TABLE OF CONTENTS

NOTICE OF CHANGES TO THE SYSTEM

The following changes will occur on Thursday, 24 August.

KRONOS Changes

Don mears altered 1TD to indicate when a hung 2550 port is detected. A B-display
message is output. Don also repaired a potential interface problem in 1TD with
the 2550. Additionally, CONVERT options were added for timesharing SNOBOL,
batch SNOBOL and LISP.

Bill Sackett altered program PFP to be callable only from system origin. Some
malicious users discovered that the routine hung a control point if called
from non-system origin.

Steve Collins contributed a new version of XEDIT to correspond with the
character set change.

NOS Changes

The following changes occurred on Sunday, 20 August.

Kevin Matthews delivered another iteration to his implementation of user ECS
and repaired an error in MODVAL. Previously, the FUI directive never ensured
that the user index was indeed reserved in the VALINDX file. This is now the
case., Kevin contributed a new MPL deck OEF which builds the extended FNT in ECS.

Don Mears installed the following changes.

1) Changes to CONVERT and to 1TD described above were also added to NOS.

2) Program 1AJ was altered so that a user is no longer logged off for system abort (see DSN 4, 14 p. 115).

3) Don installed a TWX to MSM which saves a random word in PP memory from being bashed and subsequently messing up MMF deadstart.

4) Don installed a TWX to CIO which should eliminate an error which occurs during read - skip processing.

Tim Salo altered program ENQUIRE so that PLOT files are properly described.

Brian Hanson installed the following changes.

1) Program LFM was altered to allow the command ASSIGN,SH,... This causes the specified file to be assigned to a shared device.

2) Programs 1CJ and DSP were altered to place any files found for an alternate machine to reside on a shared device.

3) In order to accommodate the above features, program DSP was split into two overlays.

Jeff Drummond installed the following changes.

1) Program LFM now checks FET length when processing RENAME functions.

2) Program CPUMLD was corrected so that CPUMTR does not mode out on a XJP request when CPU 0 is turned off.

3) Jeff installed a notable feature in which job sequence numbers are now shared between mainframes in the MMF environment. This ensures that jobnames are unique over all mainframes.

4) Errors related to improper use of the DISSJ function are now diagnosed.

5) Programs 1CJ and DSP were altered so that a dayfile is always returned to the user from a submit job regardless of which mainframe the job originated on.

Brad Blasing disabled the LDI command. Program LDI is a utility used to move jobs into the input queue in large numbers from tape and has no use at our site except from system origin. Brad also changed the SUBMIT command to use DSP rather than QFM in order to introduce a file to the input queue.

Steve Collins installed a new version of XEDIT which corresponds to the new character set.

PROPOSED CHANGES TO THE SYSTEM

Faster Control - by L. Ozga and K. C. Matthews

CONTROL processes KCL statements. On entry it executes a preset routine, PRS, which obtains from the system a large number of values like packed date and time, machine ID, and so on. These values are all obtained regardless of whether

they will or will not be used. I propose to change CONTROL to only obtain
the values that are needed. The mechanism to do this already exists in
CONTROL and is presently used to obtain a few values. This change should
significantly reduce the number of monitor calls made in processing a KCL
statement.

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Big Batch Jobs - by K. C. Matthews, T. Salo, B. E. Blasing

To promote the Cyber-172 as the primary timesharing machine, good TELEX
response time is required. To guarantee this, we propose to limit big
field length batch jobs on the 172 until after a certain time. The proposed
time is 18:00, the definition of big field length is 110k or greater.

There are two times when a job can be checked to see if it is a big FL job:

    1. At jobcard recognition time only (via CM parameter)
    2. At each control card

#2 could involve rolling the job out until 18:00 when it requested over
110k (via an RFL card or an internal memory request). This is bad since
the job may have tapes assigned and would then tie up valuable resources
until 18:00. So, #1 is the only feasible option.

We propose to limit field length to 110k by storing a big CM job out on
disk and starting it at 18:00 (similar to DELAY). As a stopgap measure
only, set the FL SERVICE limit for batch jobs to 110k. This allows the
job to run but guarantees it poor service if it requests more than 110k by
only scheduling it if no other jobs are available. Then at 18:00, reset
it to infinity. This is the simplest to implement since it involves only
a SERVICE console command at 18:00 but would lead to the side-effects
mentioned above about tieing up resources.

One unresolved question is what to do with a job with no CM parameter on
the jobcard. Currently, no CM parameter means set the MFL (Max. field
length) to the users validation limit (which is usually greater than 110k).
One option is to classify it as a big CM job and not let it run until
18:00. The other option is to set the MFL to the smaller of 110K and the
validation limit and let the job run. The job would not be able to get more
than 110k then. This means that these jobs with no CM parameter which
normally use more than 110K will work differently before 18:00 than after.
(They will probably abort before 18:00 with "FL BEYOND MFL".) We favor
the former option.

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A New Route Option (pronounced route) - by Brad Blasing

I propose to add a 'COPY' parameter to the ROUTE control card. This
parameter will cause ROUTE to copy the specified file onto a scratch file
(named SCR) and route it instead of the original file. The purpose of this
is to be able to route a file without having the original file disappear.
For example:

                    ROUTE(JOB,DC=IN,COPY)

would submit a copy of 'JOB' to the input queue and leave 'JOB' intact (like SUBMIT). Also, some files cannot be ROUTEd because of their file type; e.g., direct access files. If you wanted to print a D/A file, you would have to copy it yourself anyway.

Specifying the COPY parameter on a deferred route would be illegal (i.e., ROUTE(f,DC=PR,DEF,COPY)). This is because the scratch file SCR is the file that would receive the deferred routing and would only be confusing.

ROUTE already has code in it to copy files onto shared devices (for intermachine routing via shared queues) so this parameter is simple to implement.

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ASCII PFM - by B. R. Hanson

Under the new 63 character set characters 74b and 76b no longer are considered escape characters unless extended mode is set using the *ascii* command from Telex. Thus under the 63 character set ASCII files will list as a mixture of letters and ^'s. As a convenience to the user we are proposing to make ASCII an attribute of a permanent file. The user will then be able to specify *AS=ON*, *AS=OFF*, and *AS=NULL* on the SAVE, RETAIN, CHANGE, and DEFINE control cards. When the user does an old PFILES will set ASCII mode if *AS=ON*, clear ascii mode *AS-OFF*, or leave the setting alone *AS-NULL*. By default *AS-NULL* is selected. Importantly, SAVE will set the ASCII atrribute only if the AS parameter appears on the control card.

I propose to implement this proposal by using two bits in the UCW (usercontrol word) in the catalog entry. Currently CDC is using bits 17-12 for saving the subsystem attribute. I propose to use bits 11-10 for the ASCII attribute.

UCW - 42/0,6/SS,2/AS,10/0

SS - current subsystem.
AS - ASCII attribute. 0 - null, 1 - on, 2 - off.

SYSTEM MAINTENANCE: People and Procedures

Last Week's Systems Group Meeting - by T. W. Lanzatella
Last Week's meeting was very brief. We discussed the following proposals.
1) Steve Collins' proposed change to MODVAL was approved (see DSN 4, 15 p. 123).

2) Steve Collins' proposed change to NOTICE/NOTIFY was approved (see DSN 4, 15 p. 123).

3) Bob Hursh's proposed change to permanent file archiving procedures was approved.

Kevin Matthews mentioned that the pack STF may disappear around Christmas.

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Callprg and Library Tape News - by M. Riviere

Most of the modifications which took place on August 20 among Library Tape and Callprg products on the NOS and on the KRONOS Systems were related to the character set conversion. On the Library Tape for each System, the modifications were the following:

1) FORTRAN was updated by M. Frisch with modifications for plotting routines.

2) A. Mickel changed the current version of SNOBOLC.

3) J. Strait changed the current version of PASCAL.

4) I changed the current BASIC compiler. The BASIC compiler is now different on both Systems. The KRONOS compiler is CDC BASIC 2 while the NOS compiler is CDC BASIC 3.

On the KRONOS System, the current versions of MNF, TSF and their associated libraries were updated.

Several new Callprg entries were added to both indices to offer some of the old current products as FETCH or PAST type products. These entries were for SNOBOLC, PASCAL, LISP, and BASIC. BASIC, however, is offered only on the 6400. The old current version of BASIC used in the NOS SYSTEM is no longer available. B. Sackett introduced a new version of APLUM (2.20) which is also compatible with the new character set. APLUM is available on both Systems.

And finally, a non-character set related modification for the NOS Callprg index requested by J. Mundstock was the resurrection of the non-record manager versions of MNF and TSF that were removed "forever" some time ago. Their use of up to 1000 times a month persuaded James to decide to continue offering them as Fetch type products.

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Mod NOSB3 - by K. C. Matthews

Mod NOSB3 is a CDC release 4 mod which has been modified a little and installed in our NOS system. It changes the way mass storage devices are assigned. We first explain how things used to work in KRONOS and in NOS before release 4.

Any non-removable device could be declared a TEMP (temporary) device. A device is TEMP if a certain bit is set in the MST (Mass Storage Table). The device is then eligible to hold temporary files. The PP monitor would select a device from among all the TEMP devices in response to the AMSM (assign mass storage) monitor function.

In addition, five special equipments could be specified in the MSAL (mass storage allocation) word. Each byte referred to a special file type. For example, one byte specified on which equipment rollout files would go. If

no special equipment were specified, any TEMP device will be used. The obvious deficiency is that only one rollout equipment could be specified. This won't do at a site like ours where we have so many mass storage equipments. This was corrected in Mod NOSB3.

In the NOSB3 mod, there is now defined a Mass Storage Allocation area in CMR. There are currently seven words in the area, one word for each of seven possible file types. In each word a bit will be set to indicate that the corresponding mass storage device can hold files of the specified type. The seven file types are as follows:

    TMPS (0) - Temporary files.
    INPS (1) - Input files.
    OUTS (2) - Output files.
    ROLS (3) - Rollout files.
    DAYS (4) - User dayfiles.
    LOCS (5) - Local files.
    SQFS (6) - Shared queue files.

The AMSM monitor function has been removed. Equipments are now assigned with the RTCM (request tracks) CPU monitor function. If the equipment number is 77 in an RTCM request, CPUMTR will choose an equipment for the file before assigning tracks. The equipment will be chosen based on a file type (0 through 6) specified in another part of the request. If a certain file type is requested (e.g., ROLS) and there are no equipments or no space for that kind of file, then a temp (TMPS) device will be chosen.

An exception is the SQFS (shared queue) file type. If a PPU wants an SQFS device for a shared queue file, and if there are no tracks on these types of devices, then a track limit status is returned. This is preferable to assigning a non-shared device to a shared queue file.

The equipments may be specified in the MSA area with CMRDECK commands at deadstart time and with the DSD MSAL command during system operation. For example, the CMRDECK command

    ROL=0,1,2,3

is used to set equipments 0 through 3 as eligible rollout devices on the 172. The command

    TEMP=11.

will do two things. It will set equipment 11 as a TMPS (temporary) device. It will also set the old Temporary file bit in the MST for equipment 11. This bit is still used by DSD in the E,M display. Under DSD, the MSAL command will toggle the status of equipment bits. The entry

    MSAL, RO3, SQ2.

will toggle the bit for equipment 3 in the rollout file word, and the bit for equipment 2 in the shared queue file word.

Unfortunately, there is a problem with temporary files. The entry

    MSAL, TM1.

will toggle the temporary file status of equipment 1, but it will not change the bit in the MST. Thus, DSD will still be displaying the older temporary status of the device. The TEMP, command should be used in this case.

TEMP, 1.

changes the status of equipment 1 in the MSA area for TMPS files. The old temporary bit for equipment 1 is also toggled, so that DSD will display the proper status. Thus, the TEMP command should always be used. We should probably remove TM from the list of valid MSAL, entry types.

Finally, the status of all these things is displayed by the terminal version of DSD. John Strait has added an MSAL display which lists the real equipments eligible for each file type.