UNIVERSITY OF MINNESOTA COMPUTER CENTER
Deadstart Systems Newsletter

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Send all comments, criticisms and contributions to the editor: T. W. Lanzatella, University Computer Center, 2520 Broadway Drive, Lauderdale, MN 55113.
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NOTICE OF CHANGES TO THE SYSTEM

Kevin Matthews repaired an annoying and long-standing problem which operations will be pleased to hear is fixed. The problem is related to deadstart. Occasionally, when a deadstart fails, a subsequent attempt to deadstart will also fail because of insufficient space in ECS. When this happens, both machines must be deadstarted in order to fix the problem. The error stems from the timing of events when the alternate system file is written in ECS. The alternate system file is made of two parts, the system sector and the data which, for the most part, is a copy of the deadstart tape. Program SLL builds the alternate system file in ECS. The first thing it does is copy the data into ECS then it builds the system sector. If the process of copying the data into ECS is interrupted, ECS is left in an odd state in that it holds a file without a system sector. When MREC, the machine recovery program, tries to clean up ECS, the file fragment will be tagged as a bad file because it lacks a system sector and its tracks won't be released. Since ECS can't hold more than one copy of the system, a subsequent attempt to deadstart will fail. Kevin changed SLL so that a system sector is the first thing written to ECS during the alternate systems file copy.

Jeff Woolsey installed unspecified changes to multi.

Jeff Drummond changed TRANSIT to initialize its ECS before using it chiefly to check for parity errors. Jeff also installed a new version of BLOCK/UNBLOCK with a new entry point REBLOCK. You may recall that REBLOCK is the predecessor of UNBLOCK. I gather that the callprg version of REBLOCK can now be removed.

Andy Hastings installed the following changes.

1) DSDI, the deadstart dump interpreter, was corrected to display the proper ECS RA and FL.

2) USER processing was corrected so that the family option can be specified securely as in USER(,,,). Previously, the family option could only be entered securely if; 1) no third parameter is specified, 2) more than one family is possible and 3) at least one other parameter is null.

3) The character 0 (zero) can now be used to represent the default family.

4) Z-option processing in LIBEDIT, EXPLIB, SYSEDIT and USERS was changed to use COMCZAP instead of COMCPZO.

5) The ENQUIRE report will now include the current B-display message.

Paul Thompson changed CPUMTR so that the user index in the control point area is cleared when a control point is released. This change fixes ENQUIRE so that jobs do not sometimes appear both rolled out and executing.

Don Mears installed the following changes.

1) Don's proposed change in the way hung channels are treated was installed (see DSN 7,12 P. 80).

2) Some minor changes which protect the system from being hung by CTS, the console terminal simulator, were installed.

3) USERS was changed so that anyone can now get the P-display.

4) 1HS (EXPORT) was changed to use fewer ECSM monitor functions.

Tom Kovarik installed some important corrections to DSP in the way that output queue file priorities are calculated. Previously, priorities for BC output files were calculated based on EI service limits. Also the range of priorities was so small that short output files were aging to the maximum priority in 15 minutes and were thus unfairly weighted against long output files. It now takes about 24 hours for a print file to age to the maximum priority. Finally, Tom installed a new program, PERRLOG, which examines the error log and produces summaries of errors occuring on disk and tape units.

Marshall Midden changed DSD I-display processing so that a card punch error is not indicated when there are no errors. References to the HR disposition code in FNTLIST were changed to XE. The Batchio Decwriter driver was changed so that forms codes for Xerox and for plot files are listed.

PROPOSED CHANGES TO THE SYSTEM

Additional Feature for Unpage - by J. M. Goodman

Currently, UNPAGE is unable to distinguish between a request for 6 lpi output and one for 8 lpi output. If 8 lpi is desired, UNPAGE will only print 66 lines on a page and then skip to the next page. 25% of the page is left blank. This defeats one of UNPAGE's purposes; it is wasting paper.

I would like to modify UNPAGE to recognize an 8 lpi output request. This can be done by changing the way that lines are counted on a page. I would also like to add a parameter called PD (Print Density). It would take on one of these values: 0 if the print density is to be determined by the appearance of S's and T's in the file to be unpaged, 6 if the user wants a 6 lpi output regardless of the carriage control characters and 8 if the user wants an 8 lpi output regardless of the carriage control characters. All other features of UNPAGE would be unaffected.

DISCUSSION TOPICS

MECC CALLPRG vs. UCC CALLPRG - by M. Riviere

Some of my colleagues have been exchanging with me thoughts about replacing our CALLPRG program with the one used at MECC. After considering the change, I have the opinion that although the MECC CALLPRG program presents some advantages, they are not enough to justify the work needed for the change. I have described below what I consider to be the advantages, they are not enough to justify the work needed for the change. I have described below what I consider to be the advantages and the disadvantages of the change. I would appreciate the opinion of the System's Group on this subject.

Advantages of MECC's CALLPRG:

a. The code conforms more to coding specifications than ours.

b. PP is used for the index search. The directory used by the PP is created by an index preprocessor.

Disadvantages of MECC CALLPRG:

a. The MECC CALLPRG program lacks many features which are well established in our CALLPRG after its several years of usage. All these features should be implemented in the MECC version. The needed additions are:

    1. Field length specifications (FL, MF, NF parameters and field length analysis of binaries).

    2. Machine identification (MI parameter).

    3. Load program from random overlay file (RO parameter).

    4. Load relocatables (RL parameter).

5. Issue dayfile statistics.

6. Set retrieved user libraries as such (UL parameter).

7. Handle different type qualifiers (V parameter).

8. Handle tape packages.

9. Process writeups. (This is not relevant since we may have a separate Writeup utility.)

b. The MECC CALLPRG program is not compatible for users who maintain their own index. This version of CALLPRG does not search automatically the user's own index. User's index is search according to the option selected by the statement USERPRG(ON)/(OFF). If the option is not selected (default) only the system index is searched. If the option is selected, the user's index is searched before the system index. The search is made by searching first a text type CALLPRG record on local file PROCFIL. If PROCFIL is not found, a search for local file CALLPRG is made. If neither file is available, the user's file catalog is searched. The USERPRG option remains off until it is reestablished again by the user.

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Remove The SSJ= Entry Point From Callprg - by J. L. Pomeroy c/o J. L. Larsen

Reasons:

I believe that Callprg does not need an SSJ= entry point.

Background:

Over the years, the SSJ facility has caused several problems. Using SSJ, a program becomes very powerful. What could have been a small bug can become a major hole in the system.

Some cases from the past involving Callprg:

1) Using Callprg to access account passwords. (FETCH,VALIDUS.)
2) Using Callprg to create more local files than the user is validated for.
3) Using Callprg to read execute only files.
4) Having Callprg time limit, while still SSJ, to bring down telex.

Current Problems Include:

Failure of core clear. Core is not cleared for SSJ programs, and Callprg loads user programs without clearing the memory.

Solutions:

One of the following should be implemented to realize the desired effect.

1) Change the callprg index from a fast attach file to a common file. Any program could then bring the index to the control point with the LFM assign function.

2) Change the PFM fast attach function to allow the Callprg index to be assigned by non-SSJ programs.

3) Change 1AJ to bring the index to the control point at the time that the program Callprg is ready to run.

4) Change the Callprg index from a fast attach file to a library. Any program could then bring the index to the control point with the LFM assign function.

5) Change the callprg index to an overlay in system. The index would be accessed by loading it in with LDR. Much like SYSTEXT used by COMPASS.

Each of the above solutions has good points and bad points.

#1 and #2 seems to offer the least amount of change from the present Callprg index handling.

#1 would allow the drop file ID to be set when the file is made common. This would insure that the index would not 'hang around'.

All but #2 should be faster than the present PFM method.

All but #3 allow the index to be read by users. This is not a security problem in that the callprg index can be found on un=callprg.

All but #3 would allow users to recreate callprg loads inside CP-programs.

#2 would require a flag in each of the fast attach FNT entries to indicate that SSJ is not required. (BIT 17?)

#4 and #5 would require a Sysedit to update the index.

SYSTEM MAINTENANCE: People and Procedures

Last Week's Systems Group Meeting - by K. C. Matthews

1) Don Mears' proposal to automatically disconnect hung channels was approved (see DSN 7,12 P. 80).

2) Don's proposal to implement NOS level 541 was provisionally approved. Provisionally means that a written report will be delivered a month after this meeting telling how the conversion effort is going. Other summer projects (especially VAX and CRAY preparations) must take precedence over conversion efforts.

3) Andy Hastings' proposal was not discussed since the proposed feature is part of R5 anyway.

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Callprg and Library Tape News - by M. Riviere

Besides the previously scheduled changes for June 30, I have added the PSR level 531 versions of COMPASS and UPDATE as future type packages on the C74 and C730 Callprg index.

There are no modifications scheduled for July 14th.

The next set of Callprg index and Library Tape changes will be taking place on July 28th. Modifications for that date should be requested no later than July 16th by noon.

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UPL, a Library for CDC Product Set Changes - by M. Riviere

A new library, UPL, which holds local changes to the CDC product set is available now on PN=UCC, UN=LIBRARY. Any one validated to read other System libraries such as WPL and JPL can access UPL.

Even though most of the product set libraries are in UPDATE format, UPL is a MODIFY style library. The prefix character for UPL is dash(/). UPL differs from other libraries of System changes in that it contains changes for different versions levels of the same product. The HISTORY deck in UPL describes the library format. I strongly suggest that whoever has changes to the CDC product set make them available to me for insertion in the library.

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The UNIX vs. VMS Discussion - by T. W. Lanzatella

In the last DSN, I stated that I had several pages of notes from the systems group meeting where all parties had an opportunity to voice their opinion on the topic of UNIX vs. VMS. Primarily, for reasons of laziness, I opted to not convert my criptic notes into ordinary language. However, conscience and popular demand have prevailed so here they are (possibly spotty).

SYSTEMS GROUP MEETING, 81/06/11 - LAL Presiding

LAL - What are the purposes of the VAX's?

1) Image processing;
2) text processing;
3) high speed link to Lauderdale.

We can run either UNIX or VMS. Generally agreed that VMS offers more variety. But, UNIX can satisfy 1, 2 and 3 above the quickest.
LAL remarks that he likes the fact that UNIX is available on a wide range of CPU's.

KCM has noted the following three rules bandied about in regard to the operating systems selection:

1) We must run UNIX;
2) we must run VMS;
3) both systems must run the same system.

SPN says the mission of IPC VAX should be broken down into:

1) Images - we have lots C- software already written.
2) Graphics - business applications (FORTRAN, SCSS, SIR, TELEGRAF, DISPLAY).
3) CAD/CAM - new area.

SPN wants IPC VAX to be a publicly accessible, general purpose computer which is supposed to pay for itself.

What are the available UNIX products?

RIM	
FORTRAN 77	APL
COBOL (4Q81 from DESTEK	C-computer
BASIC	SPSS
PASCAL	
SIMULA	
SPITBAL	
LISP	

What are the VMS products?

PL/1	C-compiler
BLISS	PASCAL
BASIC	TELEGRAF/DISPLAY
COBOL	SCSS
FORTRAN	SPSS

B. Cook is concerned that not enough production packages are available on UNIX.

SPN thinks UNIX is the best system but poor for applications like SCSS and TELEGRAF.

P. Jarvis is worried that clients are not willing to pay to use UNIX. Hesitant to go with a system where the product set comes from several different vendors.

SPY is concerned that if UNIX is chosen, we won't have enough manpower to make SCSS, SIR and SPSS work reliably under VMS.

SPN emphasized that the VAX's are minor compared to the CRAY. The VAX's are not to be development tools. They must slip in without any extensive manpower.

L. Merims emphasized the extreme expense of VMS user documentation and mentioned that UNIX documentation is comparitively cheap.

TCJ mentioned that as far as industry standards are concerned, UNIX is the choice.