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NOTICE OF CHANGES TO THE SYSTEM

The following changes become effective on Thursday, 10 November.

Bill Sackett contributed the following modifications.

1. The DIVERT utility now properly validates the DIVERT(OFF) command.
2. The common deck COMPDAY was repaired in that previously, leap year calculation was wrong. Additionally, if the symbol NONAME\$ is defined, a shortened version of COMPDAY will be assembled.
3. Several errors in PRU limit processing were corrected. Previously, DISPOSE was not updating the PRU limit; LRI was not updating PRU limit on procedure file tracks and PFM was not updating the limit on GET commands. These are not all the PRU limit bugs and more will be fixed in the future.

Jeff Drummond supplied his proposed version of COMPASS (see DSN 3, 19 p. 8). Also related to COMPASS, T.W. Lanzatella deleted COMP3\$ and COMP3\$A from the system (see DSN 3, 19 p. 6).

Brian Hanson repaired a most annoying error in LIBEDIT wherein the program would quit because of insufficient field length even though the program had requested additional memory.

Hesung Byun corrected a long standing error in job card processing which allowed a job into the input queue even if the amount of CM specified on the job card exceeded the service limit. Program 2TJ was corrected to output JOB CARD ERROR whenever the situation occurs. Hesung also modified SUPPIO so that the default CM for a SUPPIO job with none specified is the same as for jobs entered through BATCHIO or with SUBMIT, i.e., 45000.

Tim Hoffmann repaired a problem in CONTROL related to error processing when no procedure file name is specified after a dash (-). The user now receives the message NO FILE NAME SPECIFIED rather than PFM ARGUMENT ERROR.

Don Mears submitted the following modifications.

1. Don installed his proposed speedup mod to the AMSM monitor function (see DSN 3, 20 p. 3).
2. Program 1PQ was altered to always wait for the plotter to become not busy before dropping out.
3. Page counting after a function reject by the printers was again corrected.
4. A B-display message output by LTD was changed from LTD HUNG to LTD HUNG - CHECK CHANNELS. Previously, operators had interpreted the message as requiring a level 3 deadstart when a channel disconnect was all which was required.

In preparation for the forthcoming NOLOOK command (see DSN 3, 17 p. 4), Kevin Matthews untangled several modsets in JPL which modify DSD. Two new generalization mods were added and three other mods, TXVLGF, TKLIM and DSDMSG were changed to use the new gen mods. Kevin also repaired a bug in UFM discovered as a result of a recent UFM hang. This bug did not cause the hang but was discovered as a result of examining the code.

PROPOSED CHANGES TO THE SYSTEM

Yet Another Correction for Execute Only File Security - by B. Hanson

The latest bug in Execute Only file security is, of course, in LDR. A program can, by loading a (0,0) overlay to the wrong address, cause the loaded program to mode out and erexit to his core dump routine. Also, a program could request an LDR load with insufficient FL available and cause the abort to the erexit address. My proposal is to have LDR abort if a (0,0) overlay is loaded to a user specified address and the overlay is on an Execute Only file. Furthermore, if the overlay is (0,0), it should clear the erexit address so the abort will abort the program. Tim Hoffmann is fixing the related problem with CPMEM.

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Unopen - by B. Hanson

The coming utility, COPYMF, in most cases needs to rewrite the initial *HDR1* label on the new tape. Unfortunately, MAGNET keeps a bit in the UDT that, if set, prevents label information from being rewritten on existing labels and worse is the problem that the label control card processing causes this bit to be set. I propose that a new subfunction of UFM function 1 which communicates with MAGNET be used to clear this bit if called from an SSJ= program. This would be subfunction 2 of UFM function 1.

SYSTEM MAINTENANCE: People and Procedures

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

1. Larry Liddiard began with a description of new equipment and delivery dates.
 - a. 10 new MIRJE ports - installed 77/11/4.

- b. 669 hub kits.
 - c. 6638/808 bearing - installed 77/11/7.
 - d. 595-6 print train for 512 - 77/12/23.
 - e. 103XX silencer for 512 - 77/12/23.
 - f. (3) 844-41 - 77/12/23.
 - g. (2) 7154 controllers.
2. Jim Mundstock declared that he no longer wants the systems time from 0000-0200 on Sunday mornings. No systems personnel wanted the time either so it will revert to operations.
3. The following proposals were accepted or rejected.
- a. Tim Hoffmann's proposed enhancements to CPMEM (see DSN 3, 19 p. 7) were accepted with the following stipulations: i) a new command DMPI will be used to toggle the interactive state of CPMEM with the default state being non-interactive; ii) CPMEM will be altered so that the B-display message will be output before the dump and iii) when an execute only program aborts, only the exchange package will be dumped.
 - b. Tim Hoffmann's proposal to include NODROP status in the ENQUIRE(OP=F) report was accepted (see DSN 3, 19 p. 7).
 - c. Don Mears' proposal to speed up AMSM monitor functions was accepted (see DSN 3, 20 p. 3).
 - d. Don Mears' proposal to switch the 10 cps (B) rotary to the new PDP-11 front-end was rejected. It was felt that this move would be too drastic and visible to users if the PDP-11 or the LINK proved unstable. We decided instead to move the last 10 ports on the 30 cps rotary to the PDP-11 after a two-week test period in which the current ports on the PDP-11 (5740-5746) would be treated as constant 30 cps ports rather than as autobaud ports.
4. T.W. Lanzatella then chaired a brief, non-specific discussion about a possible new operating system, NOS. The current release of NOS, R3, is not very much different from our version of KRONOS, but the next version, R4, is significantly different. So different that NOS1 becomes NOS2 at R4, which will be released during 1978. Some features available at R4 which are not available at R3 include:
- 844 full tracking
 - ATS support (6250 BPI tapes)
 - On-line diagnostics
 - CYBER control language.
- One significant feature of NOS at R3 and above is the CYBER loader which includes Common Memory Manager and Segmentation. Larry Liddiard went on to add that a popular new data management system, DMS 170, produced by CDC, must run on a NOS system through the TRANEX subsystem.
5. N.L. Reddy was present and discussed briefly the status of the MECC system. He reported that CDC hardware and software support has been good and that they typically run with about 250 users on-line.

6. Kevin Matthews spoke about the disposition of our anticipated 3 new 844 drives. The plan is to make the current DN30 into a DJ-2 and to invent a new device, DN31 which will also be a DJ-2. DN31 will be used like DN30 which is used as an overflow device. We know from previous experience that as the track size of a device increases (454 sectors/track on a DJ-2), the efficiency with which space is allocated decreases. Kevin will write a utility which is run when permanent files are dumped which moves inefficient files from DN30 and DN31 back to the regular packs.

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Callprg and Library Tape Products Are in the System Too - by M. Riviere

Since the Callprg and Library Tape products are not only under the responsibility of the Systems Group and their installations and maintenance go across several of the Computer Center's groups, it is hard or impossible to discuss all of their modifications only among ourselves.

It was established long ago that modifications to Callprg and Library Tape products should be announced in a given DSN and implemented in the week that follows that DSN publication. The deadline for modifications was set a week before the publication.

I found lack of collaboration in keeping this schedule from a few staff members and since in most of the cases it appears that their change decisions are internal to their groups, I do not have other options but to implement them without a previous announcement.

However, I publish a notice about their implementations in the following DSN.

I would like to emphasize that a description of an already implemented change is not necessarily a fact that it has to be as such forever. (This applies, of course, to not previously announced and accepted changes.)

Anything that may seem questionable about the Callprg and Library Tape modifications could be discussed in the Systems meetings when possible. The subject could be brought up at the end of the proposal section by anyone that is concerned about it. Otherwise questions and criticisms could be brought to me and to the person or the group that is responsible for it.

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Callprg and Library Tape News - by M. Riviere

Besides the already announced modification the following ones took place on November 1, among Callprg products.

S. Yen installed a new future version of SPSS (Version 7).

J. Strait replaced the future version of ARCHIVE and introduced a new fetch type package, DECLIST. DECLIST is a listing program for terminal output which has the feature of optionally emulating a line printer for carriage control codes and which optimizes printing time by avoiding useless carriage repositioning. The documentation for DECLIST will be available through Writeup. ARCHIVE and DECLIST are installed as permanent files on both computers.

K. Fjelsted moved the packages MPOS, APEX and SPICE to a Callprg tape. Kevin also introduced a new package, PERTCST. PERTCST is a program for project analysis, review and evaluation. There is a CDC manual available describing PERTCST usage. PERTCST resides in a Callprg tape, is non XMIT type and it is control card callable.

There are no modifications scheduled for November 14.

The next Callprg and Library Tape modifications are planned for November 29. Requests for modifications should be submitted before November 17.

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

From 24 October 1977 to 5 November 1977

Wednesday, 26 October

16:50 (DD-3)
The system hung up because UFM was in a tight loop at control point 5. The problem in UFM was a simple to correct bug. What we don't know, however, is what UFM was doing at the control point. It was trying to validate the next reel of magnetic tape for a TELEX job which had no tapes assigned. It appears as if UFM got lost when processing end of tape for another job. We are considering re-doing that whole section of UFM.

Friday, 28 October

02:00 (DD-4)
One printer was apparently bad. The wrong controller may have been cleared while attempting to fix this problem, causing a tape channel to hang up.

23:30 (DD-5)
1TD hung. TELEX displays a "1TD HUNG" message when it thinks 1TD is doing nothing. We hope that in the future, when this message appears, the PDP-11 channel can simply be disconnected to get things going again.

Wednesday, 2 November

10:29 ECS errors occurred around 08:30, but the system ran slowly until 10:15, when the machine was given to the engineers. They fixed the problem. The operators had not been informed by the systems group (KCM) of changes in the displays when ECS goes bad; this is why it took so long to get the problem fixed.

Thursday, 3 November

18:35 (DD-6)
TELEX was hung. 1TD had sent bad information to TELEX, and TELEX couldn't abort properly because 1TD was stuck at the control point.

In addition, the operators have still been having problems with the disk drive for device 13. The drive fails to become ready when started at beginning of operations. Once it becomes ready, it seems to work fine.

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6400 Dump Analysis (10/24-11/7) - by R.A. Williams

There was no downtime logged for the month of October that was attributable to software errors. The system staff deserves plaudits for this performance. I am also pleased to report that while uptime was only at 99.7%, the effective mean time between failures was infinite since no aborts took place during the month. Systems, operations, and Control Data personnel all deserve credit for this.

Now the bad news--a level 0 deadstart was required on November 2, when the system was trying to start using ECS after it had been turned off for checkout. Primarily, the problem arose because documentation of how to bring ECS back up was lacking but some checks in the software for the integrity of ECS contents might be desirable.