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NOTICE OF CHANGES TO THE SYSTEM

KRONOS Changes

The following changes become effective on Thursday, 25 May.

Don Mears corrected a small error in TELEX which prohibited a user from ever
getting the initial terminal type set to TTY even though a SETVAL (TT=TTY)
had been executed. Don also added code to the plotter driver in 1CD which
detects link errors and displays a message rather than continuing and causing
a plotter hangup.

Jeff Drummond installed another iteration to the TRANSIT subsystem - programs
TRANSIT, TRN, COMPCMO and COMSTRN. As most readers are now aware, TRANSIT is
alive and well and functioning according to specifications described in WRITEUP
(TRANSIT).

Tom Lanzatella modified programs 1SP, SFM, LFM, SIMTALK, HELP, SEND and XMT to
use the new machine ID's 74, 72 and 64. Machine ID's are now identical under
both NOS and KRONOS.

NOS Changes

The following changes became effective on Sunday, 21 May.

Kevin Matthews installed the following changes.

1) Most performance measurement code in DSD was moved into a single overlay.

2) Kevin repaired a critical CDC error in 1DD (the dayfile dump routine)
    introduced along with the full tracking code. The problem became apparent
    whenever disk error processing was performed. The problem was that while
    processing a disk error on one device, the system wrecked other disks.

3) Kevin installed the PSR 472 version of 6DI as a MPLNOS deck. The PSR 460 version of 6DI, 6DJ and COMMMSD were deleted from WPLNOS.

4) Kevin installed a new CMRDECK directive MIDS. The command is used to declare the MID of all mainframes in the MMF environment.

Don Mears altered program 1CD to clear auto page eject at the beginning of all print files. Don also repaired a misleading 667X error message in 1TD. Most notably, Don changed the SUI command to not clear the current pack name.

Tim Salo altered program DSP to make room for his T1D implementation.

Brian Hanson installed the KRONOS mod REQFIX, a mod to SFP which causes a REQ call to return status if the file is present.

Hesung Byun installed the KRONOS mod ECSM, known principally as the mod which installs the DIS DDF command.

Jeff Drummond installed the following changes.

1) The TRANSIT subsystem evolved through an almost final iteration. Programs TRANSIT, TRN, COMSTRN and COMPCMO were reinstalled.

2) Jeff installed the new common deck COMCCCS, a routine to compare two character strings.

3) CMSRCL - a mod to 1SP which corrects an error where CMS recall time occasionally gets bashed - from PSR summary 469.

4) FINDDS - a mod to COMDDSP correcting an error in operator assignment of the display console - from PSR summary 467.

5) MULTIF - a mod correcting a bug in multifile set processing during rewind - from PSR summary 469.

6) PURG89 - a mod correcting PURGALL. Previously PURGALL failed for years ending in 8 or 9 - from PSR summary 467.

7) MMFPRS - a mod which makes the PRESET CMRDECK directive illegal for all but level $\emptyset$ deadstarts - from PSR summary 467.

Marisa Riviere installed the following changes to CALLPRG and RFM.

1) CALLPRG now uses the DSP function installed by Brian Hanson to submit tape jobs.

2) Marisa installed her proposed changes to support upper/lower case writeups (see DSN 4, 6 p. 49).

3) RFM should now function under NOS.

PROPOSED CHANGES TO THE SYSTEM

Microfilm Program for 9-Track Tapes - by M. Riviere

I would like to install a microfilm program, MFEBR, written by Bill Elliott for MECC which creates 9-track EBR tapes. This program, very nicely written and documented, includes features that make it suitable to replace or complement

MF501. Some minor modifications are needed for MFEBR to be used in our system, such as accounting dayfile messages, and appending bin numbers to the film trailers. I will implement those features. Currently, MFEBR handles all the characters that MF501 processes in its upper and lower case mode (plus sign, open and close parenthesis, etc.). An extension to MFEBR can accommodate microfilm input containing the full ASCII character set, as an upper and lower case option. I will implement this feature in MFEBR.

The control card sequence for MFEBR is the following:

MFEBR (P1, P2, ...PN)

Where P1 may be any of the following:

A   Abort on non-fatal errors.

C   A 1 to 20 character literal to be included as a comment on the film leader.

CS Shift input text file one space to the right.

I   Input text files. Up to 15 files can be selected by separating file names with a slash. (E.Q.:I=TAPE1/TAPE2/TAPE3) A non-fatal error is given if a text file is empty. The default input file name is INPUT.

O   Microfilm file. Must be a 9-track tape at 800 BPI, of S of L format. A non-fatal error is diagnosed if the tape is labeled. The output file is not positioned by MFEBR.

NA Select no abort on fatal errors.

NR Inhibit automatic rewind of input files.

R   Select a KCL software register to be set to the total number of frames generated during the job (R-uses R1; R=N-uses RN).

SC Suppress leader containing jobname, date, etc.

TL Select trailer length to be generated when an end-of-information is read in at input file. The maximum value for TL is 50 frames, the default value is 20 frames.

LC Use upper and lower case characters (to be added).

The resources used by MF501 and MFEBR to process and identical text file that produces 1300 microfilm frames are the following:

	MF501 (Upper case only)	MF501 (Default)	MFEBR (Equivalent to MF501 default)
CM	16.413	37.708	32.886
MS	1.869	0.815	0.456
MT	2.815	4.791	4.013

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Entry Point Names - by E. Schleske

I propose that entry points in all CPL common decks be standardized to include
an equal-sign character as a suffix. I also propose that all existing subroutine
names on SYSLIB be modified to include the same equal-sign suffix.

These two changes would make higher-level-language user libraries more reliable.
For example, were these modifications to be implemented, FORTRAN programs then
could not access SYSLIB subroutines because they would contain equal-sign
suffixes. Greater efficiency would result because these modifications would
remove the necessity of having multiple copies of the same common deck in
different FORTRAN-library subroutines. Subroutines could then share a particular
common deck by accessing it from SYSLIB, because SYSLIB's routines would then have
the protection of not being directly FORTRAN-callable.

SYSTEM MAINTENANCE: People and Procedures

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

1. The following proposals were rejected or accepted:

    a) Earl Schleske's proposal to install a feature whereby terminal type could
        be chosen internally by a user program was rejected as being rather too
        ambitious at this time. We also noted that with prospects of running
        NAM in the future, a major effort such as this might be ill spent.

    b) Earl Schleske's proposal to alter TELEX so that a PACK is always
        performed when exiting text mode was accepted as long as the implementation
        is not too difficult. Bob Williams and Bill Sackett will investigate.

2. Larry Liddiard announced that some Duluth personnel will be signing up for
    172 systems time in order to configure a KRONOS system.

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Callprg and Library Tape News - by M. Riviere

On May 17, K. Fjelsted changed the Callprg index entries for SURFACE and SYMAP
in order to make these packages disk resident instead of tape resident. This
change was made because of the increased usage of the packages and was implemented
on the Cyber 74.

On May 20, the Cyber 172 Callprg Index had the following changes:

1. A. Bremanis introduced the ACCSTAT package.

2. S. Reisman installed a fetch version of SRTLIB, the set of control card
    callable packages composed of S2000, PLICOB, FC1COB, PLILGO, RUEXIT, as well
    as the future versions of all those packages and S2000L.

3. I added a fetch entry for the current KRONOS FT3LIB and removed the entry for
    past FTN.

4. K. Fjelsted entries for SYMAP and SURFACE were modified as on the Cyber 74.

5. T. Hoffman introduced STRATEN, PERMITS and CATLSYS.

In the near future, K. Fjelsted will be introducing a new control card callable package to Callprg, TPS. TPS is a statistical language program for analysis of time series. Kevin has a TPS manual available and there will be one soon in the UCC Library.

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Cyber 74 Deadstart Dump Analysis from 6 May 78 to 19 May 78 - by K. C. Matthews

Sunday, 7 May

16:18   An additional level zero deadstart was performed since the subsystems had been brought up before the library tape was in the system.

Tuesday, 9 May

11:01 (DD-6)   Export hung.
16:35 (DD-7)   Export hung. Tim Salo is looking at these dumps. At the same time he is trying to convert EXPORT to NOS. Most of the EXPORT dumps are unintelligible anyway.

Wednesday, 17 May

9:00 (DD-10)   MTR(PPU 0) hung. The dump clobbered the address at which MTR was hung. Otherwise the system was in good shape. There's no time to look further into this dump.

21:00   Reports began to indicate that central memory was bad. The failure was solid and the engineers called at 21:57. Pack PF01 was destroyed (along with the account file) and had to be reloaded.

In addition to these deadstarts, there were many TELEX hangs. Also, when pack DN32 was introduced into the system on 14 May, its pack was not in good shape. This caused some jobs to abort on disk errors. Finally, Device DN31 was simply wrecked the morning of 14 May for no apparent reason. It had to be reloaded, and we were up at 8:33.

Beginning next DSN, we will analyze the 172 deadstart dumps. These dumps are being more actively analyzed.

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6400 Deadstart Dump Analysis (5/7-5/22) - by R. A. Williams

Date	Description	Tape
780507	Many telephone lines were out of service due to a cable break somewhere between Lauderdale and the Bell substation.	N.A.
780509	The NOS deadstart tape was used on the 6400 and then, following a second normal, the disk channels were wrong in the EST. This was fixed in core and no down time resulted. It is likely that some CMR entries were not made at deadstart time.	N.A.

Date	Description	Tape
780509	ITA hung at the TELEX control point. Investigation showed that it was trying to disable the scheduler and a 1SJ was in the input register for one of the PP's. This PP was still in its idle loop at dump time, however.	DDT-15
780518	The accounting got an I/O sequence error from SFM. This was because VALIDUZ was hung up in busy status meaning no users could log in. It took a while before this was realized and then a deadstart was performed. The accounting causes this to happen but some system software error in the ISF(R=) mechanism is the real problem. This has existed in the system for at least one year and was on the system consolidation bug list!	N.A.
780519	TELEX aborted with a program stop. Twenty (octal) words of junk had been deposited in the middle of executable code.	See me
780520	The 6400 disk unit that is near the Cyber drives was powered down by mistake at Cyber end of operations. Apparently the system did not recover when the drive came back up.	N.A.
780522	Another 45 minutes of down time resulted from the ISF I/O sequence error bug.	N.A.