

10. Operations can now distinguish between delayed input jobs and normal input jobs on the QREC report. Delayed jobs are indicated with an asterisk.

Bill Sackett installed new source versions of the programs comprising the auto-divert facility: ODV, OSC, COMPWRM and COMSSCD. Program DVTVAL was deleted from WPL while DIVERT was added (see DSN 3, 7 p. 4). Besides the changeover to DIVERT, decimal limits are now placed in the dayfile and banner page rather than octal PRUs. Bill also contributed a source of a very handy program CHKPORT which is used to examine the TELEX terminal tables looking for hung ports. This program will be added to the deadstart tape.

PROPOSED CHANGES TO THE SYSTEM

ARCHIVE III - by J. Strait

Shortly after the 1976 Fall Open Users' Meeting, ARCHIVE was elevated to support level 1 and made available to the user community. I am happy to report that ARCHIVE has performed faithfully for 7 months and enjoys between 300 and 400 runs per month. With these 7 months of experience and users' suggestions in mind, I am proposing several changes to ARCHIVE, which would upgrade it to version 3.

This is a two-part proposal. The first part suggests changes to ARCHIVE itself. Most of these are minor, and those that are purely cosmetic have not been mentioned. The second part considers ARCHIVE as a tool for Master Users (hereafter referred to as MU's) and in response to complaints from several of our MU's, suggests two changes to PFM.

Part I - ARCHIVE

The following is a list (in no particular order) of the proposed changes which would upgrade ARCHIVE to version 3.

1. Add a new R=d control statement parameter. The "d" may be 1, 2, or 3 to select one of the three job control registers, or it may be 0 to deselect this option. The selected register is set in the following manner to indicate ARCHIVE's status upon normal or abnormal termination.

   register

      value - meaning.

no change - ARCHIVE not loaded, or control statement error.

>   1 - In Phase 1.
>   2 - In Phase 2.
>   3 - In Phase 3; writing on DUMPA.
>   4 - In Phase 3; writing on DUMPB or NEWDUMP.
>   5 - ARCHIVE complete; DUMPA written.
>   6 - ARCHIVE complete; DUMPB or NEWDUMP written.

Through KCL, users can interrogate this register to recover from their errors.

2. Replace LO (local) with PF (permanent) as the default on DUMP and LOAD directives.

3. Announce ARCHIVE Phases in the dayfile.

4. Issue error messages for execute-, modify-, read-, and append-only files when appropriate in dumping and loading. This is a bug correction.

5. Implement an EXCEPT clause on the DUMPPF command. This clause, which takes the form of the word EXCEPT followed by a list of file names, prevents selected files from being dumped.

6. Allow long directives to extend to multiple lines, indicated by a plus (+) in the first column of continuations. This is motivated by the need for long EXCEPT clauses and the ability to specify full 110 character comments.

7. Rewind local files after loading or dumping. This is a bug correction.

8. Give an informative message when a dump file is not actually a magnetic tape.

Part II - PFM and ARCHIVE

This portion addresses the difficulties experienced by MU's when they use ARCHIVE (as well as other permanent file control statements) to dump files from their subordinate user numbers. The comments and proposals are based upon

1. conversations with several MU's.

2. a suggestion published in the June, 1977 UCC Newsletter. In this suggestion, Brad Blasing (the MU for the CSci Department) says, "Currently the only way to dump protected files is to account to the number, and then unprotect them."

3. the description of MU's in the KRONOS 2.1 Reference Manual, which states on page 1-2-7 that MU's are guaranteed read-mode access to files on their subordinate accounts.

a. execute-only files

Execute-only files represent an exception to the definition of the MU read-mode access. An MU can read a file from a subordinate account if that file is private or public and not execute-only. However, the MU cannot read the

file if it is explicitly permitted to the MU in execute-only mode. This confusing and inconsistent behavior is clearly a bug.

b. Passwords

MU's are guaranteed read-mode access. But if a file has a password (whether it is protected or not), the MU must specify that password to gain access to the file. CDC's solution to this conflict is to have CATLIST provide the MU with the passwords of files on subordinate accounts. This solution represents needless inconvenience as well as additional system overhead. In order to read a file, the MU must first CATLIST and then GET or ATTACH the file. I am proposing that this be alleviated. A one-instruction change to PFM will allow MU's access to files on their subordinate user numbers without specifying a password. I have discussed this change with several MU's, and they agree that it is desirable.

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No, That's My User Index - by B. Zalusky (in absentia)

Currently, both machines have user numbers with overlapping user indices. When MODVAL creates a new user number, the next available user index is assigned from a bit reservation table which is unique only to that machine. I propose that user indices be unique over both machines. This could be done easily by biasing the user indices on one machine by 10000B. User indices greater than 377700 (AUIMAX) of course will exist on both machines.

Advantages:

1. User index hashes will be unique so XMIT users will not observe other users' jobs in the ENQUIRE report.

2. Unique user hashes provide immediate feedback to machine origin.

3. Unique user hashes provide more accurate accounting of validation for DISPOSE and SUBMIT.

4. Easier for merging accounting on both machines - in the future.

5. A step toward common disk.

6. Since the upper six bits are not used to determine catalog track location, up to 64 different machines.

Disadvantages:

1. Dump tapes with old MERITSS user indices would have the user indices biased properly when reloading to disk.

2. MODVAL will have to be changed to know which machine it's running on and know the correct bias.

3. Someone (or something) will have to change the existing MERITSS files, biasing their current user index. KCM has already written such a program.

4. MERITSS users will have to relearn user number hashes.

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

Our sole discussion topic during the last meeting was Jeff Drummond's Tale of
Two Machines, a proposal for a new XMIT/SEND package. Five subtopics were con-
sidered:

a.   SUBMIT changes.
b.   DISPOSE changes.
c.   SEND changes.
d.   ENQUIRE changes.
e.   Is this all worthwhile?

The proposed changes to SUBMIT were approved with the additional feature that
SUBMIT ought to always return a dayfile to the SUBMITting user. This feature is
not presently available and must be developed. The feature has utility outside the
frame of XMIT/SEND since one sore point of the current SUBMIT is that for certain
errors, the SUBMITting user can obtain no response from a SUBMITted job. More on
this in later DSN's.

The proposed changes to DIVERT were not approved. The proposal requested that a
permanent association between a MERITSS user number and a Cyber user number be
established by using a field in the VALIDUZ file entry. The association would be
used for billing paper charges. Unfortunately, a MERITSS user can charge paper
costs to several Cyber user numbers and will continue to require this ability.
What's more, accounting personnel did not like the prospect of maintaining this
"permanent" association. We decided, instead, that DISPOSE should have a UN and
a PW parameter and that DISPOSE should use the dayfile transfer mechanism (to be
developed for SUBMIT) to communicate with the user.

The SEND changes were accepted as stated.

Except for the problem of non-unique user hashes over both machines, the ENQUIRE
changes were approved. This section of the proposal is dependent on Kevin Matthews'
ECS generalization and requires that FNT's be kept in ECS. We suggested that FNT's
in ECS should not be updated too frequently to keep overhead down. Jeff stated that
the FNT's need only be updated with each enquiry.

Finally, is it all worthwhile? After a year of discussion over whether to retain
or to rewrite the XMIT/SEND package, I was somewhat sceptical about the general
acceptance of this proposal. When asked to vote on whether this project was useful
or was a recreation, everyone voted unanimously that it was useful.

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About MISCPL - by M. Riviere

MISCPL has received contributions from several UCC staff members in the past months
but it is still in a creation stage, far from being completed in order to be the
useful source of program libraries and installation information that it is meant to
be. I would greatly appreciate continuing to receive additions from all UCC staff
for this miscellaneous program library. The initial MISCPL contents and the
location of its backup versions are described in DSN Vol. 3, No. 6 and DSN Vol. 3,
No. 9.

I will define here again, with a detailed description, what the contents of the MISCPL decks should be by grouping them into four different classifications. I may not be considering all possibilities and I would be glad to discuss individually any other possible addition.

1. PROGRAM LIBRARIES

    An ideal definition of MISCPL should be a library which compliments WPL. That is, a library which contains the source of all the UCC packages offered to users through our System and also the packages used for UCC internal maintenance which are not included on the Deadstart Tape.

    Reasons for excluding products could be, among others, any of the following ones:

    a. The OPL is too large or it is not in Modify format.

    b. The product is a user library and a large number of decks can easily introduce deck name conflicts in a large combined program library.

    c. Copyright restrictions can make a product restricted to be accessed only by a few persons.

    d. The product program library is supplied and updated from outside UCC and it is therefore maintained following the vendor's original format.

2. INSTALLATION DECKS

    Almost all the Deadstart Tape products follow a similar installation procedure. The MISCPL products are created and installed in very different ways. There-fore, besides program libraries, installation decks should be included in MISCPL. When a product program library is contained in MISCPL its installation deck could be as simple as a few statements such as

    ```
    MODIFY(P=MISCPL,C,Z)+*EDIT PRODUCT
    R(COMPILE)
    COMPASS(I,B=PRODUCT,L=LIST)
    ```

    The installation decks should contain besides the needed control statements to recreate a product the name of the person who maintains it, the field length and time requirements for the job given either as RFL and SETTL statements or included on comment lines, an explanation of the function of the several steps of the deck and a description of the files which the deck produces.

    The installation decks should leave files as local files only and they should not request tapes in write mode.

3. MODIFICATION DECKS

    Products whose program libraries are maintained in the original vendor release format and have local UCC modifications installed, should have a modification deck included on MISCPL. The Cyber loader is a good example, see deck CYBMODS on MISCPL.

4. LISTS OF PRODUCTS REQUIRING LONG INSTALLATION JOBS

    All Deadstart Tape products are small enough that re-creation of the product to produce a list when needed takes a small enough amount of time that keeping listings on tape is impractical.

Recreating products which are not included on MISCPL due to the extensive size of their libraries is hardly practical for the only purpose of reproducing a list.

A deck named LISTS will be included on MISCPL with pointers to tapes containing listings for products which require long installation jobs. I will be updating that deck with information supplied by all UCC staff about the location of listings.

MISCPL AND LISTING ACCESSIBILITY

MISCPL is permitted in read mode to all YZE account numbers which are validated for WPL access and to any other YZE numbers upon request. The permanent files or the tapes containing program libraries or listings referenced on MISCPL decks do not necessarily have to be permitted to the same group of account numbers that MISCPL is permitted to. Using this method, information about access to a product could be available on MISCPL but the accessibility of the product source and listing remain controlled by the person in charge of it. Individual arrangements have to be made by anyone wishing to access someone else's files.

Updating MISCPL is not constrained to the very same time that a product is modified.

A delay between a product installation and the MISCPL update should not be critical and a MISCPL update can be requested at time intervals which are convenient for each programmer. I update MISCPL approximately once a month.

I will be glad to help anyone with the creation of installation decks or any other set-up needed to provide additions for MISCPL. The existence of all the information planned to be contained on MISCPL can benefit all by providing us with easy access to modifications, installation procedures and program libraries (when possible) in a rather fast and efficient way.

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Effective Monday, July 18, 1977 - by R. Folden

There are a number of changes being made to the Cyber 74 and 6400 weekly schedules. In order for the new schedules to be successful, the cooperation of operators, programmers, customer engineers and others will be necessary.

First of all, the preventive maintenance schedule on the Cyber 74 will be Monday, 0600-0745, Wednesday, 0445-0745, Friday, 0445-0745, and on the 6400, Tuesday, 0600-0730, Friday, 0600-0730.

Secondly, Systems work on the Cyber 74 should be planned to allow for regular deadstarting of the Cyber 74 by the Operations staff no later than 0745 Monday-Friday.

Similarly, the 6400 should be deadstarted by the Operations staff no later than 0730, Monday-Friday.

Finally, if you have reason to use the 6400 console, please remember that your name, time on and off and intent or purpose need to be entered into the 6400 console log. (If you forget to complete the log, the operator is required to put down what s/he

thinks you were doing.) Remember also that the person at the 6400 console is considered the "acting" operator or the responsible person, thereby allowing the regularly scheduled operator to leave during this time and assist on the Cyber 74 or work on other assigned duties.

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Callprg and Library Tape News - by M. Riviere

Besides the previously announced modifications, several others took place among Callprg and Library Tape products:

On June 28, J. Mundstock changed the Fetch and Future versions of MNF to new ones. These two versions are now alike and both of them use Record Manager for input/ output operations. James plans to make Future MNF current by the end of the summer session.

Besides the MNF manual, available through WRITEUP (MNF), which describes the new compiler, there is also a new writeup available (NEWMNF) which describes the differences between the Future and the current versions.

The Future and Fetch versions of MNF use libraries MNFCLIB (MNF Library), MSUIO (Michigan State Record Manager Library) and FORTRAN (FTN Library). MNFCLIB and MSUIO are Callprg files retrieved when Future or Fetch MNF is used while FORTRAN is available from the System. When this version of MNF becomes current, its two new associated libraries, MNFCLIB and MSUIO, will also be included on the Library Tape.

Besides the new version of batch MNF, James installed a new version of TSF which contains all relevent repairs and modifications released with Future MNF. James installed TSF on July 6, on both computers. James is offering this version for testing as a future product and he is planning to make it current by the end of the summer. To access it, a Future, TSF statement has to be used.

Also on June 28, I placed an entry for future FTN on the 6400 section of the index with an informative message stating that the product is not available. The need for this entry arose from a Cyber index change which took place on June 14, when I changed the future FTN entry to a message stating that a Future version was no longer needed and from a bug fix in Callprg that was implemented a few days later where I corrected printing of the "ILLEGAL USER ACCESS" message which was overlapping with printing of the Callprg message "THERE WILL BE A SHORT DELAY" which is now issued for all XMIT files. The Cyber entry could cause some confusion on the 6400 side since Future FTN is in the section of XMIT files and the Callprg XMIT procedure immediately prints an informative message about the delay, although there may not be any file to be retrieved. I am working on changing this around in Callprg, but for the time being the 6400 entry avoids the problem. Current FTN is not, and never was, available on the 6400. FTN and Fortran are included on the Cyber-only section of the Library Tape. Until June 14, 6400 users who wished to use FTN could access the Future version available for testing through the XMIT Callprg procedure. This is not possible any longer. The current status of the FTN compiler on the 6400 should either be left as it is (not available), or be made available by transferring the compiler to the common section of the Library Tape. On July 7, I installed a new Library Tape with the FORTRAN library moved to the section which is common to both computers. Until then, since June 5, FORTRAN had been temporarily added to the 6400 System to be used by Future TSF.

On July 12, S. Yen will be introducing a new Fetch type Callprg package on the Cyber section. This package, called MATTER, is an interactive matrix manipulator. Documentation for MATTER can be obatined from the Applied Statistics Department.

Also on July 12, the index entry for UNPAGE will be removed since that product is now included on the Deadstart Tape.

On July 19, a modification will take place on the Cyber Loader routines section of SYSLIB and SYSIO in the Library Tape. This modification fixes a CDC problem on the relocatable Cyber Loader routine UCLOAD in order to allow the user to make Loader calls for ECS access. That is, the Loader, as user callable, will be able to load programs to and from ECS.

The macros to use for this type of Loader call are described in the CDC Loader manual.

The text containing this macro is the Fetch type text LDRTEXT. Whoever needs a list of LDRTEXT should contact Brian or me to obtain it.

This modification is classified as a bug fix type of modification, related to the Cyber Loader rather than to the libraries and therefore it will be implemented on the current versions of the SYSLIB and SYSIO.

The next CALLPRG and library tape changes are scheduled to take place on August 2. Modifications should be requested before noon July 22.